OECD Urban Policy Reviews

A Territorial Approach to the Sustainable Development Goals

Synthesis report

Preface

We, Mayors, Governors, Ministers and Leaders from the nine pilot cities and regions of the OECD's Programme A Territorial Approach to the SDGs, are delighted to introduce the results of our collective engagement over the past 18 months.

As local and regional decision-makers, we are all grappling with similar challenges: climate change, demographic pressure, natural resources depletion, globalisation and social discontent, as well as steering digitalisation and managing its impact on the future of work. While future projections can sometimes depict a gloomy picture, we believe that bold and collective action, combined with political leadership and commitment, can drive the radical transformation of our societies and economies that is needed to transition to sustainable pathways for our people and the planet.

We have all experienced the powerful framework that the UN Sustainable Development Goals provide to design better local and regional policies for better lives. Being the closest political representatives to citizens, we have a critical role to play in achieving the SDGs. First, because we are responsible for key policies that are central to people's well-being from housing to transport, drinking water and sanitation, land use and spatial planning, urban mobility, local economic development, or even air pollution. Second, because the SDGs help us speak a common language, identify synergies and manage trade-offs; raise awareness; engage our citizens; (re)shape our local and regional development strategies from the ground up; and prioritise our investments, budgets and resources.

We have come a long way since our journey started at the UN High-Level Political Forum on Sustainable Development (July 2018, New York). Together, with the support of the OECD, we have carried out several policy dialogues to share our experience and produce the findings of this report. We have engaged over 800 stakeholders in our respective cities – Bonn (Germany), Kitakyushu (Japan), Kópavogur (Iceland), Moscow (Russian Federation) – and regions – Córdoba (Argentina), Flanders (Belgium), Southern Denmark (Denmark), Parana (Brazil) and Viken (Norway). And we have also worked with other dozens of institutions from public, private and non-profit sectors to build consensus, discuss best practices, and scale-up success stories.

This report summarises the important milestones achieved so far. It includes a comprehensive analytical framework to enhance a Territorial Approach to the SDGs in all places; a unique indicator framework to measure where cities and regions stand and foster peer-learning, and; an insightful checklist for public action to help policy makers at all levels of government on the SDGs journey. Nine additional pilot specific reports will be published over the coming months to summarise the findings and recommendations from the place-based dialogues in our cities and regions.

We are grateful for the process and dialogue underlying this report, whereby we listened and learned from each other, shared our experience, and welcomed respected advice and guidance from our peers and the OECD.

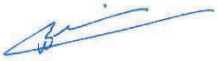
While we are aware that this is only a first step on the road to achieving the 2030 Agenda, we are particularly proud of the inclusive approach inherent to the development of these tools and recommendations and call for a massive and widespread use of them.

Cities and Regions of the OECD Programme "A Territorial Approach to the SDGs

Ashok Sridharan, Mayor of the city of Bonn (Germany)

Juan Schiaretti, Governor of the province of Córdoba (Argentina)

Martin Ruebens, Secretary General, Department of Public Governance and the Chancellery, region of Flanders (Belgium)



Wim Dries, President of VVSG and Mayor of the city of Genk (Belgium)

Kenji Kitahashi, Mayor of the city of Kitakyushu (Japan)

Ármann Kr. Ólafsson, Mayor of the municipality of Kópavogur (Iceland)

Serguéi Sobianin, Mayor of the city of Moscow (Russian Federation)

Carlos Roberto Massa Júnior, Governor of the State of Parana (Brazil)

Søren Rasmussen, Chairman of the Committee for Regional Development, region of Southern Denmark (Denmark)

Tonje Brenna Chair of the County Government of Viken, (Norway)

Foreword

In the face of megatrends such as climate and demographic change, digitalisation, urbanisation and globalisation, cities and regions are facing critical challenges to preserve social inclusion, foster economic growth and transition to the low carbon economy. The 17 Sustainable Development Goals (SDGs) adopted by the United Nations in 2015, set the global agenda for the coming decade to end poverty, protect the planet and ensure prosperity for all. Although the SDGs were not designed by and for local and regional governments, they provide a universal ambition and valuable framework for all levels of government to align global, national and sub-national priorities within policies striving to leave no-one behind.

The OECD report on A Territorial Approach to the Sustainable Development Goals stresses that cities and regions play a critical role in promoting a paradigm shift towards sustainability. In addition to SDG 11, dedicated to Sustainable Cities and Communities, cities and regions have an instrumental role to play in most SDGs given their policy prerogative, share of public investment, and closer connection to citizens. The report shows that at least 105 of the 169 SDGs targets will not be achieved without proper engagement and coordination with local and regional governments. The report also argues that cities and regions should go beyond the "compliance" agenda and embrace the full potential of the SDGs as a policy tool to improve people's lives in a shared responsibility across levels of government. In particular, the SDGs provide a powerful vehicle to implement the OECD New Regional Development Paradigm, which promotes a holistic, multi-sectoral, bottom-up, participatory and place-based approach to territorial development.

Building on a bottom-up policy dialogue with 1000+ stakeholders and evidence-based analyses in nine cities and regions, this report analyses how cities and regions are increasingly using the SDGs to design, shape and implement their development strategies, policies and plans; innovate and experiment; promote synergies and manage trade-offs across sectoral domains; and engage stakeholders – in particular the private sector, youth and civil society – in the policy making and process.

The report also proposes an OECD localised indicator framework for SDGs that measures the distance towards the SDGs for more than 600 regions and more than 600 cities in OECD and partner countries, comparing them to their national averages and their peers. With its 135 indicators available up to now, the OECD localised indicator framework already covers all the 17 goals, both at regional and city level. Data show for instance, that cities and regions in OECD countries are far from achieving the SDGs: at least 80% of OECD regions have not achieved the end values proposed by the OECD for 2030 in any of the 17 SDGs, and at least 70% of cities have not achieved the suggested objectives for 15 out of the 17 SDGs. The goals where most of the regions and cities are lagging behind are SDG 13 on "Climate action" and SDG 5 on "Gender equality". On the other hand, the goal where most regions and cities are performing relatively well is SDG 16 about "Peace and institutions".

The report concludes with a Checklist for Public Action addressed to policy-makers at all levels of government to facilitate the uptake and implementation of the SDGs as a tool for better policies and better lives. The Checklist covers five key components, namely Policies, Planning and Strategies; Multi-level Governance; Financing and Budgeting; Data and Information; and Engagement.

Acknowledgements

This report was prepared by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE) led by Lamia Kamal-Chaoui, Director, as part of the 2019-20 Programme of Work of the Regional Development Policy Committee (RDPC). The report is a contribution to the implementation of the OECD Action Plan on the Sustainable Development Goals adopted by all Member States at the 2016 Meeting of the Council at the Ministerial Level.

This report is the outcome of an 18-month policy dialogue with 1000+ stakeholders within the OECD Programme A Territorial Approach to the SDGs co-ordinated by Stefano Marta, Programme Coordinator, under the supervision of Aziza Akhmouch, Head of the Cities, Urban Policies and Sustainable Development Division in CFE. Key findings and recommendations benefitted from the specific insights of nine pilot cities and regions (see below) where several interviews and workshops were held over 2018-2019.

The report was drafted by a core team of OECD experts, which included Stefano Marta, Antonio Canamas Catala and Stina Heikkilä, under the supervision of Aziza Akhmouch for Chapters 1, 4 and 5; and Marcos Díaz Ramírez, under the supervision of Paolo Veneri, Head of the Statistics and Territorial Analysis Unit, and Rüdiger Ahrend, Head of the Economic Analysis, Statistics, and Multi-level Governance Section, for Chapters 2 and 3, all in CFE. The report also benefited from statistical support by Milenko Fadic, Eric Gonnard and Claire Hoffmann, as well as contributions by Aline Matta and Lorenz Gross. In addition, Milenko Fadic developed the data visualisation and online tool of the project (accessible at oecd-local-sdgs.org), with the design support of Marcos Díaz Ramírez and François Iglesias.

The OECD Secretariat is grateful for the high-level political impetus and commitment from the political leaders of the nine pilot cities and regions of the OECD Programme A Territorial Approach to the SDGs, namely Ashok Sridharan, Mayor of the city of Bonn (Germany), Juan Schiaretti, Governor of the province of Córdoba and Silvina Rivero, Minister of Coordination of the province of Córdoba (Argentina), Geert Bourgeois, Minister-President of the region of Flanders, Martin Ruebens, Secretary General, Department of Public Governance and the Chancellery, region of Flanders (Belgium) and Wim Dries, Mayor of Ghent, President of Association of Flemish Cities and Municipalities (VVSG, Belgium), Kenji Kitahashi, Mayor of the city of Kitakyushu (Japan), Ármann Kr. Ólafsson, Mayor of the municipality of Kópavogur (Iceland), Serguéi Sobianin, Mayor of the city of Moscow, Alexander Prokhorov, Head of the Department of Investment and Industrial Policy of the city of Moscow, (Russian Federation), Carlos Roberto Massa Júnior, Governor of the state of Parana, Keli Cristina de Souza Gali Guimaraes, Vice-President of state Council for Economic and Social Development, state of Paraná, Phelipe Mansur, Superintendent of Governance of the state of Paraná (Brazil), Søren Rasmussen, Chairman of the Committee for Regional Development, region of Southern Denmark (Denmark), and Tonje Brenna, Chair of the County Government of Viken (Norway) and Roger Ryberg, Mayor of the county of Viken (Norway).

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Finally, thanks are also herein conveyed to the participants of the OECD Roundtables on Cities and Regions for the SDGs. The first meeting on 7 March 2019 (OECD Headquarters) was a key milestone to develop the analytical framework of the report, discuss the foundations of the OECD localised indicator framework for the SDGs and share views on the preliminary findings from the pilot cities and regions. The second meeting on 9 December 2019 (Bonn, Germany) was instrumental to build consensus on the findings and recommendations and to co-design the Checklist for Public Action. The city of Bonn, Germany, and Engagement Global are warmly thanked for hosting the second edition of the OECD Roundtable.

The report was peer-reviewed at the 37th Session of the Working Party on Territorial Indicators on Tuesday, 19 November 2019, at the 26th Session of the OECD Working Party on Urban Policy on Wednesday, 20 November 2019, and at the 41st meeting of the OECD Regional Development Policy Committee (RDPC) on Thursday, 21 November 2019. A revised version of the report was submitted to RDPC delegates for approval by written procedure by 20 January 2020 under the cote (CFE/RDPC(2020)14/REV1). The final report was edited and formatted by Eleonore Morena, and Pilar Philip, François Iglesias and Pauline Arbel prepared the manuscript for publication.

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Acronyms and Abbreviations

ASviS	The Italian Alliance for Sustainable Development
BI	Business intelligence
BMZ	Federal Ministry for Economic Cooperation and Development, Germany (*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)*
CBS	Copenhagen Business School
CDP	Carbon Disclosure Project
CEDES	Social and Economic Development Council of Paraná (*Conselho Estadual de Desenvolvimento Econômico e Social*)
CEMR	Council of European Municipalities and Regions
CFCI	Child Friendly City Index
CNCD	National Centre for Development Cooperation (*Centre national de coopération au développement*)
CNCPS	National Council for the Coordination of Social Policies (*Consejo Nacional de Coordinación de Políticas Sociales*)
CO2	Carbon dioxide
CoR	European Committee of the Regions
CRC	UN Convention on the Rights of the Child
CSO	Civil Society Organisations
CSR	Corporate Social Responsibility
DAC	Development Assistance Committee
DBZ	Flemish Department of Foreign Affairs (*Departement Buitenlandse Zaken*)
DDC	Decentralised Development Cooperation
DEGURBA	Degree of Urbanisation
DG DEVCO	Directorate-General for International Cooperation and Development
DGEyC	Statistics and Census Department Córdoba (*Dirección General de Estadística y Censos*)
DG REGIO	Directorate-General for Regional and Urban Policy

EC	European Commission
Esri	Environmental Systems Research Institute
EU	European Union
EWI	Flemish Department of Economy, Science and Innovation (*Departement Economie, Wetenschap & Innovatie*)
FAO	Food and Agriculture Organization
FIEP	Paraná Federation of Industries
FUA	Functional Urban Area
GDP	Gross Domestic Product
GHG	Greenhouse gas
GHSL	Global Human Settlement Layer
GIIN	Global Impact Investing Network
GIP	Growing Impact Project
GLCN	Global Lead City Network
GRI	Global Reporting Initiative
GSG	Global Steering Group for Impact Investment
GTF	Global Taskforce of Local and Regional Governments
GVA	Gross Value Added
HLG	High-Level Group
HLPF	High-Level Political Forum
IMP	Impact Management Project
IAEG-SDG	Inter-Agency and Expert Group on Sustainable Development Goal Indicators
ICLEI	International Council for Local Environmental Initiatives
ICT	Information and communication technology
IEA	International Energy Agency
IECD	European Institute for Cooperation and Development (*Institut Européen de Coopération et de Développement*)

IFC	International Finance Corporation
IGES	Institute for Global Environmental Strategies
IIASA	International Institute for Applied Systems Analysis
IL	Illinois
ILO	International Labour Organization
INEGI	National Institute of Statistics and Geography of Mexico (*Instituto Nacional de Estadísticas y Geografía*)
IPCC	Intergovernmental Panel on Climate Change
ISIC	International Standard Industrial Classification
Istat	Italian National Institute for Statistics
IT	Information Technology
IUCN	International Union for Conservation of Nature
JRC	Joint Research Centre
KfW	Credit Institute for Reconstruction (*Kreditanstalt für Wiederaufbau*)
KMD	Ministry of Local Government and Modernisation Norway (*Kommunal- og moderniseringsdepartementet*)
KPI	Key Performance Indicator
LAC	Latin-American Countries
LRG	Local and Regional Governments
LRGF	Local and Regional Governments Forum
MÆLKÓ	Measuring Kópavogur
MDGs	Millenium Development Goals
MENA	Middle East and North Africa
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
NRW	North Rhine-Westphalia (*Nordrhein-Westfalen*)
NSDS	National sustainable development strategy

NSI	National Statistical Institute
NSO	National Statistical Offices
NUTS	Nomenclature of Territorial Units for Statistics (*Nomenclature des unités territoriales statistiques*)
NYC	New York City
ODA	Official Development Assistance
PA	Pennsylvania
PCT	Patent Cooperation Treaty
PM2.5	Particulate Matter 2.5
PPA	Multiannual Plan (*Plano Plurianual*)
PPP	Purchasing Power Parity
PRI	Principles for Responsible Investment
R&D	Research and development
Regions4SD	Network of Regional Governments for Sustainable Development
SDGs	Sustainable Development Goals
SDNS	UN Sustainable Development Solutions Network
SDSN	Sustainable Development Solutions Network
SIODS	Information System of Sustainable Development Goals
SMEs	Small- and Medium-Sized Enterprises
SPI	Social Progress Index
SSP	Sustainable Public Procurement
SVI	Social Value International
TL2	Territorial Level 2
TL3	Territorial Level 3
TNUIFSL	Tamil Nadu Urban Infrastructure Financial Services Limited
TX	Texas

UCLG	United Cities and Local Governments
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP FI	United Nations Environment Program Financial Initiative
UNICEF	United Nations Children's Fund
USD	US Dollar
VLR	Voluntary Local Review
VNR	Voluntary National Review
VOKA	Flanders' Chamber of Commerce and Industry
VVSG	Association of Flemish Cities and Municipalities
WBA	World Benchmarking Alliance
WCCD	World Council on City Data
WCMC	World Conservation Monitoring Centre
WDPA	World Database on Protected Areas
WHO	World Health Organization
WPTI	Working Party on Territorial Indicators
WPURB	Working Party on Urban Policy

Executive Summary

In the face of megatrends such as climate and demographic change, digitalisation, urbanisation and globalisation, cities and regions are facing critical challenges to preserve social inclusion, foster economic growth and transition to the low carbon economy. Indeed, the impact of megatrends on people and societies is context-specific and requires place-based responses to fit policies to local contexts.

The 17 Sustainable Development Goals (SDGs) adopted by the United Nations in 2015, set the global agenda for the coming decade to end poverty, protect the planet and ensure prosperity for all. Although the SDGs were not designed by and for local and regional governments, they provide a universal ambition and valuable framework for all levels of government to align global, national and sub-national priorities within policies striving to leave no-one behind.

The transformative nature of the 2030 Agenda provides a key opportunity for national, regional and local governments to promote a new sustainable development paradigm. The report A Territorial Approach to the SDGs argues that, beyond the compliance agenda, cities and regions should leverage the full potential of SDGs as a policy tool to improve people's lives in a shared responsibility across levels of government. The SDGs provide a vehicle to implement the OECD New Regional Development Paradigm and promote a holistic, multi-sectoral, bottom-up, participatory and place-based approach to territorial development.

Key Findings

In addition to SDG 11 dedicated to Sustainable Cities and Communities, cities and regions have an instrumental role to play in most SDGs given their policy prerogative, role in public investment, and closer connection to citizens. At least 105 of the 169 SDGs targets will not be reached without proper engagement and coordination with local and regional governments. Indeed, in the OECD countries, most cities and regions have a hand in policies that are central to sustainable development and people's well-being, from water to housing, transport, infrastructure, land use and climate change, amongst others. They are also responsible for almost 60% of total public investment in the OECD area, in particular those investments related to climate transition, and for almost 40% of public expenditure.

The report argues that many OECD countries are increasingly seizing the potential of the SDGs as a framework to improve multi-level governance, and in particular vertical coordination. For instance, Germany and Japan are promoting the "localisation" of the SDGs from the central government level by supporting cities and regions in their local SDGs strategies, both financially and in terms of capacity building. The report also documents - from the experience and evidence of nine pilot cities and regions - the potential that the SDGs offer to reshape sustainable development policies from the ground up. In particular, they provide a framework to:

- Identify place-based priorities, re-orient existing strategies and plans or shape new ones towards sustainable development;

- Drive better decisions related to budgeting by national and sub-national governments through allocating resources based on the prioritised goals/targets;
- Foster vertical coordination across national, regional and local levels of government to align priorities, incentives, objectives and resources;
- Promote synergies among sectoral policies to overcome silos and fragmentation towards consistent social, economic and environmental outcomes;
- Help engage with the private sector while incentivising public-private partnerships that can drive more sustainable business models for people, places and firms;
- Boost engagement of civil society and citizens, in particular the youth to co-design visions and strategies with local stakeholders;

The report also seeks to document local and regional performance and disparities through a common set of indicators that allow cities and regions to see where they stand vis-à-vis the SDGs, and compared to their national averages and their peers. Data from the 135 indicators of the OECD localised indicator framework for the SDGs (covering at least one aspect of each of the 17 SDGs for both cities and regions) show that regions and cities in OECD countries are far from achieving the SDGs, and their average distance to the suggested end values varies widely across the 17 SDGs. In particular:

- At least 80% of regions from OECD countries have not achieved the suggested end values for 2030 in any of the 17 goals.
  - Not a single region in the OECD has achieved the suggested end values for SDG 13 on "Climate action" and SDG 5 on "Gender equality";
  - Only 20% of OECD regions have achieved the end values for SDG 10 on "Reduced inequalities" and SDG 12 on "Responsible consumption";
  - Goals 14 (Life below water), 9 (Industry and innovation) and 7 (Clean energy) display the largest distances to the end values for the lagging regions, with an average distance of around 50% of the total way.
- At least 70% of cities from OECD countries have not yet achieved the end values suggested for 2030 in 15 out of the 17 SDGs.
  - The SDGs where most cities lag behind relate to the environment (SDGs 13 about "Climate action" and 15 about "Life on land") and gender equality (SDG 5), where at least 95% of cities have not met the suggested end values.
  - Goal 7 on "Clean energy" displays high disparities in distances to the objectives across cities. While 30% of the cities have reached the end values for this goal (i.e. more than 81% of their electricity production coming from renewable sources with no use of coal or fossil fuels), the remaining 70% of cities are halfway from achieving the recommended outcomes.

Aware of the remaining distance to travel to reach the SDGs, many cities and regions across OECD countries have used the SDGs as a framework to improve their local and regional development strategies, plans and actions. Key examples range from: i) using the SDGs as a checklist to assess the extent to which their programmes are in line with sustainable development outcomes as in the case of Moscow (Russian Federation); ii) adapting existing plans to the SDGs such as in Flanders (Belgium), Córdoba (Argentina) or Parana (Brazil); iii) formulating new plans and strategies based on the SDGs, such as in Bonn (Germany), Kópavogur (Iceland), Kitakyushu (Japan), Southern Denmark (Denmark) and Viken

(Norway). The OECD-CoR joint survey shows that cities and regions in EU countries tend to prioritise actions related to the environment (73%), closely followed by energy (67%) and mobility (63%) when implementing the SDGs.

Cities are also developing Voluntary Local Reviews to assess their progress on the SDGs as is the case of New York City and Los Angeles (United States), Kitakyushu, Toyama, and Shimokawa (Japan), Helsinki (Finland), Bristol (United Kingdom), Cascais (Portugal), and Buenos Aires (Argentina).

Checklist for Public Action

The report concludes with a Checklist for Public Action to facilitate the uptake and implementation of the SDGs as a tool for better policies and better lives by local and regional governments, in a shared responsibility with national governments. Key building blocks are herein summarised.

- Use the SDGs to define and shape local and regional development visions, strategies, plans, and re-orient existing ones. Cities and regions should use the SDGs to address concrete local challenges that require a holistic approach, such as clean forms of urban mobility, affordable housing, gender equality, access to green spaces, balanced urban development, clean water and sanitation, air quality, solid waste management, territorial inequalities, or service delivery;
- Use the SDGs as a framework to align policy priorities, incentives, objectives across national, regional and local governments as well as to manage trade-offs and promote synergies across policy areas. In particular, regions and cities should be engaged in the process of Voluntary National Reviews to reflect progress at subnational level and address regional disparities. Voluntary Local Reviews can also drive better multi-level governance of the SDGs and shed light on local initiatives;
- Mainstream the SDGs in budgeting processes to ensure adequate resources are allocated for the implementation of the 2030 Agenda and to foster policy continuity across political cycles. Governments should allocate financial resources based on the identified place-based policy priorities and key local challenges, and use the SDGs framework as a means to foster integrated multi-sectoral programmes and priorities;
- Leverage SDGs data and localised indicator systems to guide policies and actions for better people's lives, and to showcase the performance and positive stories of cities and regions. In particular, for more comprehensive assessment and policy responses, cities and regions should combine data and indicators at different scales, from those related to administrative boundaries (the unit for political and administrative action) to those related to functional approaches (the economic geography of where people live and work).
- Use the SDGs as a vehicle to enhance accountability and transparency through engaging all territorial stakeholders, including civil society, citizens, youth, academia and private companies, in the policy-making process. Cities and regions should use a combination of various tools to engage local stakeholders, such as awareness-raising campaigns, networking opportunities, but also de-risking investments in SDG solutions through grants or loans, as well as fiscal incentive for innovative solutions towards sustainability.

Chapter 1. A territorial approach to the Sustainable Development Goals

This chapter presents the analytical framework for a territorial approach to the Sustainable Development Goals (SDGs), stressing the potential of the SDGs as a tool for implementing a new local and regional development paradigm. It argues that the 2030 Agenda should not be considered as an agenda in addition to all the others, but as a framework to shape, improve and implement regions' and cities' visions, strategies and plans. It analyses how cities and regions are using the SDGs to develop new plans and strategies or adapt and assess existing ones. The chapter also includes highlights from an OECD-Committee of the Regions survey, analysing the level of awareness, actions and tools, sectoral priorities and main challenges of cities and regions addressing the SDGs. The chapter also explains the need for granular data to measure progress on the SDGs, presenting the experiences of the nine pilot cities and regions of the OECD programme A Territorial Approach to the SDGs.

A territorial approach to the SDGs: The analytical framework

Why a territorial approach to the SDGs

The Sustainable Development Goals (SDGs), adopted by the United Nations (UN) in 2015, set the global agenda for the next 15 years to end poverty, protect the planet and ensure prosperity for all. The 17 SDGs and related 169 aspirational global targets are action-oriented, global in nature and universally applicable (Figure 1.1). The SDGs aim to reach environmental sustainability, social inclusion and economic development in both OECD and non-OECD countries. The SDGs are included in the 2030 Agenda for Sustainable Development. The 2030 Agenda, in addition to the 17 SDGs, includes: i) a political declaration; ii) the means of implementation; and iii) a framework for follow-up and review of the agenda.

The 17 SDGs are very comprehensive in their scope and cover all policy domains that are critical for sustainable growth and development. They are also strongly interconnected (meaning that progress in one area generates positive spill-overs in other domains) and require both coherence in policy design and implementation, and multi-stakeholder engagement to reach standards in shared responsibilities across multiple actors. The implementation of SDGs should, therefore, be considered in a systemic way and rely on a whole-of-society approach for citizens to fully reap expected benefits.

Figure 1.1. The Global Goals for Sustainable Development (2015-30)

Source: UN (n.d.), *About the Sustainable Development Goals, United Nations*, www.un.org/sustainabledevelopment/sustainable-development-goals.

The universal nature of the 2030 Agenda is one of its key innovative elements compared to previous global frameworks. The SDGs follow the eight Millennium Development Goals (MDGs), which aimed at eradicating extreme poverty and hunger, promoting gender equality and reducing child mortality over 2000-15. The key difference between the SDGs

and the MDGs is that the former are universal and apply both to developed and developing countries, while the latter were an agenda for developing countries.

Although the 2030 Agenda was not designed specifically for or by them, cities and regions play a crucial role to achieve the SDGs. The OECD estimates that at least 100 of the 169 targets underlying the 17 SDGs will not be reached without proper engagement and co-ordination with local and regional governments (see Chapter 2). Regardless of the level of decentralisation across countries, cities and regions have core responsibilities in policies that are central to sustainable development and people's well-being. They range from water services to housing, transport, infrastructure, land use, drinking water and sanitation, energy efficiency and climate change, amongst others. They also discharge a significant share of public investment, which is critical to channel the required funding to meet the SDGs and targets. Indeed, subnational governments are responsible for almost 60% of total public investment in the OECD region (OECD/UCLG, 2016) and for almost 40% worldwide; and more specifically they are responsible for 64% and 55% of environment and climate-related public investment and spending respectively (OECD, 2019b).

Although the SDGs provide a global framework to drive better policies for better lives, the opportunities and challenges for sustainable development vary significantly across and within countries. For example, regarding SDG 13 on Climate Action, some cities and regions are more vulnerable to climate change impacts than others. The global warming at 1.5°C may expose 350 million more people to deadly heat by 2050 (IPCC, 2018), exacerbated by local heat island effects. In Europe, 70% of the largest cities have areas that are less than 10 meters above sea level (OECD, 2010), thus exposed to higher risks of flooding. Cities are responsible for almost two-thirds of global energy demand and over 70% of energy-related CO2 emissions (IEA, 2016), produce up to 80% of greenhouse gas emissions and generate 50% of global waste (UNEP, 2017). But cities are also part of the solution. For example, while transitioning from linear to circular economy, cities contribute to keeping the value of resources at its highest level, while decreasing pollution and increasing the share of recyclable materials. The varying nature of challenges related to sustainable development within countries calls for place-based solutions that are tailored to territorial specificities, needs and capacities now and in the future.

Acknowledging that the SDGs provide unique opportunities to strengthen multi-level governance in countries, more and more national governments use them as a framework to promote better policy co-operation across levels of government. The SDGs framework provides a common foundation and language to leverage the opportunities to engage cities and regions in monitoring and data collection in many countries, aligning priorities and rethinking sustainable development from the ground up. The SDGs can help align priorities in areas such as climate change, social inclusion, health, education, transport, infrastructure and sustainable mobility, energy, business development, among others. In practice, this means ensuring that decisions taken across levels of government on public policies do not work against each other, can be tailored to specific needs in places, and ultimately contribute to drive opportunities for all and ensure no-one is left behind.

Advancing and implementing the OECD New Regional Development Paradigm for Cities and Regions through the SDGs

The SDGs represent a key tool to advance and implement a new local and regional development paradigm to promote sustainability in cities and regions (Table 1.1). Over the last three decades, the OECD has argued that the combination of factors leading to poor socioeconomic and environmental performance is usually context-specific and needs to be

tackled through place-based policies (OECD, 2019). This is why regional development policy has a critical role to play in addressing the root causes of persistent territorial disparities.

Place-based policies incorporate a set of co-ordinated actions specifically designed for a particular city or region. Place-based policies stress the need to shift from a sectoral to a multi-sectoral approach, from one-size-fits-all to context-specific measures and interventions, from a top-down to a bottom-up approach to policymaking and implementation. They are based on the idea of policy co-ordination across sectors and multi-level governance, whereby all levels of government, as well as non-state actors, should play a role in the policy process. They consider and analyse functional territories, in addition to administrative areas. They build on the endogenous development potential of each territory and use a wide range of instruments and actions, including targeted investment in human capital, infrastructure investments, support for business development and research and innovation, among others (OECD, 2019).

The SDGs can help to both advance conceptually the shift towards a new regional development paradigm and, in particular, provide a framework to implement it because:

- The 2030 Agenda provides a long-term vision for strategies, plans and policies with a clear and common milestone in 2030, while acknowledging that targeted action is needed in different places since their exposure to challenges and risk vary widely within countries, and so does their capacity to cope with them.
- The 17 interconnected SDGs cover the social, economic and environmental dimensions of sustainable development in a balanced way and therefore allow policymakers to better address them concomitantly, building on the synergies and interlinkages, and taking into account the positive and negative impacts of such linkages.
- The interconnected SDGs framework allows the promotion of policy complementarities and the management of trade-offs across goals in addition to cities and regions using the SDGs to set their priorities.
- The SDGs allow to better implement the concept of functional territories. They represent a common framework that neighbouring municipalities can use to strengthen collaborations and to co-ordinate actions and can, therefore, provide for a common language and narrative to support territorial reforms.
- The SDGs can be used as a powerful tool to promote multi-level governance, partnerships with all stakeholders, including the private sector – extremely active on the SDGs –, and to engage civil society and less traditional stakeholders in the policymaking processes, strengthening accountability.

Table 1.1. Implementing the new OECD Regional Development Paradigm through the SDGs

	Traditional approach	OECD New Regional Development Paradigm (2019)	New SDGs Development Paradigm for Cities and Regions
Problem recognition	Regional disparities in income, infrastructure stock and employment	Low productivity (levels and growth); underused regional potential; lack of regional competitiveness; inter-regional and inter-personal inequality	Lack of an integrated approach to sustainable development, sectoral bias still persists
Objectives	Equity through balanced regional development	Increasing productivity growth; delivering high-quality of life and well-being to people across economic, social and environmental dimensions	Integrating competitiveness, equity and environmental dimension to promote people's well-being following the five "Ps" of the 2030 Agenda: people, prosperity, planet, peace and partnerships
General policy framework	Compensating temporally for location disadvantages of lagging regions, responding to shocks (e.g. industrial decline)	Tapping underutilised regional potential through regional programming; building on existing strengths; developing regional innovation systems	Tapping underutilised regional potentials through regional programming; building on existing strengths to rethink strategies from the group up; developing regional innovation to achieve the SDGs
Theme coverage	Sectoral approach	Integrated development projects for economic growth	Integrated approach using the SDGs to identify priorities while maximising synergies and managing trade-off across sectors
Spatial orientation	Targeted at lagging regions	All-regions focus with policies adapted to each region	All-regions focus with policies adapted to each region
Unit for policy intervention	Administrative areas	Both administrative and functional areas	Combining administrative and functional areas
Time dimension	Short term	Long term	Long term, with 2030 as a key milestone
Approach	One-size-fits-all	Place-based approach	Place-based approach within a global common framework
Data/Indicators	Focus on gross domestic product (GDP), mainly economic indicators	Well-being indicators	SDGs indicator framework
Focus	Exogenous investments and transfers	Endogenous development based on local assets and knowledge	Combining endogenous and exogenous focus – SDGs to attract exogenous investments and value local assets

	Traditional approach	OECD New Regional Development Paradigm (2019)	New SDGs Development Paradigm for Cities and Regions
Instruments	Subsidies and state aid (often to individual firms)	Broad range of instruments: targeted investment in human capital; infrastructure investments; support for business development; research and innovation support; co-ordination between non-governmental actors	Broad range of instruments: targeted investment in human capital; infrastructure investments; support for business development and research and innovation for SDGs challenges; public procurement and de-risking private investments to support the engagement of private sector in SDGs
Governance	Mainly central government	Different levels of governments, various stakeholders (public, private, non-governmental organisations [NGOs])	SDGs as a key framework to promote multi-level governance and engage all territorial stakeholders
Role of the private sector	Disconnected from the public sector	Public-private partnerships	SDGs as a key tool to promote public-private collaborations, with private sector extremely active on SDGs beyond Corporate Social Responsibility (CSR)
Role of the civil society	Civil society as an untapped potential	Civil society started being engaged in the policymaking process	Civil society as a key actor to achieve the SDGs, in particular students/youth; proactive role of citizens

Source: Revised and adapted from OECD (2019a), "*OECD Regional Outlook 2019: Leveraging Megatrends for Cities and Rural Areas"*, https://doi.org/10.1787/9789264312838-en.

SDGs as an enabler to fit for the future

The SDGs provide a forward-looking vision for governments to consider, anticipate and respond to some global changes and trends that impact and shape the policy environment. Four critical megatrends influencing the achievement of the SDGs in cities and regions are herein identified: i) demographic changes, in particular urbanisation, ageing and migration; ii) climate change and the need to transition to low-carbon economy; iii) technological changes, such as digitalisation and the emergence of artificial intelligence; and iv) the geography of discontent. The impact of these four megatrends on people and societies is very much context-specific and therefore requires place-based policies to effectively respond, minimise their potential negative impact on regional disparities and capture the opportunities related to those trends locally.

Demography

Urbanisation continues to grow all over the world, with cities accounting for over 80% of global GDP today and projected to house 70% of the global population by 2050 (UN-Habitat, 2016). In OECD countries, the urban population has grown by 12% since 2000, with the largest cities experiencing growth that is even more pronounced. Between 2006 and 2016, 81% of young people (age 15-29) who moved within the same country settled in an urban or intermediate region (OECD, 2019a). This makes cities hotspots for inequalities and environmental stresses, with negative externalities on surrounding areas. Income inequality – which has been rising in the last decades – is higher, on average, in cities than in their respective countries. The health implications of inequalities in cities are also striking: while the richest 40% of urban dwellers are likely to reach the age of 70 or more, the poorest struggle to reach 55 years (UN-Habitat, 2015).

The SDGs can help to design and implement a more balanced and sustainable urban development model. The integrated framework of the SDGs allows analysing the key drivers of urban development in a holistic way and managing possible trade-offs among them. For example, combining urban development with sustainable transport and mobility is often one of the main challenges for cities. Energy-efficient building standards, provision of clean and affordable energy (SDG 7) and low-carbon means of transport are key to meet the required CO2 emission standards (SDG 13) while at the same time developing the city sustainably (SDG 11). Moreover, education (SDG 4) is central to keep the employment rate high (SDG 8) in a labour market characterised by high-skilled jobs. Cities can use the SDGs to analyse and address interlinked challenges.

An ageing population is another megatrend challenging many OECD countries. The number of people aged 65 or older per 100 people of working age has increased by close to 25% between 2000 and 2015 and is expected to increase by another 25% by 2050. Ageing will have a very concrete impact on policies that should strive to leave no-one behind, for instance pensions systems and the provision of public services, in particular in rural areas that are mostly affected by this megatrend and by the outflows of young people. Cities and regions should, therefore, provide the necessary infrastructures and services to support the ageing populations as well as to develop strategies to build age-friendly communities (OECD, 2019a).

The SDGs can help to identify new opportunities, both for the elderly population and for youth, and to promote social cohesion through intergenerational solidarity. For example, the city of Kitakyushu is using its strong environmental SDGs to create opportunities in the economic and social SDGs. Some economic sectors connected to the environmental

dimension, such as eco-industry offshore wind power generation, eco-tourism, or culture could offer additional job opportunities both to youth (preventing further population decline) and the elderly population, promoting social cohesion through intergenerational solidarity.

Migration, both domestic and international, is the third demographic megatrend with a strong impact on the sustainable development of cities and regions. Domestically, rural-urban migration is increasing, both in OECD and particular in non-OECD countries, and is contributing to global urbanisation and the decline of population in rural areas. International migration is a key driver of demographic change. International migrants are mainly concentrating in large cities because they tend to offer the most favourable labour market opportunities. Cities and regions should implement adequate place-based integration policies to fully seize the potential and benefits of migration while ensuring local integration of migrants across places and involving various stakeholders and different levels of government.

The SDGs can help to better analyse the causes of migration and identify possible opportunities for migrants in urban areas. The SDGs provide a framework to better analyse the interconnected causes of rural-urban migration and provide multi-sectoral policy responses. Regarding international migration, cities can use the SDGs as a tool to promote city-to-city co-operation (in OECD and in developing countries) and co-design measures to address both the root causes of migration in developing countries and the solutions for migrants' integration in OECD cities.

Climate change

Climate change is one of the most pressing megatrends with impacts, challenges and opportunities varying significantly across territories within and across OECD countries. Some cities and regions are more vulnerable to climate change impacts than others. The global warming at 1.5°C may expose 350 million more people to deadly heat by 2050 (IPCC, 2018), exacerbated by local heat island effects. In Europe, 70% of the largest cities have areas that are less than 10 meters above sea level (OECD, 2010), thus exposed to higher risks of flooding. Moreover, cities concentrate almost two-thirds of global energy demand (IEA, 2016), produce up to 80% of greenhouse gas emissions and generate 50% of global waste (UNEP, 2017). Nevertheless, cities are also part of the solution. Subnational governments are responsible for 57% of all public investment and 64% of all climate-related public investments. Moreover, while transitioning from linear to circular economy, cities contribute to keeping the value of resources at its highest level, while decreasing pollution and increasing the share of recyclable materials.

The SDGs can help to prioritise climate goals and address them in conjunction with the social and economic pillars of sustainable development rather than in isolation. When cities and regions prioritise social or economic goals, the SDGs can help to still consider the effect on the environment and avoid overlooking climate objectives. Looking at the policy complementarities among climate and social/economic goals is key. For example, climate mitigation policies (e.g. reducing CO2 emissions from private cars) can generate important local co-benefits, such as improvements in air quality (SDG 11) and avoided health cost (SDG 3). However, climate policies may also negatively affect other policy goals such as social inclusion (SDG 10). While some climate-related investments (e.g. retrofitting buildings) can generate positive impacts for low-income and vulnerable populations (e.g. lower energy bills, improved housing quality), other instruments such as carbon taxes or congestion charges may affect them disproportionately. This is why by conceiving

climate and inclusion policies in tandem at a very local scale, governments can reap the benefits of policy complementarities (OECD, 2019a).

Digitalisation and the future of work

The impact, benefits and risks of digitalisation are strongly context-specific. In terms of benefits, digitalisation will reduce the costs of trading goods, ideas as well as the physical interactions for firms and people. Digital technologies will also improve access to services both for companies and workers, changing the geography of labour as the benefit of proximity might be reduced for some jobs. At the same time, digitalisation might strongly impact local labour markets and generate high rates of unemployment, if adequate place-based policies to adapt to the new technologies are not in place. Across the OECD, 14% of jobs are at high risk of automation, with more than 70% of tasks performed by workers expected to be replaceable within the coming decades. Across OECD regions, it varies from 4% to 40%. The gap between the region with the highest and lowest risk can be as wide as 12 percentage points within countries (OECD, 2019a).

The SDGs can help to link the potential benefits and risks of digitalisation to inclusive growth and well-being, connecting smart and sustainable cities. The core idea is to provide digital solutions that help advance urban sustainable development. For instance, there is great potential to use advanced technologies to measure at a granular level (e.g. use of mobile operators or other technology to measure the quality of air and water) to better estimate some SDGs indicators. Similarly, there is a large push from the local governments to digitalise many services related to health, education or environmental participation, which can have an impact on achieving some of the SDGs.

Geography of discontent

The emergence of the so-called "geography of discontent" is another factor that can make the SDGs a valuable tool for more inclusive and people-centred policymaking. High unemployment, low wage growth and other symptoms of poor socioeconomic performance have led to growing public discontent with the political and economic status quo. In parallel and since the 2008 global financial crisis, there has been a growing mistrust from citizens about the capacity of their governments to ensure well-being now and in the future. This has generated a pattern in which the degree of discontent reflects the economic performance of a region relative to others in the country. With unchanged policies, unfolding megatrends such as automation will further increase the spatial divides that create this pattern of discontent and likely increase tension while undermining social cohesion (OECD, 2019a).

Local and regional policies have a key role to play and the SDGs can help to better address some of the underlying causes of the discontent, in particular regional disparities. The geography of discontent is a symptom of an underlying policy failure. Too many regions struggle because public policy has not responded adequately to their problems. A focus on aggregate performance at the national level has obscured that struggling regions require distinct solutions. Only if policymakers address this fundamental issue will they be able to deal with the cause behind the geography of discontent (OECD, 2019a).

The SDGs provide a unique opportunity to rethink drastically the design and implementation of public policies, in a shared responsibility across levels of government and stakeholders to foster greater accountability, equity, inclusion and cohesion now and in the future. The SDGs are also a powerful tool to engage citizens in the policymaking process. This will contribute to addressing some of the root causes of the geography of discontent in a place-based manner.

The analytical framework: Key dimensions for the implementation of a territorial approach to the SDGs

Policies and strategies through the SDGs

Regional policy aims to effectively address the diversity of economic, social, demographic, institutional and geographic conditions across cities and regions. It also ensures that a wide range of sectoral policies, from transport and education to innovation and health, are co-ordinated with each other and meet the specific needs of different regions across a country – from remote rural areas to the largest cities. Regional policy targets specific territories and provides the tools that traditional structural policies often lack in order to address the region-specific factors that cause economic and social stagnation (OECD, 2019a).

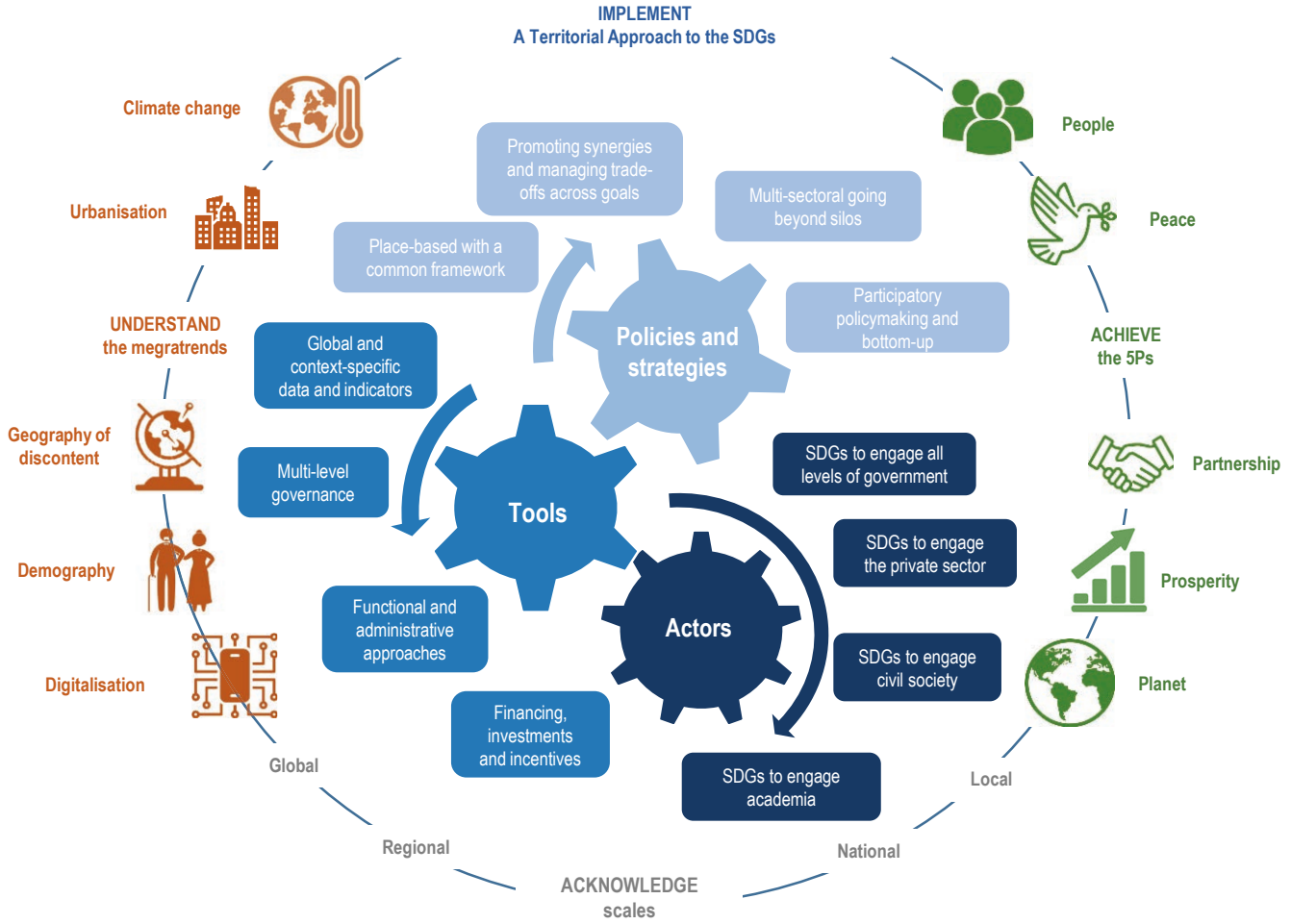
Cities and regions can use the SDGs as a means to shift from a sectoral to a multi-sectoral approach, both in the design and particularly in the implementation of their strategies and policies. The importance of a multi-sectoral approach and the need to go beyond silos is well recognised in local and regional development policies. On paper, various strategies, plans and policies are designed in a holistic way, but when it comes to the implementation, a sectoral approach often still prevails. The framework provided by the SDGs can help to bring various departments of a local administration together and strengthen the collaboration in implementing the strategies and policies. This is particularly true when it comes to sustainable development, which is a shared responsibility across levels of government, citizens, civil society and the private sector.

The SDGs represent a powerful tool to promote the issues of sustainability in a holistic way. The 2030 Agenda is based on the concept of policy coherence and it promotes synergies between the environmental, social and economic dimensions of sustainable development. The SDGs universal, indivisible and interlinked framework can help regions, cities and national governments to address social and economic goals while pursuing the environmental and climate objectives (or vice versa, pursuing environmental goals that do not undermine growth and social cohesion), including through the engagement of a wide range of stakeholders in the policy responses.

Policy debates have tended to focus on the trade-offs among SDGs, often overlooking potential synergies. There is a growing awareness of the need to pursue the three pillars of sustainable development in a more balanced and complementary way. Such a system entails that every policy is reinforced through other policies. When it comes to addressing concerns of environmental sustainability and equity alongside growth objectives rather than as subsidiary goals, a differentiated approach taking into account the specific conditions in each city and region can help us understand trade-offs or potential complementarities among the three objectives (OECD, 2011).

Place-based policies are well equipped to promote synergies across the SDGs at the scale where they are most relevant and evident, in particular places, as opposed to policies that are "spatially blind". It is at the territorial level that it is most effective to implement a multi-sectoral approach based on the context-specific priorities, needs, challenges and opportunities. Various cities and regions are identifying their priorities, sometimes at goal level, sometimes at the target level. Although they are prioritising some SDGs, subnational governments recognise the importance of interlinkages among goals and are therefore developing approaches and methodologies to identify and measure those synergies in a more systematic way.

Figure 1.2. Analytical Framework for a Territorial Approach to the SDGs



Key actors to implement a territorial approach to the SDGs

A participatory policymaking and bottom-up process is one of the core elements of a territorial approach to the SDGs. Shifting from a top-down and hierarchical to a bottom-up and participatory approach to policymaking and implementation is key for the achievement of the SDGs. The 2030 Agenda requires a more transparent and inclusive model that involves public as well as non-state actors (private sector, not-for-profit organisations, academia, citizens, etc.) to co-design and jointly implement local development strategies and policies.

Being a shared responsibility, the SDGs provide cities and regions with a tool to effectively engage in multi-stakeholder dialogue with actors from the private sector, civil society, as well as schools and academia:

- **Businesses** that go beyond corporate social responsibility and invest seriously in sustainable development have an essential role to play in achieving the 2030 Agenda. Current levels of public investment will not be sufficient to catalyse the USD 6.3 trillion required to meet the 2030 Agenda infrastructure needs, and innovative financing sources will be instrumental. The perspective of the private sector and investors is often absent in the process of defining sustainable city development plans and strategies. This leads to a mismatch in priorities, barriers to implementation and missed opportunities to create shared value and impact. Including the private-sector perspective early on in the development process will help to bridge existing gaps between the public sector and private solution providers and investors. The SDGs can be a tool to bridge the gap between the public and private sectors and align priorities for effective implementation.
- **Civil society**, **citizens and in particular youth** are key agents for change towards sustainability. The civil society organisations have an important role to play both as a driver to achieve progress towards the SDGs and by holding governments at all levels accountable for their commitments towards the 2030 Agenda. Civil society is also a key player in traditional policymaking processes, including in formal consultations. Informed citizens can also change their daily habits in view of sustainability. Behavioural change of citizens is often a key component for achieving the intended policy outcomes, for example in sectors such as transport and mobility, water and waste management, sustainable consumption and production. Youth, including through youth councils, are also more and more engaged with the 2030 Agenda with an increasing number of schools introducing the SDGs into the curricula.
- **Universities** are also more and more active on the SDGs. The role of universities is particularly relevant when it comes to collaborating with the governments and community, including at the local level. Universities can support governments at all levels by generating and disseminating the knowledge required to address the SDGs, by co-designing policies and strategies, by monitoring and evaluating policies and progress, by educating, training and providing the necessary skills to students (future leaders) on sustainable development integrating the SDGs into curricula (El-Jardali et al., 2018). Lately, several networks and initiatives of universities addressing the 2030 Agenda are emerging, such as the Sustainable Development Solutions Network, Higher Education Sustainability Initiative and Principles of Responsible Management Education initiative. The Australia, New

Zealand & Pacific Network of the Sustainable Development Solutions Network (SDSN) has also produced a guide on how universities can contribute to the SDGs.

Tools for the implementation of a territorial approach to the SDGs

The effective implementation of a territorial approach to the SDGs implies the combined use of a variety of tools. These span from a solid multi-level governance system, to global and context-specific data for evidence-based policies and actions, from combining functional and administrative approaches to address territorial challenges and opportunities beyond borders to soft and hard investment and incentives, in particular for the private sector.

Multi-level governance represents a key tool to promote vertical – across levels of government – and horizontal co-ordination – both within the government and between the government and the other key stakeholders, such as the private sector, civil society and academia. National governments can use the SDGs as a framework to promote policy coherence across levels of government, align priorities and rethink sustainable development through a bottom-up approach.

Cities and regions can use a range of soft and hard instruments and investments to promote the implementation of the SDGs locally. These span from targeted investments in human capital to adapt the human resources to the SDGs challenges, to infrastructure investments for more sustainable and smart cities (e.g. improving transport and mobility, housing, energy efficiency), to support for business development and research and innovation for SDGs challenges. In addition, the public sector can use some tools to incentivise the private sector to move towards the SDGs, such as sustainable public procurement, de-risking private investments to experiment innovative products/solutions for the SDGs, establishing a platform to co-ordinate small- and medium-sized enterprises (SMEs) working on the SDGs and raising awareness among citizens to strengthen the demand for sustainable production and consumption.

A territorial approach to the SDGs implies looking beyond administrative boundaries and focusing on functional areas to make the most of the interlinkages between core cities and their surrounding commuting zones, and between rural and urban areas. Promoting sustainable development requires analysing challenges and identifying policy solutions both at an administrative and at a functional scale. Effective policies and strategies to achieve the SDGs should be co-ordinated across administrative boundaries to cover the entire functional area (OECD, 2019). For example, a functional approach allows for better analysis and provision of policy solutions to issues such as transport, waste management, climate change adaptation and the dynamics of the labour market that goes beyond the administrative boundaries of a city.

Measuring SDGs progress is a key priority to allow cities, regions and national governments to identify the main gaps and possible policy solutions to achieve the targets by 2030. The SDGs indicator framework offers a window of opportunity to strengthen national and subnational statistical systems, which can, in turn, serve as a tool for dialogue and action for better policies. Two key messages for measuring progress on the SDGs are:

- **The need to combine and integrate a global indicator framework with context-specific data**. This will help cities and regions to measure where they stand vis-a-vis their peers across and within countries and their distance to targets, the latter better describing the local conditions and adding more detailed information that is not captured in the global framework.

- **The importance of measuring progress both at the functional and administrative levels**. The functional approach (e.g. functional urban areas, defined according to where people work and live) is extremely useful to measure outcomes in policy domains that are place-sensitive, span across administrative boundaries and require understanding the economic dynamics of the contiguous territories. At the same time, it is important to measure SDGs progress within administrative (politically-defined) boundaries, including for data availability and consistency with local official statistics.

Making the most of the transformative nature of Agenda 2030

The 2030 Agenda calls for transformation to achieve the global targets set by the SDGs. Concretely, the 2030 Agenda states: "We are determined to take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path" (p. 5, UN, 2015). Thus, the agenda urges to find new development models that help to advance the social, economic and environmental agenda and manage trade-offs among them.

New analytical frameworks to embrace the transformative element of the 2030 Agenda are flourishing at the international level. The international research community is producing evidence to help governments rethink their current approaches to public policies:

- **Six SDG transformations**: Sachs et al. (2019) claim that the six transformations provide an integrated and holistic framework for action that reduces the complexity, yet encompasses the 17 SDGs, their 169 targets and the Paris Agreement. In particular, they identify six SDGs transformations as building-blocks: i) education, gender and inequality; ii) health, well-being and demography; iii) energy decarbonisation and sustainable industry; iv) sustainable food, land, water and oceans; v) sustainable cities and communities; and vi) digital revolution for sustainable development. Each transformation identifies priority investments and regulatory challenges, calling for actions by well-defined parts of government working with business and civil society.
- **Planetary boundaries**: This framework aims to define the environmental limits within which humanity can safely operate in the world. Steffen et al. (2015) call for a new development paradigm that integrates the continued development of human societies and the maintenance of the Earth system in a resilient and accommodating state. Since its introduction, the framework has been subject to scientific scrutiny and has attracted considerable interest and discussions within the policy, governance and business sectors as an approach to inform efforts toward global sustainability, in particular in Nordic countries.

However, governments and other organisations are still struggling to fully embrace the transformative element of the agenda. At the national, regional and local levels, a number of governments are mainstreaming the SDGs into their strategies, policies and plans. Although of great value, these initiatives should be coupled with commitments to change existing practices and models, economic, social and environmental, to ensure long-term sustainability. It should also come with approaches to manage trade-offs across sectoral policies, in an attempt to address the 17 SDGs holistically. Private companies are also tempted to map their areas of work and previous corporate social responsibility plans against the SDGs, using it as a marketing tool. However, with respect to the private sector, the transformative element of the agenda calls for redesigning business models, strategies and practices to be fit for the future.

Transformations are long-term complex processes that cannot be bound exclusively to actions taken by governments. While governments at all levels do have a role to create a conducive environment for transformations through conducive legal, regulatory and incentive frameworks, they also need to work with stakeholders at large. The transformative element of the 2030 Agenda can reshape policies to make the most of new opportunities, such as the transition towards a low-carbon economy or new trends in globalisation. Decarbonisation policy poses perhaps one of the most urgent public policy challenges. Environmental policy aimed at improving the impacts of specific products and production activities – through regulatory measures such as energy efficiency and pollution standards and protection of natural areas. These have not been enough to achieve environmental sustainability (especially on greenhouse gas emissions) (OECD/IIASA, 2019). The 2030 Agenda provides an opportunity to reconsider how legal and economic frameworks can be reformulated to drive investments and production into more sustainable and resilient forms, and foster technological developments that trigger such a transition. Similarly, the adoption of international sustainable development objectives (2030 Agenda, Paris Agreement) has opened the debate on the need to rethink trade agreements beyond the sole objective to increase trade to ensure they contribute to the implementation of the international agendas (Hege, 2019).

Key highlights on the contribution of cities and regions to sustainable development: An OECD-CoR survey

The OECD and the European Committee of the Regions (CoR) conducted a survey on "The key contribution of cities and regions to sustainable development" across cities and regions in European countries (Box 1.1). The survey addressed representatives of local and regional governments as well as other stakeholders at the local and regional levels (400 respondents) to collect examples and evidence about their work on sustainable development and in particular their contribution to the Sustainable Development Goals (SDGs).

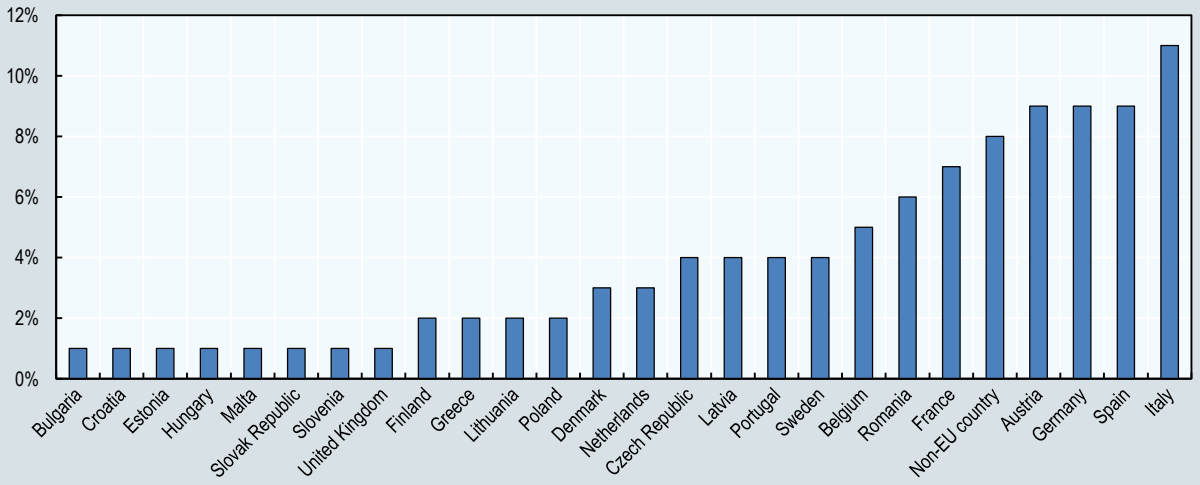
Box 1.1. Respondents to the OECD-CoR survey and key findings

From 13 December 2018 to 1 March 2019, the survey gathered answers from 400 respondents from across Europe, 90% of which from European Union (EU) member states and the rest from Iceland, Norway, Switzerland and Turkey. A very small number of answers came from non-EU and non-OECD countries.

Many responses were received from municipalities (39%), with 18% of the total sample specifically from small municipalities (under 50 000 inhabitants), 15% from medium-sized cities (50 000 to 500 000 inhabitants) and a further 6% representing large cities (more than 500 000 inhabitants). Significant shares of respondents also represent regions (17%), intermediary entities such as counties or provinces (9%) or other local and regional bodies (10%). The remaining 26% of respondents represent diverse categories of stakeholders such as academia and research or associations, NGOs or public bodies, with a few answers from the private sector and individuals responding in their personal capacity.

The distribution of respondents among countries and levels of government is unbalanced and the respondents do not form a statistically representative sample. The aim of this survey was rather to offer a useful snapshot of the views expressed by diverse local and regional stakeholders regarding the SDGs and their implementation.

Figure 1.3. Country coverage of respondents to the OECD-CoR survey



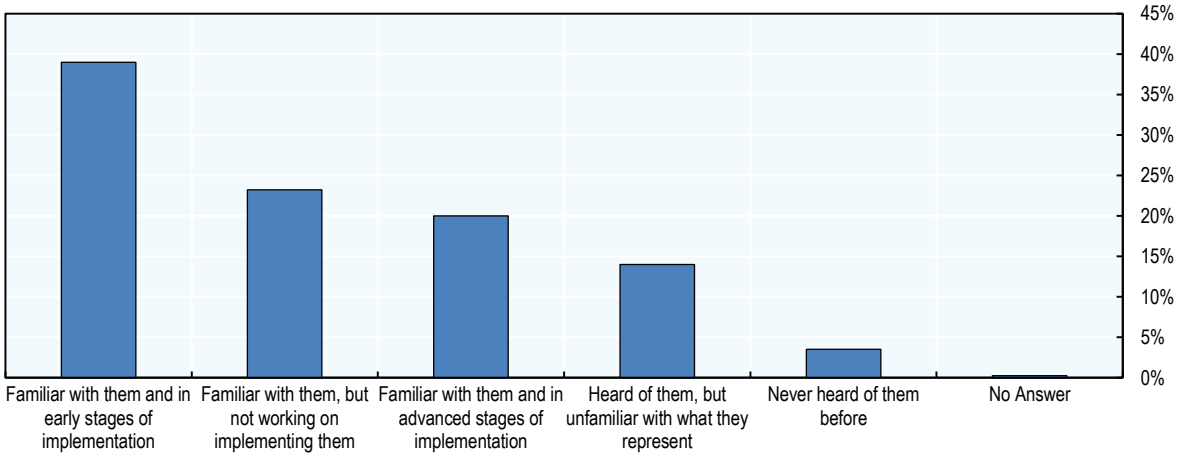
Key findings of the survey include:

- 59% of respondents are familiar with the SDGs and currently working to implement them. Among respondents representing cities and regions, this share rises to approximately 79% and 63% respectively. In large or medium-sized cities (more than 50 000 inhabitants), the share is 84% and in small cities (less than 50 000 inhabitants), 37%.
- 58% of the respondents currently working to implement the SDGs have also defined indicators to measure progress on the goals, with local indicators much more commonly used than those of the EU or the UN.
- The most common challenges in implementing the SDGs – highlighted by half of respondents – are the "lack of awareness, support, capacities or trained staff" and "difficulty to prioritise the SDGs over other agendas".
- More than 90% of respondents are in favour of an EU overarching long-term strategy to mainstream the SDGs within all policies and ensure efficient co-ordination across policy areas.

Level of awareness of the SDGs

Overall, respondents to the survey showed a relatively high degree of awareness on the SDGs. Only 18% of respondents were either unaware of or unfamiliar with them. Furthermore, a significant majority (59%) are actually in the process of implementing the SDGs, whether in early or advanced stages (Figure 1.4).

Figure 1.4. Level of awareness of the SDGs among cities, regions and stakeholders



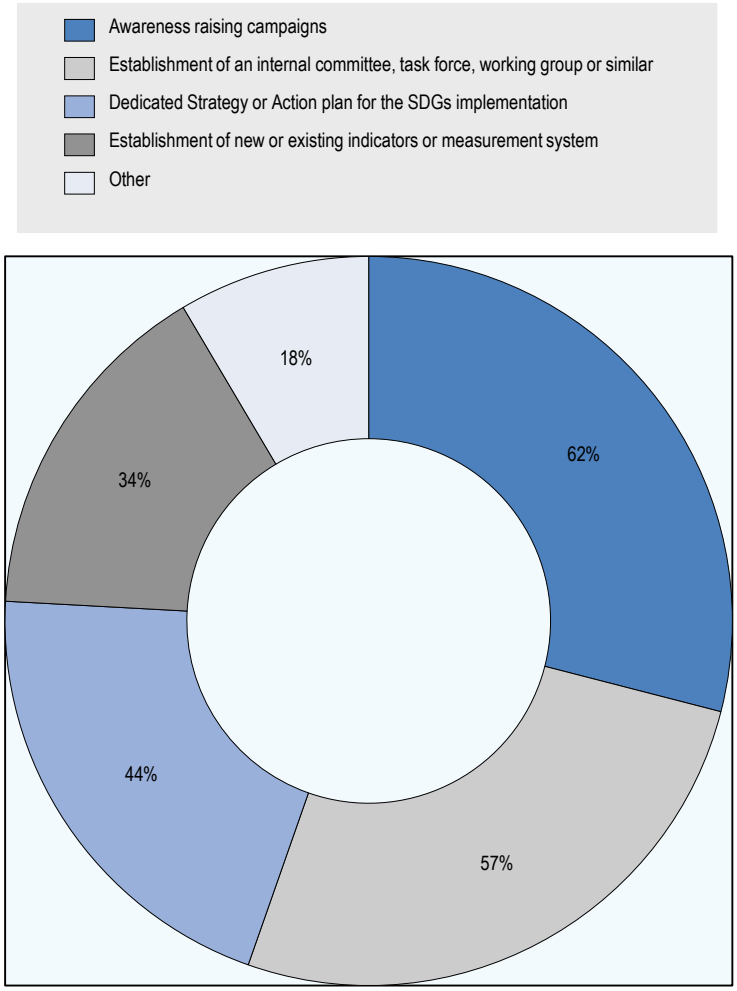
Source: OECD/CoR (2019), *Survey Results Note - The Key Contribution of Regions and Cities to Sustainable Development*, https://cor.europa.eu/en/events/Documents/ECON/CoR-OECD-SDGs-Survey-Results-Note.pdf.

The majority of small municipalities have not yet started implementing the SDGs. The 59% share of respondents who are in the process of implementing the SDGs is an overall average that hides some marked differences, in particular according to the category of subnational authority represented. Interestingly, the share of respondents "implementing" the SDGs is distinctly higher than the average for large cities (87%), medium cities (83%) and regions (78%), while it is much lower for smaller municipalities (37%), which would suggest that larger entities are better equipped to work on SDGs implementation.

Policies and actions to implement the SDGs

The most common actions put in place to implement the SDGs are awareness-raising campaigns and establishing a dedicated body, selected by 62% and 57% of the respondents respectively (Figure 1.5). Having a dedicated strategy/action plan and establishing indicators are two of the key elements of a relatively advanced stage of implementation of the SDGs and these were selected by 44% and 34% of respondents taking action respectively. Among the "other" actions and policies, many respondents mentioned the integration of the SDGs in the organisations' plans and strategy, or intentions to do so in the future.

Figure 1.5. Policies and actions for the implementation of the SDGs at the subnational level



Source: OECD/CoR (2019), *Survey Results Note - The Key Contribution of Regions and Cities to Sustainable Development*, https://cor.europa.eu/en/events/Documents/ECON/CoR-OECD-SDGs-Survey-Results-Note.pdf.

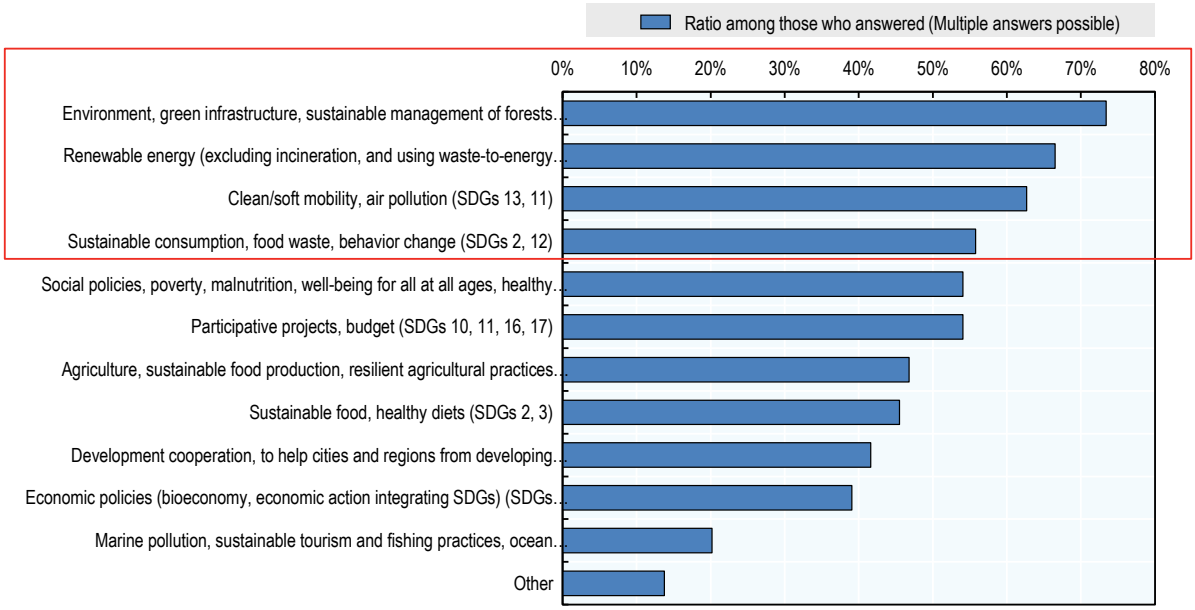
Sectoral priorities at the subnational level

Most cities and regions work with the SDGs because they consider them a valuable tool to strengthen regional and local development. Among respondents who are implementing the SDGs, 71% stated the reason is that they "See the SDGs as a transformative agenda" and 66% that they "See the value of the SDGs as a local development planning and budgeting tool".

However, from the sample and geographical scope (Europe), a strong emphasis is put on environmental sectors when prioritising actions to implement the SDGs. The most common topic or dimension of the SDGs tackled by respondents is the environment (73%), closely followed by energy (67%) and mobility (63%), with sustainable consumption, social policies and participative projects also scoring high (more than 50% of respondents). The diversity of sectors receiving high scores and the fact that respondents who answered this question selected on average five to six sectors each suggest that the cross-sectoral and

multi-faceted nature of sustainability and of the SDGs in particular is well taken into account (Figure 1.6).

Figure 1.6. Sectoral priorities in the implementation of the SDGs at the subnational level



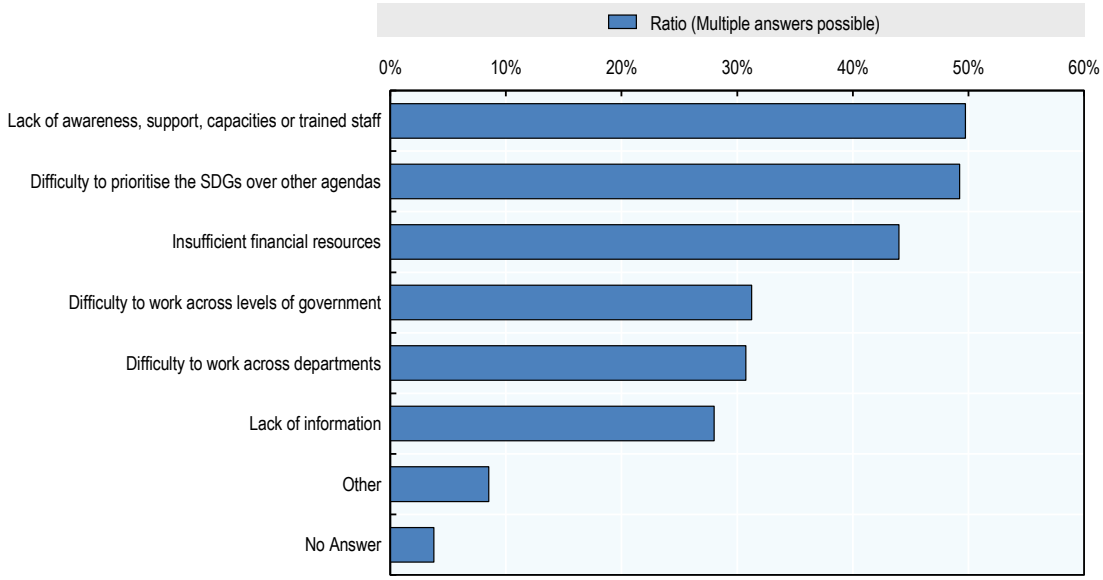
Source: OECD/CoR (2019), *Survey Results Note - The Key Contribution of Cities and regions to Sustainable Development*, https://cor.europa.eu/en/events/Documents/ECON/CoR-OECD-SDGs-Survey-Results-Note.pdf.

Challenges to implementing the SDGs at the local and regional levels

Key challenges to SDG implementation conveyed by the survey respondents include the "Lack of awareness, support, capacities or trained staff" (50%) and "Difficulty to prioritise the SDGs over other agendas" (49%) (Figure 1.7). Interestingly, the share of respondents citing "Insufficient financial resources" as a challenge is not significantly different among respondents from small municipalities compared to the broader sample. The challenges specified by respondents who selected "Other" include the lack of high-level commitment and follow-up, difficulties in communicating the SDGs, the lack of harmonised data at different levels and the difficulty in defining an appropriate indicator framework. The two latter are particularly relevant to understand the current situation and monitor progress, and thus key to start working on SDGs. For instance, in the region of Flanders, VVSG (Association of Flemish Cities and Municipalities) has noted that while they estimate to reach around 65% of all municipalities with their indicator framework, the remaining challenge will be reaching those that are less prone to work with sustainability in the first place.

A total of 49% of respondents mentioned the "Difficulty to prioritise the SDGs over other agendas" as a key challenge, which testifies of the room for improving the understanding of SDGs as a framework to improve strategies, policies and their implementation rather than an additional agenda.

Figure 1.7. Main challenges in implementing the SDGs at the local and regional levels



Source: OECD/CoR (2019), *Survey Results Note - The Key Contribution of Regions and Cities to Sustainable Development*, https://cor.europa.eu/en/events/Documents/ECON/CoR-OECD-SDGs-Survey-Results-Note.pdf.

SDGs indicators at the local and regional levels

Tracking and measuring the progress of cities and regions against the SDGs is an emerging priority for subnational governments. Around 70% of respondents track progress towards the SDGs. Almost 58% of respondents currently implementing the SDGs use indicators to monitor progress. Among all respondents who use indicators, most use local indicators (26%) or national indicators (19%). Fewer than 15% of respondents use EU- or UN-level indicators.

Overall, 40% of all respondents do not use any indicators. It is interesting to note that EU and UN indicators are roughly only half as commonly used as local indicators, which could suggest that they do not necessarily lend themselves to local and regional realities and constraints. In addition, the necessary data is not always available at the NUTS2 level (territorial level corresponding to basic regions of EU countries for the application of regional policies) for the EU indicators for example.

Multi-level and multi-stakeholder co-operation in implementing the SDGs

Respondents who are implementing the SDGs reported local-regional co-operation in that regard (60%). This highlights a high degree of co-operation between the different subnational levels, while answers related to co-operation with the national level were much less common among respondents (only 23% have joint projects with the national level to implement the SDGs).

In terms of stakeholder engagement and co-operation, 39% of the respondents highlighted that they mainly co-operate or have a dialogue with civil society or NGOs, followed by universities and by citizens (both 31%). Moreover, 28% of respondents stated that they already collaborate with the private sector, while 26% signalled that they are planning to.

As stressed by SDG 17, partnerships are fundamental to achieve the SDGs, but this opportunity is not fully exploited yet by subnational governments. Around 60% of all respondents answered "No" to the question "Have you established any formal partnerships (e.g. memorandum of understanding [MoU], purchasing power parity [PPP]) with other public, civil society and/or private sector actors to support the achievement of the SDGs?". Only 25% of the respondents selected "Yes, within my own region or city" with a further 9% each stating "Yes, with another region or city in their own country", or "With a city or region in an EU or OECD country" (7%), suggesting that very few subnational governments tackle the "external" function of the SDGs to drive international co-operation (north-south, north-north or south-south).

Cities' and regions' expectations from the EU on SDGs

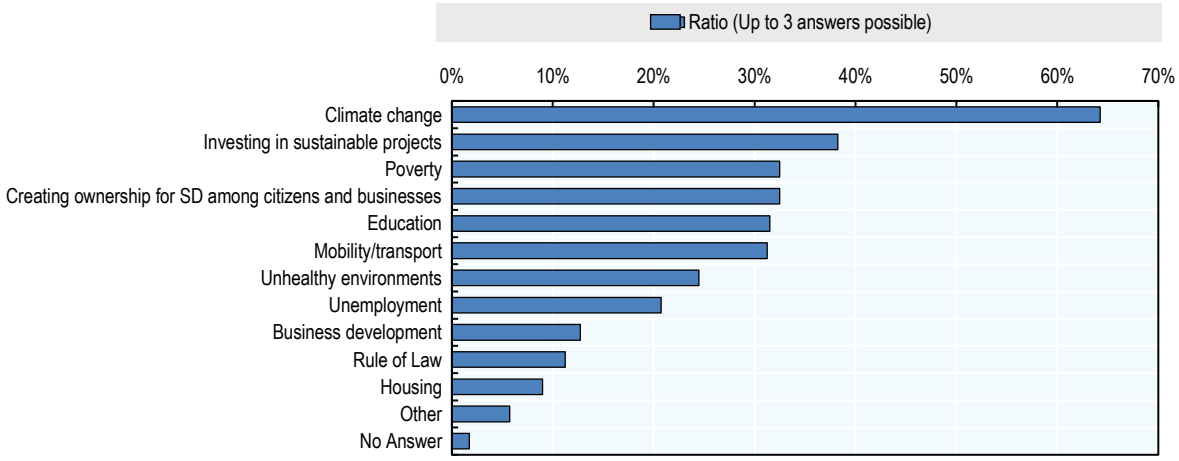
The survey also analysed what respondents expect from the EU on the SDGs.[1] Overall, respondents appear to be clearly in favour of ambitious action at the EU level in relation to the SDGs, including an EU overarching strategy ensuring policy coherence, mainstreaming the SDGs and financial support for sustainable projects. Specifically, between 85% and 95% of respondents either agreed or strongly agreed with all of the following statements:

- The EU should have an overarching long-term strategy to mainstream the SDGs within all policies and ensure efficient co-ordination across policy areas.
- A framework for policy coherence will be one of the essential objectives and aspects of an EU strategy on the SDGs.
- All of the EU institutions should break silo-thinking and mainstream the SDGs internally across all structures, and ensure policy coherence.
- The EU should have a financial mechanism dedicated to finance sustainable projects.
- The EU – through the European Commission – should strongly promote sustainable public spending and finance more sustainability-proof projects.

A large share of the respondents (66%) are in support of fiscal reforms, possibly including an EU tax to enhance sustainability at all levels. Regarding the possibility that the European Semester will be used to plan monitor and evaluate SDGs implementation in the EU, respondents were predominantly supportive (72% agree or strongly agree). Similar results were obtained regarding the possibility of using the "Better Regulation Agenda" to mainstream the SDGs within all EU policies.

Climate change emerged as the priority the EU should focus on, selected by almost two-thirds of respondents (who could select up to three answers). Investing in sustainable projects, poverty, creating ownership for sustainable development, education and mobility also scored high in this question (Figure 1.8).

Figure 1.8. Priorities the EU should focus on when addressing the SDGs according to local and regional stakeholders



Source: OECD/CoR (2019), *Survey Results Note - The Key Contribution of Regions and Cities to Sustainable Development*, https://cor.europa.eu/en/events/Documents/ECON/CoR-OECD-SDGs-Survey-Results-Note.pdf.

How cities and regions fit in the global UN process

United Nations member states review the progress achieved on the implementation of the SDGs through the preparation of Voluntary National Reviews (VNRs). Respondents were asked whether their organisation has contributed to their national government's VNR and 21% of respondents stated that they have, either upon invitation by the national government or upon their own initiative. The share of respondents answering yes to this question is much higher among respondents representing regions (38%) and intermediary bodies (29%) than for respondents as a whole, and much lower for small municipalities (11%).

It is worth noting that the overall figure for involvement in the VNRs is significantly lower than the share of respondents that are implementing the SDGs (59%). This suggests that many of the subnational governments actively "localising" the SDGs are not involved in SDGs reporting at the national level, at least in the framework of the VNRs. The annual survey by United Cities and Local Governments (UCLG) and the Global Taskforce of Cities and Local Governments (GTF) highlights that only 18 out of 47 countries reviewed (38%) formally engaged local and regional governments in the preparation of their VNRs in 2019.

As a parallel process, a handful of cities and regions are preparing Voluntary Local Reviews to assess their progress on the SDGs: this is the case of Buenos Aires in Argentina, Helsinki in Finland, Kitakyushu, Toyama and Shimokawa in Japan, Cascais in Portugal, Bristol in the United Kingdom and New York City and Los Angeles in the United States.

Mainstreaming SDGs in the design and implementation of local and regional development visions, strategies and policies

Cities and regions are increasingly using the SDGs to design, shape and implement their development strategies, policies and plans. The SDGs represent a comprehensive framework to drive integrated policies, mitigate fragmentation and silos, promote synergies and policy complementarities, and manage trade-offs across policy sectors. The SDGs are

also a powerful tool and vehicle to engage all actors in the policymaking process, both within local and regional administrations and across non-governmental territorial stakeholders. They also provide a framework for local and regional leaders to better communicate and engage with citizens, and to enhance accountability through more ambitious policies and better monitoring of terms of sustainable development outcomes.

Overall, cities and regions use the SDGs to rethink local and development strategies in three main ways depending on their policy cycle, leadership, resources and goals:

- Some use the SDG framework as a "checklist" or "health check" to assess the extent to which their programmes cover the span of sustainable development outcomes, to identify gaps to fill or areas where policies need to be upscaled.
- Some revise and adapt existing strategies and plans against the SDGs to enhance more holistic, comprehensive, cross-sectoral and integrated actions that can drive sustainable development.
- Others develop new plans and strategies from scratch, based on SDGs as a guiding framework as a means to build greater consensus and a shared vision for the future.

Assessing cities' and regions' programmes against the SDGs

Some cities and regions use the SDG framework as a "checklist" or "health check" to assess the extent to which their programmes cover the span of sustainable development outcomes, to identify gaps to fill or areas where policies need to be upscaled. For example, the city of Moscow (Russian Federationn Federation) has mapped all relevant initiatives and responsible departments for each SDG (Table 1.2). The core objective is to identify strong areas in terms of local action and others where more focus should be placed in the short, medium and long term. A next foreseen step is to use SDGs as an engine and opportunity to further improve policy outcomes in the city with three main strategies for the coming decade:

- **The 2010-35 Master Plan** aims to respond to the most complex challenge for the city of Moscow, which is to promote a "balanced urban development". The latter relates to promoting an integrated approach to urban planning, which should seek a balance between access to green areas, efficient transportation and quality housing. The key objective is to make Moscow a liveable city for everyone. Local departments within the city administration seem to be co-ordinating well when it relates to specific programmes, such as for the urban regeneration programme, Moscow electronic school or the Magistral Route Network. Moscow's metropolitan area (delineated using an economic-boundaries approach) encompasses around 20 million inhabitants, which requires co-ordination across municipalities to pool resources and capacities at the right scale for housing and transport amongst others. The SDGs could be used to think beyond administrative boundaries (i.e. those of the city of Moscow) to also enhance a metropolitan approach with neighbouring municipalities.
- **The Investment Strategy 2025** has the long-term objective to create a favourable investment climate in the city of Moscow. The Investment Strategy is the main guideline document for investment policy in Moscow. There is room for the local government to connect with umbrella organisations, such as chambers of industry and commerce, and to actively engage local businesses in mainstreaming sustainability as a standard for their core business (e.g. sustainable supply chains,

renewable energy). The strategy, therefore, provides a key tool to enhance private-sector collaboration in achieving the SDGs and for the public sector to encourage innovative "SDGs Solutions" by de-risking private investments, for example, through special economic zones and techno parks, or introducing awards for sustainability solutions.

- **The Smart City 2030 strategy** of the city of Moscow contains six main directions aligned to the SDGs, namely human and social capital, urban environment, urban economy, digital government, security and ecology, and digital mobility. The core idea is to provide digital solutions that help advance urban sustainable development, in particular to boost local living standards and to ensure more cost-effective management and service-provision processes. For instance, the use of advanced technologies can help to measure some SDGs indicators at a granular level (e.g. use of mobile operators to define Agglomeration of Moscow or technology to measure the quality of air and water). Similarly, the digitalisation of services related to health, education or environmental participation can help to achieve some SDGs.

Table 1.2. Mapping of SDG-related projects and responsible authorities in Moscow, Russian Federation

SDG	Projects and initiatives of the city	Executive agency
SDG 1	Socioeconomic Development of the city of Moscow	Department of Economic Policy and Development of Moscow
SDG 2	Eradication of Food Insecurity in the city of Moscow	Department of Trade and Services in Moscow
SDG 3	The Development of Preventative Measures in Moscow Medicine Healthy Moscow Moscow Longevity	Moscow Healthcare Department
SDG 4	Equal Access to the Education System in the city of Moscow	Department of Education and Science of Moscow
SDG 5	The Availability of Pre-school Education in the city of Moscow The Elimination of Gender Inequality and Access to Vocational Training for Vulnerable Populations, Including People with Disabilities The Integration of Different Levels of Education to Achieve High Educational Results Champions' Circles About the School Day in the Technopark	
SDG 6	The Rational Use of Resources and Maintaining the Purity of Water Bodies Environmental Education Activities The Formation of a Sustainable System for the Development of Housing and Communal Services	Department of Housing and Communal Services of the city of Moscow Department of Natural Resources and Environmental Protection of Moscow
SDG 7	Electric Buses and Charging Stations for Them The Development of Infrastructure for Electric Transport in the city of Moscow The Formation of Transport Hubs in the city of Moscow	Department of Transport and Development of Road Transport Infrastructure of Moscow
SDG 8 and 9	The Innovation Cluster in the city of Moscow The INVESTMOSCOW.RU Portal The Session of Moscow's Manufacturers Moscow Technology Parks The Innovation Cluster in the city of Moscow The Investment Policy in the city of Moscow	Department of Entrepreneurship and Innovative Development of Moscow Moscow Department for Economic Policy Development
SDG 10	Issues of Urban (Social) Inequality	Moscow Department of Labor and Social Protection
SDG 11	Targeted Investment Program Moscow Urban Renovation Program	Moscow Urban Planning Policy Department Department of Transport and Development of Road and Transport Infrastructure of Moscow

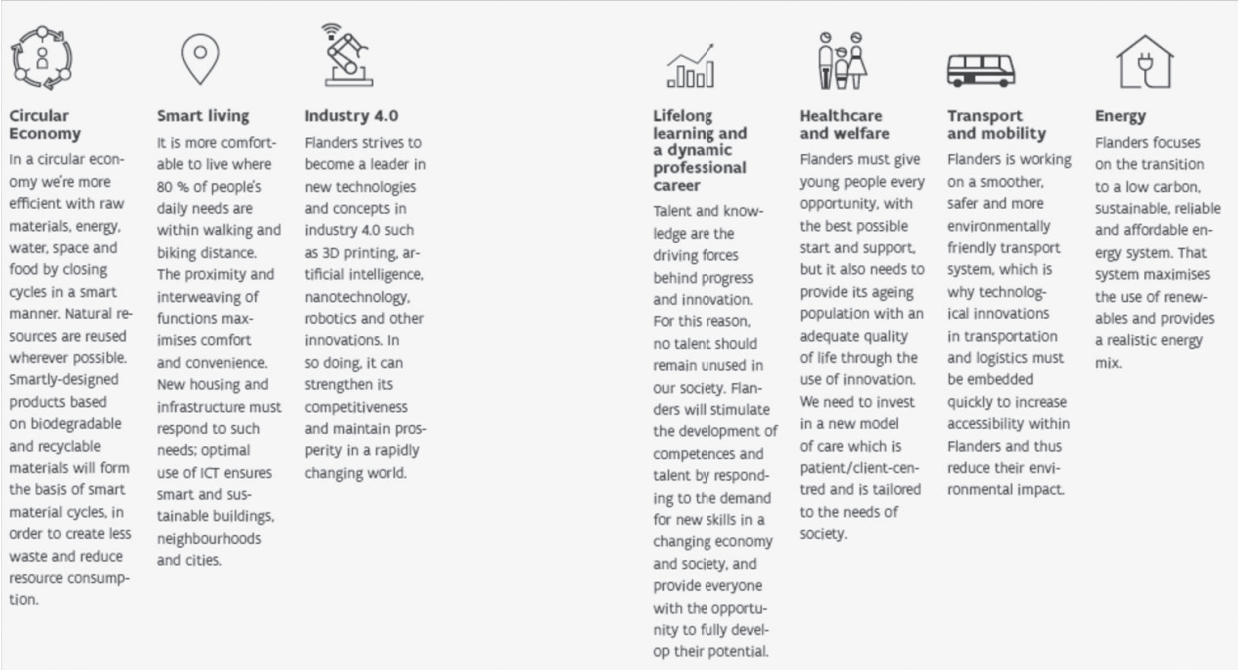
SDG	Projects and initiatives of the city	Executive agency
SDG 12	Tourism Development in the city of Moscow Environmental Education Events Sustainable Housing and Communal Service	Moscow Committee for Tourism Department of Housing and Communal Services of the City of Moscow Moscow Department for Environmental Management and Protection
SDG 13	Environmental Education Events Mitigation and Adaptation to Climate Change	Moscow Department for Environmental Management and Protection
SDG 14	-	
SDG 15	Biological Diversity Conservation Environmental Education Events Monitoring System for the State of Soil, Air and Water Bodies	Moscow Department for Environmental Management and Protection
SDG 16	Preventing Emergencies in the city of Moscow	Department of Civil Defense, Emergency Situations and Fire Safety of Moscow Department of Regional Security and Anti-corruption Activities of Moscow
SDG 17	Governmental Services Portal Mos.ru	Department of Information Technology of Moscow

Adapting local and regional development strategies and plans to the SDGs

Some cities or regions revisit or adapt existing strategies and plans against the SDGs to enhance more holistic, comprehensive, cross-sectoral and integrated actions that can drive sustainable development. For example, in Belgium, regional governments have important competencies for regional development. In this sense, sustainable development strategies have been in place since 2006 in the region of Flanders and updated every five years. A decree from 2008 framed sustainable development as an inclusive, participative and co-ordinated process. The second Flemish Strategy for Sustainable Development (2011) placed a strong emphasis on innovation and introduced a transition approach to achieving a long-term vision for Flanders.

Vision 2050 is the main strategic framework of the Flemish administration with seven priority transitions towards which the region strives (Figure 1.9). To achieve this vision, a new governance model was put in place based on transition management principles such as system innovation, taking a long-term perspective, involving stakeholders through partnerships, engaging in co-creation and learning from experiments. As a next step, Flanders has translated the 2030 Agenda to place-based needs and realities within the "Focus 2030: Flanders' Goals for 2030" (Flanders, 2019). This strategic document is guiding the implementation of the SDGs by the Flemish government by identifying 50 goals relevant to Flanders to achieve the 2030 Agenda. While not providing a one-to-one fit with the SDGs, the goals in Focus 2030 are mapped to the SDG framework. In addition, objectives related to sustainable development have been updated or redefined to better fit with the SDGs framework. The SDGs are seen as an indivisible whole with equal importance, as prescribed by the 2030 Agenda. Both Vision 2050 and Focus 2030 are umbrella strategies bringing together other plans, concepts and policies.

Figure 1.9. Key priorities of Vision 2050 in Flanders, Belgium

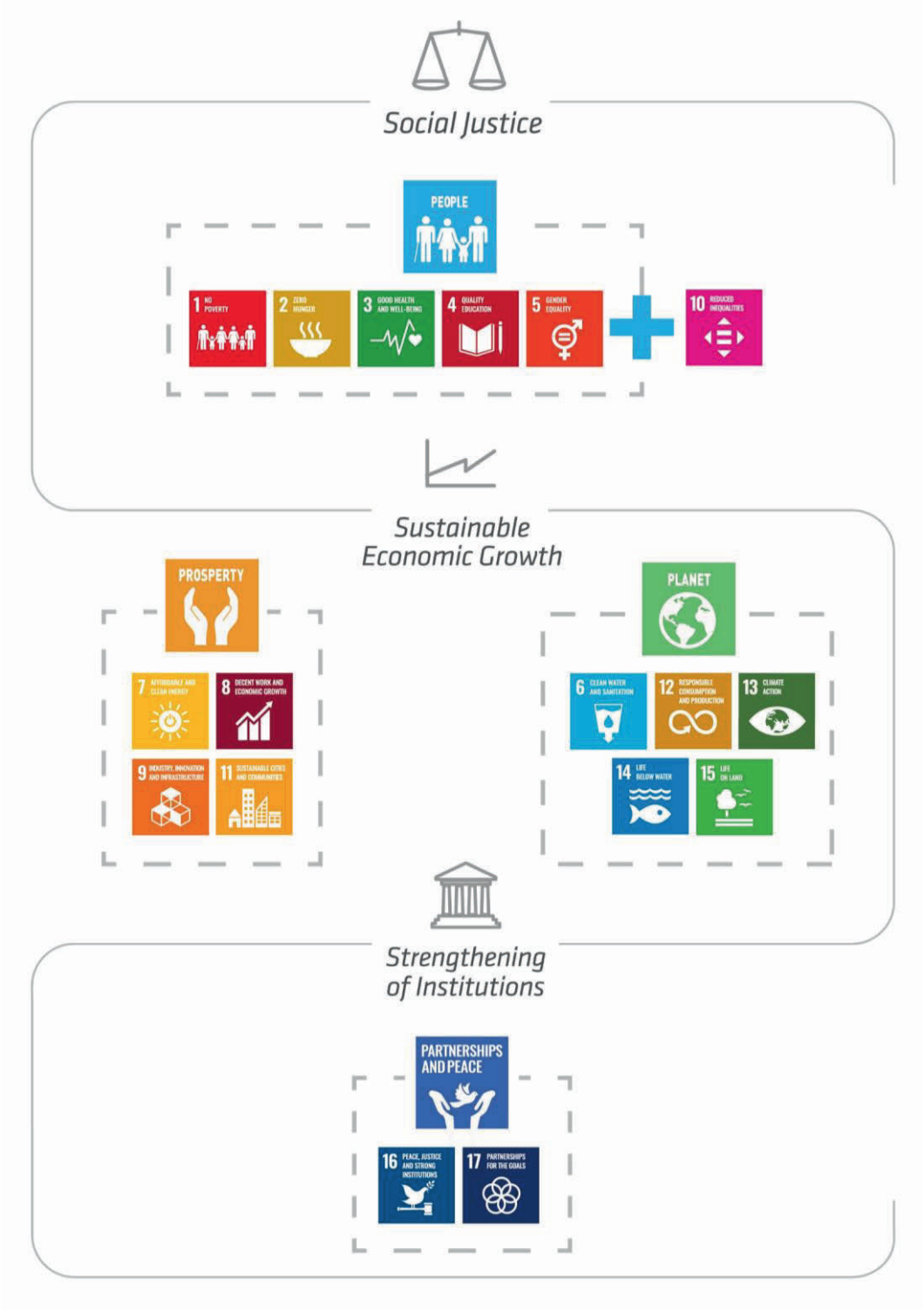


Source: Flanders (2016), *Vision 2050*, https://www.vlaanderen.be/en/publications/detail/vision-2050-a-long-term-strategy-for-flanders.

Another example is the province of Córdoba, Argentina, which is using the 2030 Agenda for improving the effectiveness and impact of its governmental actions. The *Memoria de Gestion Gubernamental* (Province of Córdoba, 2017; 2018) aligned the three axes of governmental action to the SDGs (Figure 1.10) and paved the way for localised SDGs indicators. The provincial government considers sustainability as a key principle guiding the actions of the government, which aim to build a "sustainable state" enabling all the inhabitants of the province to enjoy a better quality of life.

The provincial government policy agenda has a strong focus on social inclusion and well-being. Because of Argentina's federal structure, Córdoba province is responsible for many of the policies that have a direct impact on people's lives such as education, housing, health, access to services or the environment. In view of the volume of resources devoted to fulfilling its well-being responsibilities and the growing demand for information, the provincial government has developed a framework of well-being indicators. The 2030 Agenda represents an opportunity to continue and expand the work on well-being and related indicators as well as to drive the social inclusion agenda in the province. In particular, SDGs 1, 2, 3, 4, 5 and 10 relating to poverty, food security, education, health, gender and inequalities have received primary attention. At the same time, to make the most of the interconnected and holistic framework of the 2030 Agenda, the province has developed a matrix to identify and measure the synergies and the trade-offs among those SDGs driving social inclusion and the other SDGs.

Figure 1.10. Three axes of governmental action in the province of Córdoba, Argentina



Source: Province of Córdoba (2017), *Memoria de Gestion Gubernamental (2017)*, https://datosgestionabierta.cba.gov.ar/dataset/memoria-de-gestion-gubernamental-2017.

The state of Paraná, Brazil, is making important efforts to mainstream the SDGs in its budgetary planning. Paraná is aligning its multiannual plan (PPA) for 2020-23 and other tools for planning and budgeting with the SDGs. The Audit Court of the state of Paraná, Brazil, as a partner supporting the Social and Economic Development Council of Paraná (*Conselho Estadual de Desenvolvimento Econômico e Social*, CEDES), is leading this work by analysing the 2016-19 PPA and the 2017 Annual Budget Law (LOA 2017) and extracting lessons for the development of the PPA 2020-23. In particular, the court has developed a model to: i) examine the link between ongoing public policies and the SDGs' targets; ii) evaluate budget expenditures related to the implementation of SDGs; iii) generate evidence to improve decision-making processes related to the SDGs; and iv) analyse the official indicators related to the budget-planning instruments (LOA and PPA). The work done by the Audit Court revealed the preponderance of process indicators over outcome indicators (Figure 1.11). From a scan of 202 initiatives, the Audit Court has concluded that only six were not linked to the SDGs and that only 21 contribute indirectly. The next step is to ensure that policies designed in the framework of the Multiannual Plan (PPA) 2020-23 are aligned with the SDGs. There is also an ambition to trickle down this methodology to the municipality level and follow up on the recommendations stemming from the analysis.

Figure 1.11. Audit Court initiatives to mainstream the SDGs into the budgetary planning process in Paraná, Brazil

In parallel, Paraná is also strengthening its financial support to municipalities to help them advance the implementation of the SDGs. For instance, cities can access specific funding for institutional strengthening programmes and investments in urban infrastructure. The state is also working to identify local, national and international partners that can expand funding base to support municipalities in their localisation effort.

Developing new local and regional development plans and strategies through the SDGs

Some cities and regions develop new plans and strategies from scratch, based on the SDGs as a guiding framework, as a means to build greater consensus and a shared vision for the future. For example, the city of Kitakyushu is incorporating the SDGs into its various development plans, including establishing indicators relevant for the SDGs in their monitoring. Under the Kitakyushu City Plan for the SDGs Future City (City of Kitakyushu, 2018), 22 indicators were established in collaboration with the national government.

Kitakyushu's primary motivation to formulate this plan has been to turn the experience of overcoming high levels of pollution in the 1960s into a strength. This was achieved by applying the concept of green growth and developing an economy based on recycling and green industries, and sustainable and renewable energy. Collaboration between the local government, the industries and civil society – in particular women's associations – was key to overcoming the issue of pollution in the 1970s. These citizens' initiatives constitute good practices promoted by the city of Kitakyushu to face current challenges, like the need to engage the elderly population in social activities and secure appealing jobs for young people to prevent further population decline.

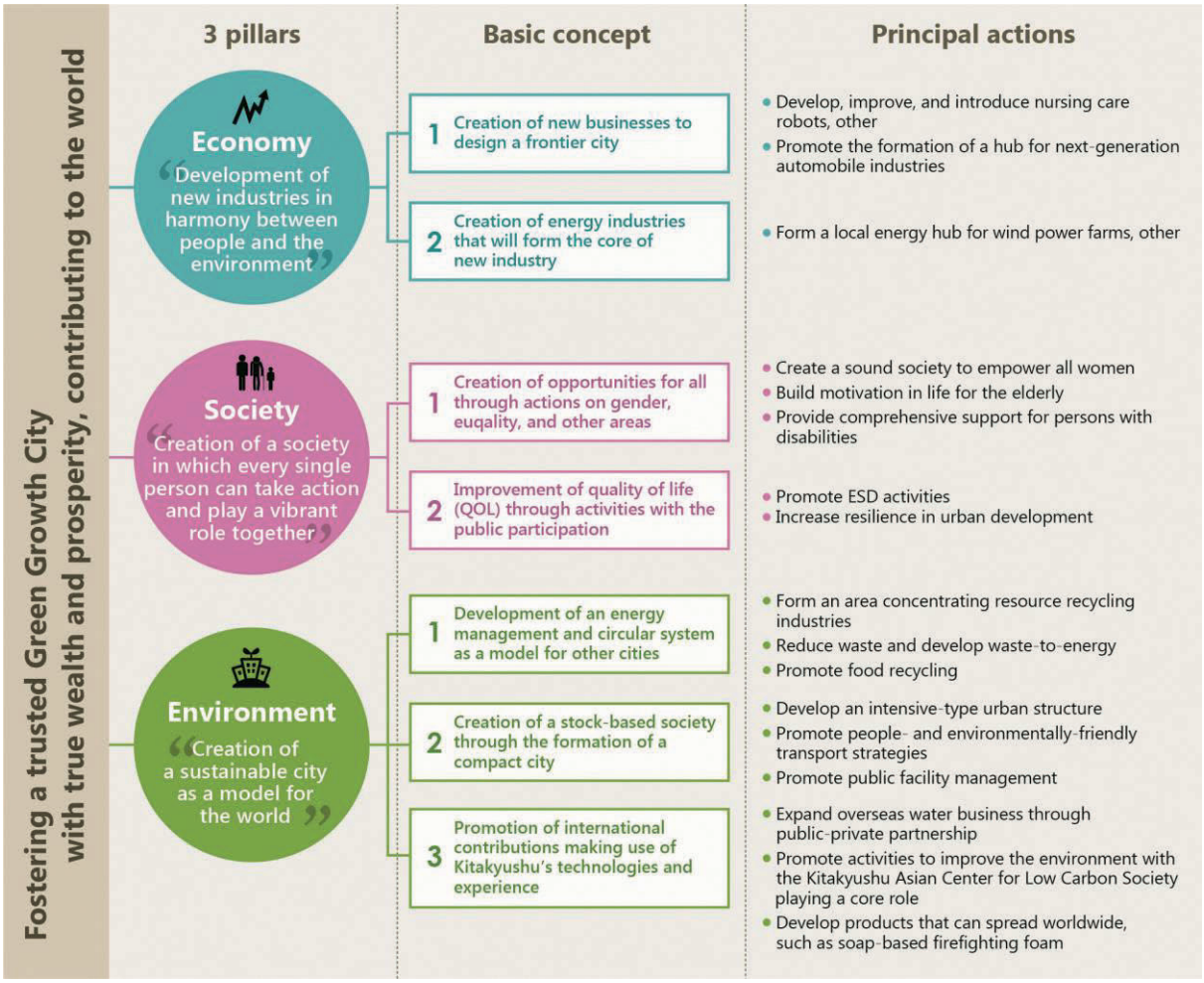
Building on Kitakyushu's long-term commitment to sustainability, the vision "Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world", was developed within the SDGs framework of the Future City programme launched by the Cabinet Office of the Japanese Government. The programme focuses on three pillars – economy, society and environment – and 17 specific measures to implement it (Figure 1.12). Kitakyushu has identified 8 SDGs that represent the main strengths of the city, mainly linked to the environmental dimension (SDGs 5, 7, 8, 9, 11, 12, 13 and 17), and has formulated its SDGs Future Plan.

Another example can be found in the city of Bonn, Germany, with a long-term commitment to sustainable development. This can be seen – inter alia – through its engagement in Local Agenda 21 since 1997, certification as Fair Trade Town since 2010, the establishment of a co-ordination unit on climate and as a signatory of the resolution by municipalities to support the 2030 Agenda in February 2016. Bonn's first sustainability strategy, developed in the context of the 2030 Agenda, was officially adopted by the city council in February 2019.

The city of Bonn has gone through a comprehensive process to localise the SDGs through its new sustainability strategy. The 2030 Agenda is seen as an opportunity to bring together the city's global responsibility agenda with actions promoting sustainable development within the city itself. As such, the sustainability strategy was designed to respond to key challenges and strengths of the city, for which some SDGs were identified as particularly relevant (Figure 1.13). For example, clean air and reduced CO2 emissions are high on the political agenda in Bonn. As several other German cities, Bonn is struggling to reduce NO2 levels to comply with European norms. This is particularly challenging in light of Bonn's growing population and persistently high rates of individual motorised vehicle traffic in the city, due to – among other things – high commuting flows. Mobility is thus a hot topic in

the public debate. Increasing rental and housing prices, with implications on housing affordability, and keeping green spaces intact (50% of the city's surface are protected green areas) are other challenges dealt with by the city.

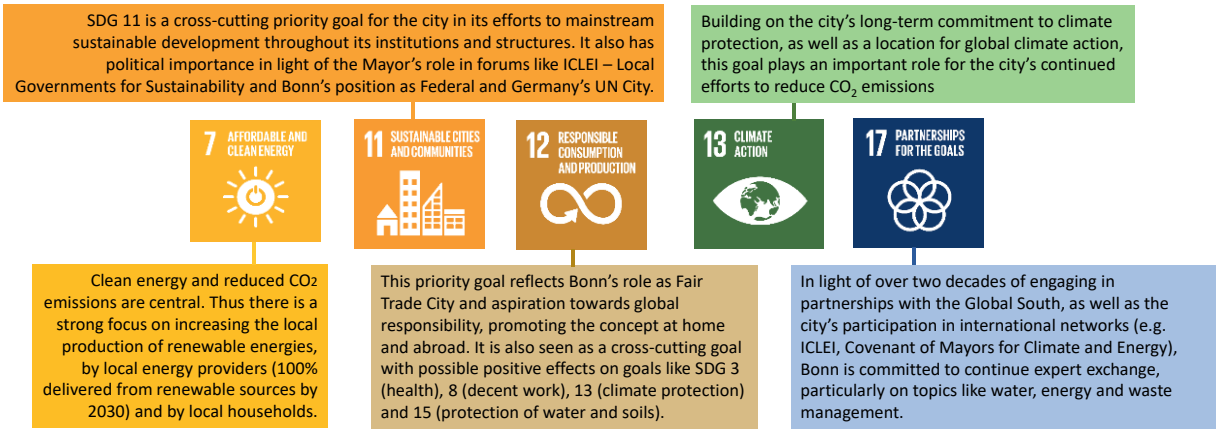
Figure 1.12. Vision and action for the SDGs Future City Plan in Kitakyushu, Japan



Source: City of Kitakyushu and Institute for Global Environmental Strategies (2018), *Kitakyushu City the Sustainable Development Goals Report 2018 – Fostering a Trusted Green Growth City with True Wealth and Prosperity, Contributing to the World*, https://iges.or.jp/en/publication_documents/pub/policyreport/en/6569/Kitakyushu_SDGreport_EN_201810.pdf.

Bonn's sustainability strategy is developed with the support of Service Agency Communities in One World of Engagement Global on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ). In this process, Bonn is 1 of 15 pilot cities, municipalities and administrative districts in North Rhine-Westphalia (NRW) that participated in the pilot project "Global Sustainable Municipality in NRW". The objective is to develop a common strategy that integrates both the local and global perspectives on sustainable development. The Service Agency is currently implementing this same project in eight more states (*Länder*) in Germany.

Figure 1.13. Key SDGs for the city of Bonn, Germany



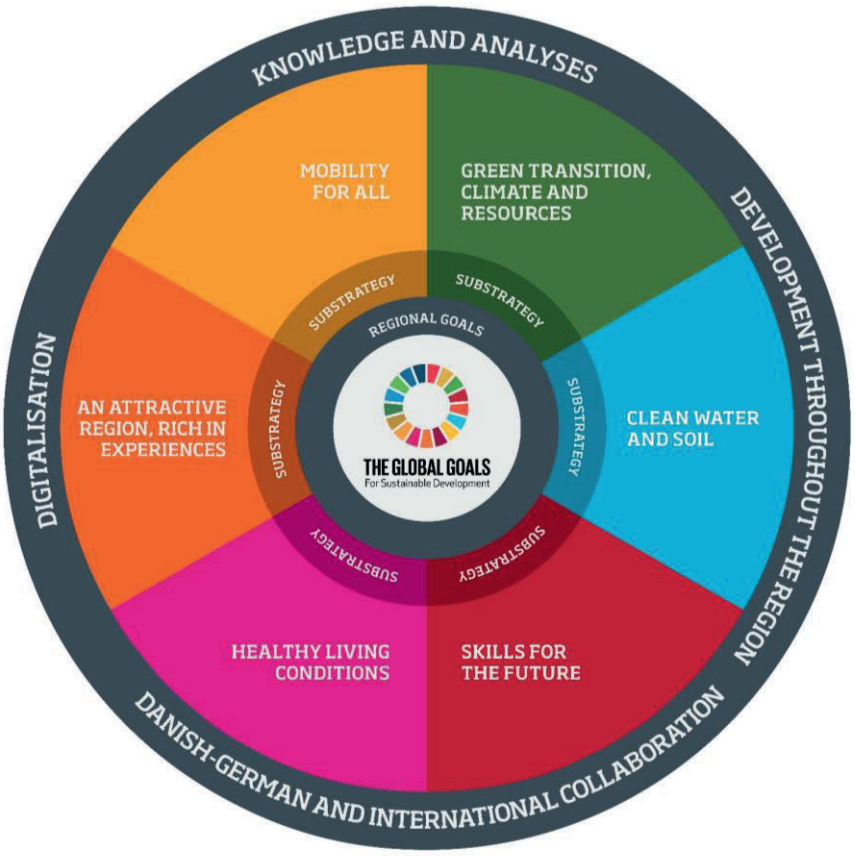
Source: OECD elaboration based on the OECD SDGs Questionnaire completed by the local team of the city of Bonn (Germany).

Denmark is another country where subnational governments have used the SDGs as a driver to implement better policies. For instance, the concepts of quality of life, well-being and sustainability have long been part of the regional narrative in Southern Denmark. The region's particular areas of strengths include renewable energies and energy efficiency, with over 40% of employment in the Danish offshore wind energy sector located in Southern Denmark. Moreover, competencies in health and welfare innovation, including automation, intelligent aids, information technology (IT) and telemedicine add to the region's strategic advantages, as well as the fact that Southern Denmark is the largest Danish tourism region. Although the SDGs are not formally included in the current Regional Development and Growth Strategy (2016-19) "The Good Life" (*Det Gode Liv*), the six priority areas and the policy themes covered are all directly or indirectly linked to the SDGs framework.

Moving forward, the region of Southern Denmark has been incorporating the SDGs in the new regional development strategy (2020-23). The overall concept of well-being and quality of life, the six strategy tracks, the specific regional goals and as well as the action of the region are linked to specific SDGs and are designed to contribute to their achievement. In particular, the region has decided to focus on 11 goals that are mostly relevant for its work: SDG 3 on health, SDG 4 on education, SDG 5 on gender, SDG 6 on water, SDG 7 on clean energy, SDG 9 on industry and infrastructure, SDG 10 on inequalities, SDG 11 on sustainable cities and communities, SDG 12 on sustainable consumption, SDG 13 on climate and SDG 14 on life below water.

The regional government has developed a participatory process to engage local stakeholders in the new regional development strategy based on the SDGs (Figure 1.14). This includes: i) a public consultation process with local municipalities, education institutions, museums and other interested parties between 9 October 2019 and 17 January 2020; ii) a public "consultation conference" on 27 November 2019 in Vejle; iii) ad hoc consultations with local municipalities; iv) a dedicated consultation process with the partners on the German side of the Danish-German border; and v) a "kick-off conference" in May 2020.

Figure 1.14. Linking the regional development strategy 2020-23 and SDGs in Southern Denmark, Denmark



Source: Southern Denmark (forthcoming), *Southern Denmark Regional Development Strategy*, draft, 2019.

In 2018, Kópavogur, Iceland, formally included the SDGs into its comprehensive strategy for the municipality. A total of 15 SDGs and 36 targets have been prioritised for Kópavogur (Figure 1.15) based on a review of the 65 SDGs targets prioritised by the Icelandic national government, excluding goals where the national government has the main competencies, like international co-operation. A second criterion for selection were the 92 targets identified as important for local governments by United Cities and Local Governments (UCLG) to guide the prioritisation (UCLG, 2016[1]). Finally, seven context-specific targets relevant for Kópavogur were added based on ongoing commitments by the municipality, such as the UN Convention on the Rights of the Child (CRC) and the participatory budget platform OKKAR Kópavogur.[2]

Kópavogur's SDG strategy is meant to address policy silos, using the SDGs and their targets as a platform to explore synergies between the interconnected goals. This constitutes a new way of working for the municipality, which does not have a tradition of developing holistic master plans, but rather separate visions for each policy sector. The SDGs are also considered a useful framework for the municipality to prioritise actions across policy domains and over the short, medium and long term. The main goal of the strategy is to ensure the quality of life of residents, improve efficiency and participate in the global effort towards sustainability. To the backdrop of public spending cuts following the financial

crisis in 2008, the "Kópavogur model" puts a strong emphasis on efficiency of the local administration. To secure implementation and continuous monitoring of performance and progress, the Kópavogur strategy will develop strategic action plans where targets are linked to performance indicators and actions, which will be at least partly linked with the yearly budget of the municipality. Increasing staff awareness has resulted in positive action and different divisions have started working with the SDGs.

Figure 1.15. Selection criteria for the prioritisation of SDG targets by Kópavogur, Iceland

Source: Municipality of Kópavogur (forthcoming), Local development strategy of the municipality of Kópavogur.

The county of Viken, Norway, has started working with the SDGs in the context of a national territorial reform that foresees the merger of the counties of Akershus, Buskerud and Østfold together with three bordering municipalities to establish the new Viken county as of 1 January 2020. To that effect, a joint board with elected political representatives from all three merging counties has been set up. Early in 2018, the Joint Board of Viken made the decision that the SDGs should form the basis of development in Viken. In March 2019, the board further adopted the proposed way forward for integrating SDGs holistically in Viken and the new county organisation. This involved developing a planning and steering system with the SDGs as a guiding principle, incorporating the SDGs as a management responsibility, connecting the SDGs to internal culture building and involving staff from communication, human resources and budget steering into a dialogue of how to develop this further.

The main motivation of Viken is to enable counties to take a stronger and more strategic and holistic role in regional development as part of the territorial reform. Taking this role, regional governments are expected to act as "bridge builders" between policy sectors at the

national level and diversified local needs. This implies more strategic regional development to solve complex societal challenges, such as long-term sustainable development. The SDGs in Viken drive two major process-developments: a regional planning strategy and a new planning and steering system for the county administration. Through the development of a holistic planning and steering system, the SDGs are used as an opportunity to link overarching strategic goals with the four-year regional financial plan, annual budgets and operational planning. This was seen as a weak or "missing link" in former regional planning practices. Based on the introduction of a model for comprehensive planning and management, a system will be set up whereby the SDGs are implemented from an overarching strategic level by the regional planning strategy through to other regional plans and action plans and then added to the four-year financial plan, annual budgets and operational planning.

Good practices from other champion cities and regions

The Autonomous Community of Euskadi (Spain) has developed the Agenda Euskadi Basque Country 2030 to align this administration's governmental programme and related sectoral policies to the SDGs. This document has localised the SDGs to the territorial characteristics of the Basque Country. It also aims to provide a common language to enhance co-ordination in public action among sectoral departments in the Basque government. In this sense, the General Secretariat of the President's Office is responsible for co-ordinating the implementation of the agenda in the Basque Country, and the General Secretariat of Foreign Affairs to foster partnerships and exchange on ways forward for its implementation with other regions, countries and international organisations. An annual monitoring report is expected to document the achievements and distance to the SDGs targets, with discussions in the regional parliament. Euskadi is also co-ordinating the implementation of the SDGs across levels of government and non-state actors. The External Action Department's Inter-institutional Committee, composed of the Basque government, the provincial councils, the three capital cities (Bilbao, San Sebastián and Vitoria) and the Association of Basque Municipalities (Eudel), is supporting such multi-level governance. Key social, economic and cultural actors also take part in the discussions of the External Action Department's Advisory Committee, chaired by the president of the Basque government (Basque Country, 2018).

New York City (NYC), United States, has been localising the SDGs since 2015 through OneNYC 2050: New York City's Strategic Plan. OneNYC 2050 is a strategy setting bold actions on domains such as health, infrastructure or education to confront the city's climate crisis, increase equity and strengthen democracy. OneNYC 2050 was launched in April 2019 under the requirements of Local Law 84 of 2013. The Global Vision, Urban Action framework is led by the NYC Mayor's Office for International Affairs and fosters synergies between the 2030 Agenda and NYC's local development strategy. The Mayor's Office uses the SDGs to discuss innovations and challenges to implement the SDGs with other cities and countries around the world. Building on this work, NYC submitted a Voluntary Local Review (VLR) in September 2018 to the United Nations, based on the progress achieved through OneNYC 2050 (City of New York, 2019). The VLR addresses the five SDGs prioritised for the 2019 High-level Political Forum:

- **Quality education (SDG 4)**: Since 2014, the number of children in free, full-day high-quality pre-kindergarten has tripled (76% of students, the highest rate in the city's history) but is below the national average of 84.6% and disparities in performance across racial lines remain a key challenge. NYC, therefore, focuses on expanding the early childhood development programme, expanding the base for the

implementation of inequity-focused policies, or training for home-based childcare providers.

- **Decent work and economic growth (SDG 8)**: There has been a record job growth in NYC in the last years, driven by high-paying professional occupations, and earnings are rising following the introduction of a USD 15/hour minimum wage that applies to more than 1.5 million New Yorkers. Significant challenges remain with regards to multiple occupational (more than 2 jobs) and more than 2 million citizens lack basic education and skills to access middle-class jobs. OneNYC 2050 plans to attract and create good-paying jobs by investing in businesses and sectors that promise fair wages and working conditions as well as in worker-owned business planned.
- **Reduced inequalities (SDG 10)**: NYC plans to expand the number of its youth leadership councils to influence city policies and to advance gender equity. NYC further aims to protect and provide resources to support new and undocumented New Yorkers. In particular, by expanding the municipal identification card IDNYC to increase access to public services.
- **Climate action (SDG 13)**: NYC's goal is to achieve carbon neutrality by 2050. The city already has a smaller per-capita carbon footprint than any big city in the United States and reduced 30% municipal greenhouse gas emissions from 2005 to 2017. Actions to reach the goals and protect the environment include multi-billion investments into the implementation of energy-efficiency measures in municipal buildings, the expansion of solar power and bike lanes, the completion of coastal protection projects and the operation of the largest electric municipal fleet in the USA.
- **Peace, justice and strong institutions (SDG 16)**: OneNYC 2050 outlines strategies to expand voting rights, wants to ensure that residents are better informed about democracy and create opportunities for residents to directly impact their communities. At the international level, NYC is partnering with cities around the world in coalitions such as the C40 Cities Climate Leadership Group and led more than 50 cities in 2018 to advocate for the inclusion of local voices in the negotiations around the Global Compact for Migration.

Since 2017, the city of Los Angeles (United States) has started an incremental approach to align its local development policies to the SDGs (Figure 1.16, left panel). In particular, the city defined the following objectives (City of Los Angeles, 2019):

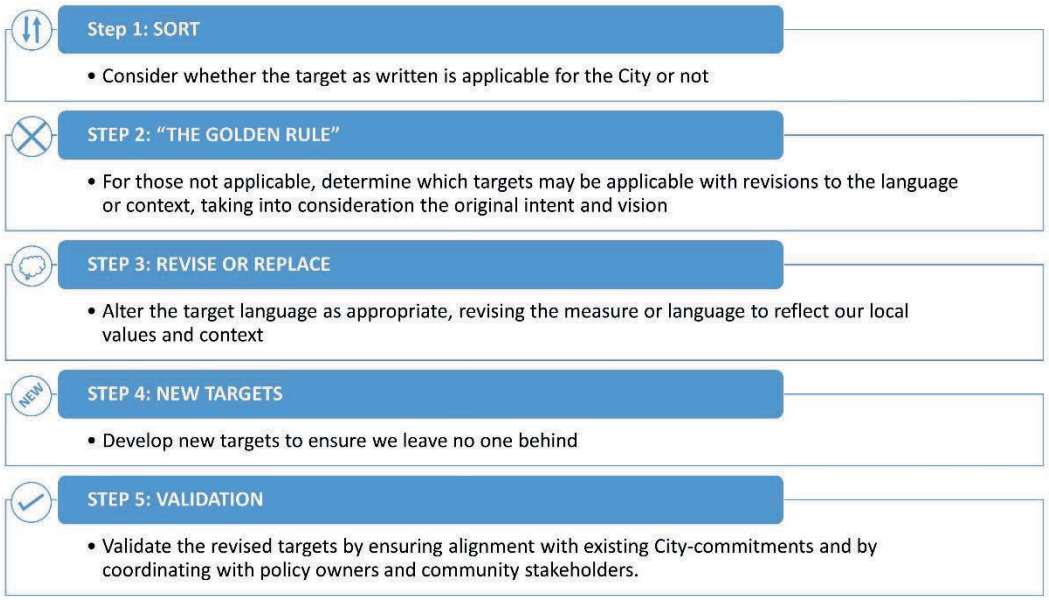
1. **Mapping and alignment** of plans, policies, initiatives, measures of impact, services or business areas that related back to the SDGs. This assessment helped to identify the policymakers and other state and non-state stakeholders that were already working towards some of the SDG targets, to understand what progress had been made and to identify where challenges remained.
2. **Gap analysis** to analyse the city's gaps against the activities mapped. The analysis showed gaps in certain SDGs targets, like those related to public health, that are governed by Los Angeles County and therefore require close co-ordination across levels of government to ensure their achievement.
3. **Localisation** to adapt the SDGs, targets and indicators to the local context, set and validate the results with stakeholders and monitor the implementation. Existing indicators and data sources are used to establish a baseline to monitor

future progress toward the SDGs. Los Angeles plans to work at a more disaggregated scale (i.e. going beyond city aggregates) and unpack data for different socioeconomic groups.

4. **Mobilisation**, with new ideas, partnerships and ways to advance the implementation of the SDGs. The city aims to go beyond the public sector to also engage with civil society, which is believed to be a great source of ideas due to the creative nature of the city.

A distinctive feature of Los Angeles is the close engagement with the academic sector in its localisation efforts. In fact, the SDGs localisation process was initiated by 18 graduate and undergraduate students, who spent the summer of 2018 gathering data and mapping activities on the SDGs across the public, private and non-profit actors. Students, with the support of the SDSN, also developed a methodology to determine the applicability of the targets to Los Angeles's local context, and proposed revisions (Figure 1.16). University partners that contributed to Los Angeles's SDG strategy include the John Parke Young Initiative on the Global Political Economy at Occidental College (Oxy) and the Thunderbird School of Global Management at Arizona State University (ASU), WORLD Policy Analysis Centre at the University of California at Los Angeles (UCLA) and the Institute on Inequalities in Global Health at the University of Southern California (USC).

Figure 1.16. The city of Los Angeles' approach for the localisation of the SDGs



Source: Reproduced from City of Los Angeles (2019), *Los Angeles Sustainable Development Goals: A Voluntary Local Review of Progress in 2019,* https://sdg.lamayor.org/sites/g/files/wph1131/f/LA%27s_Voluntary_Local_Review_of_SDGs_2019.pdf.

The City of Helsinki, Finland has also aligned its local development strategies to the SDGs and is currently supporting its implementation. The Most Functional City in the World – Helsinki City Strategy 2017-21, approved by the city council on 27 September 2017, is the key document driving local development. The strategy focuses on three themes: securing sustainable growth, developing services and responsible financial management. The Carbon-neutral Helsinki 2035 Action Plan is another important document driving climate

action at the local level. The VLR conducted by the city in 2018 mapped Helsinki City Strategy, key projects implementing the strategy and the Carbon-neutral Helsinki 2035 Action Plan with the SDGs, and documented the linkages between Helsinki's key strategic objectives and the SDGs. In particular, the report focuses on examining five goals:

- **Quality education (SDG 4)**: The percentage of higher education graduates in Helsinki is more than 10% higher than the EU average. The city aims to be the most effective in the world at using the entire city as a learning space for people of all ages focusing on enabling access to digital technologies, embedding environmental education in curricula and fostering free education.
- **Decent work and economic growth (SDG 8)**: Helsinki aims to become Finland's best city for businesses. However, land-use prices and traffic are key challenges for the city. Beyond that, there is a skill mismatch between the city's 30 000 unemployed and the 12 800 open vacancies in the construction and information and communication technology (ICT) industry that cannot find adequate workers. Helsinki aims to respond to these challenges by attracting foreign entrepreneurs, investments, skilled workers and tourists, supplying better vocational training to match future labour demand and increasing employment opportunities among excluded youth.
- **Reduced inequalities (SDG 10)**: Youth social exclusion is one of the most serious problems in the city. Helsinki aims to improve inclusiveness by increasing the offer of early age child support to families, improving access to services by increasing the provision of services in English and ensuring housing policies promote equity across neighbourhoods.
- **Climate action (SDG 13)**: Helsinki has managed to reduce its emissions by 27% from the 1990 level. Helsinki adjusted its carbon neutrality target from 2050 to 2035 setting up the Carbon-neutral Helsinki 2035 Action Plan including 147 measures to act against climate change and its effects. These measures tackle particularly targets 13.2 and 13.3. Through the plan, the city is constructing heat pump plants and bioheat plants and pursuing an expansion of solar energy.
- **Peace, justice and strong institutions (SDG 16)**: Concerning security, 80% of the city's residents feel safe travelling to their residential areas on weekend evenings, however, the city aims to improve that number by increasing security measures across the city. With regards to the accountability of the public administration, only 56.6% of staff feel they have the opportunity to have an impact through their work. The city would like to enhance the accountability of public workers to improve the performance of the administration.

Helsinki is also co-ordinating reporting efforts with the national government. In September 2018, Helsinki was the first city in Europe to voluntarily report on SDG implementation. Finland was also one of the first countries to set national focal points, procedures and a monitoring and evaluation system for the implementation of the SDGs. Helsinki's local reporting complements Finland's national reporting and the city has been acting as a pioneer to encourage other Finnish cities to advance in the implementation of the SDGs (City of Helsinki, 2019).

The city of Buenos Aires, Argentina, is another good example of how to mainstream the SDGs into local policies, strategies and plans. The strategic approach, in this case, is driven by three overarching goals (City of Buenos Aires, 2019):

- **Adaptation**: The city conducted a thorough analysis to determine the contribution of its government plan and other key strategic projects to the achievement of the SDGs. A forthcoming Localisation Plan of the 2030 Agenda will specify medium and long-term targets established for 2023 and 2030 as well as proposed indicators to measure progress towards implementation. It will also highlight government policy priorities with regards to the SDGs, and key projects currently under implementation that have an important sustainable development feature including those from different local stakeholders towards the SDGs.
- **Dissemination**: The city has also undertaken a series of actions to disseminate and raise awareness among residents. For instance, the *Buenos Aires Elige* initiative of 2016 enabled residents to suggest and vote projects to be executed in the different neighbourhoods. In the 2019 edition, each project in the platform (e.g. construction of new green spaces, improving public transport, promoting culture, enhancing security, etc.) was assessed against its potential to achieve concrete SDGs. Furthermore, the city has placed important efforts in reinforcing the role of youth to achieve the SDGs. Some events used to raise awareness are the Youth Olympic Games Buenos Aires 2018, or the Lollapalooza music festival.
- **Partnerships** with other cities have become a strategic element to advance the implementation of the SDGs. For instance, the city was part of the "Implementing the New Urban Agenda and the SDGs: Comparative Urban Perspectives" project, during which Buenos Aires and six other international cities were benchmarked by academics on their urbanisation process and challenges around SDG 11. The city is also part of networks such as Latin American Capital Cities Union, UCLG, C40 Cities or the Mercosur Cities Network, where it exchanges with other peer cities. Lastly, the city, alongside the national council on social policy, championed an online course on "Localisation of SDGs in municipalities", which aims to share Buenos Aires' experiences with other public officials from Argentinian local governments.

In the United Kingdom, Bristol's efforts to integrate the SDGs into local development is a collective action across diverse actors in the city (Bristol City Council, 2018).

- First, the city council is integrating the SDGs into the city's ongoing projects. The 558 initiatives delivered within the One City Plan, Bristol's strategic local development document, have been mapped onto their contribution to the SDGs.
- Second, through its One City Approach, the city is leveraging the potential of important local institutions and networks to implement the SDGs, for which the Bristol SDG Alliance plays an instrumental role. It is a network of city stakeholders that aims to drive interest and action towards the implementation of the SDGs in the city, the region and nationally.
- Third, the city has established a new mechanism to harness resources locally. The Bristol City Funds is a mixed funding mechanism that provides loans and grants to deliver key priorities under the One City Plan. The funds operate as a source of investment and grant funding to support projects that will help transform Bristol and achieve the SDGs.
- Last, the city council is also considering how to align its procurement policy with the SDGs. Following the Social Value Act (2012), the city has been embedding social and environmental consideration into its procurement policy. Now, the city

has taken a further step to map targets, outcomes and measures for its procurement policy against the SDGs.

Prioritising the SDGs in cities and regions

The prioritisation of the SDGs is an important step that subnational governments are undertaking when using the SDGs as a tool to shape their local development visions, strategies and policies. Prioritising allows to identify key regional and local development issues for the territory and to link them to the SDGs. This can provide an integrated framework to address regional and local development issues more effectively in a holistic manner. Prioritising some SDGs does not mean considering only a few goals and overlooking the others. A core component of the 2030 Agenda is the interconnectedness and indivisible nature of the 17 SDGs and the need to progress on all the goals. Therefore, although some cities and regions might identify local priorities to better address some pressing place-based issues, the link, impact and trade-off on the other goals should always be considered and managed.

Cities and regions are prioritising the SDGs – or the targets – in different ways. The main approaches that are emerging to SDGs prioritisation are:

- **Technical and top-down process.** Some cities and regions are identifying their priority SDGs or targets through a technical process starting from the SDGs/targets prioritised by their national governments. These targets are screened and eventually integrated based on the context-specific priorities or on local competencies. This is the case, for example, for the city of Kópavogur, which started the prioritisation process based on the priority targets identified by the national government of Iceland.
- **Engaging stakeholders.** The prioritisation process can represent an opportunity to engage local stakeholders in the definition of the vision of the city or region. A stakeholder engagement process can complement a technical approach. It can be developed *ex ante* to identify the priorities of local stakeholders or *ex post* to validate and integrate the SDGs priorities defined in a technical way, as in the case of the province of Córdoba in Argentina.
- **Reflecting and strengthening political priorities.** Often, the choice of the priority SDGs/targets reflects the political priorities of a city or region. The SDGs can indeed be a powerful tool to move forward the political agenda of the government, at all levels. This is why subnational governments in Europe are mainly prioritising environmental SDGs (OECD/CoR, 2019) while Latin American ones are mainly focusing on social inclusion/social SDGs.
- **Focusing on the main strengths/competitive advantages.** Some cities and regions are prioritising the SDGs where they have a particular strength. Thus, the SDGs are used to strengthen the competitive advantages of the city or region. Linking the competitive advantages with the SDGs where the city or region is performing less well, can help to identify new development opportunities. An example is the city of Kitakyushu that is linking Planet SDGs with People SDGs.
- **Limited number of priorities vs. holistic focus on all the SDGs.** Some local and regional governments are identifying a limited number of priority SDGs, focusing on key local issues, areas of competencies or political priorities (e.g. Bonn has identified five priority SDGs, Córdoba six, Kitakyushu eight). Other cities and

regions have not defined specific priority SDGs (e.g. Flanders, Paraná, Viken), some might start the prioritisation process at a later stage while others will keep the broader focus.

Linking the prioritised SDGs to the others and measuring/assessing the impact of the actions on the non-priority goals is a key step to implement and maintain the policy coherence element of the 2030 Agenda. The integrated and interconnected nature of the SDGs allows to both prioritise and, at the same time, to address the broader SDGs framework in a holistic and coherent way.

Cities and regions should prioritise key issues relevant to their territorial specificities and then link them to the SDGs, not vice versa. The key lesson emerging from the examined prioritisation processes is that the priorities should be identified and communicated based on the key local and regional challenges and opportunities. The SDGs should serve as a framework to better address them and capture their integrated component.

Measuring cities' and regions' progress: The need for granular data

The nine pilot cities and regions analysed in this synthesis report provide good practices to localise the SDGs, including for measuring progress at the subnational level. They have taken different approaches to identifying and developing local indicators. They range from seeking inspiration from international or national guidance and indicator frameworks to using sustainability reporting efforts to map existing indicators to the SDGs. This section highlights some of the commonalities and challenges that emerge from these different attempts and provides an overview of local indicator frameworks under development in these places.

A place-based approach to measuring SDGs in selected cities and regions

Local and regional indicators provide tangible data that can guide actions and policies relevant to local and regional competencies. This often implies the use of administrative and operational data to monitor the performance of the city's or region's strategies, plans, programme and projects. Two interesting examples where indicators have been contextualised are Bonn, Germany, and Kitakyushu, Japan. It is worth mentioning that both cities have good data availability for selected performance indicators and a well-established reporting culture and framework.

The city of Bonn, Germany started its sustainability reporting in 2002. The latest report from 2016 includes an analysis of 45 indicators (over 2012-15) structured around four main categories: well-being, social justice, environmental quality and resource efficiency, and economic efficiency. Due to its long experience in sustainability reporting, Bonn has solid foundations for analysing key indicators over time with some indicators in place since 2002 such as for energy efficiency and waste produced per capita. In the 2016 report, the SDGs are identified as important forward-looking goals, and the 2019 report monitors progress in localising the SDGs in Bonn. For most of the SDGs, several relevant indicators were identified. In addition, the indicator framework in the 2019 report has been expanded to 55 indicators, with the aim of covering most aspects of the 2030 Agenda (City of Bonn, forthcoming). The report will be officially published in March 2020.

The Local Agenda office responsible for Bonn's sustainability reporting sees the value of having indicators for different purposes, including benchmarking as long as such indicators can inform action relevant to the city administration. The aspiration moving forward is thus to keep the existing 45 indicators, since they provide actionable intelligence for the city

administration, and expand the existing set to a total of 55 indicators. The office remains cautious about benchmarking cities since it can generate negative perceptions of already disadvantaged places.

Thus, Bonn's indicator framework also includes indicators available for all German municipalities, such as those in the catalogue developed by the Bertelsmann Foundation to measure the SDGs in German municipalities (see Box 1.2). Seventeen of the 47 indicators identified by the Bertelsmann Foundation were already part of Bonn's sustainability reporting. However, the alignment of indicators between national, state and municipal levels is a challenge.

Box 1.2. An overview of available SDG Indicators for Municipalities in Germany

A catalogue to measure SDGs progress at the local level

To facilitate monitoring progress towards the SDGs at municipal level in Germany, the "SDG Indicators for Municipalities" – developed by the Bertelsmann Foundation, the German Federal Institute for Research on Building, Urban Affairs and Spatial Development, the German County Association, the Association of German Cities, the German Association of Towns and Municipalities, the German Institute of Urban Affairs, Engagement Global and the Council of European Municipalities and Regions, and the German Association – provides a catalogue with 47 outcome and impact-oriented indicators.

The catalogue was developed through a four-step process starting with a "SDGs relevance check" breaking down the 169 UN SDG targets into 220 SDG targets and sub-targets. These were further selected depending on whether the target (or sub-target) corresponds to a major challenge for German municipalities, and whether municipalities can make contributions towards them within the scope of their mandated tasks. For the 126 targets and sub-targets that passed the relevance check, relevant indicators are identified and described. A total of 47 suitable indicators were then selected from 600+ indicators from the UN, Eurostat, national, *Länder* and municipal levels based on four criteria: data quality, data availability, function (i.e. whether it is an input, output, outcome or impact indicator) and validity (how well it represents the target or sub-target). Then, indicator parameters derived from official statistics were analysed, namely at which administrative level the indicators are available. The analysis found that data availability declined at lower administrative levels. The final indicators included in the catalogue apply to municipalities with more than 5 000 inhabitants.

The current step of the process is to disseminate the results through various means. One is the publication of the detailed indicator catalogue describing the 47 indicators to all cities and municipalities. The indicators and data are also disseminated through various online portals in German and English, where municipalities can tailor and download reports and compare themselves to peers in terms of individual indicators (i.e. not the overall progress towards SDGs or an SDG index).

Out of the 47 indicators identified by the Bertelsmann Foundation, 17 are already used in Bonn's sustainability reporting, whereas 10 indicators will require more expertise and adaptation in order to be adopted. One example is renewable energy, where the wind energy production indicator is considered irrelevant for Bonn since this development holds less

potential than solar energy, for example. Adapting indicators to fit the context of Bonn is a work in progress.

The Bertelsmann Foundation and its partners plan to develop further the indicator catalogue and the SDG Portal in 2020.

Sources: Assmann, D. et al. (2018), *SDG-Indikatoren für Kommunen – Indikatoren zur Abbildung der Sustainable Development Goals der Vereinten Nationen in deutschen Kommunen [SDG indicators for municipalities - Indicators for mapping the Sustainable Development Goals of the United Nations in German municipalities]*, https://www.bertelsmann-stiftung.de/fileadmin/files/Projekte/Monitor_Nachhaltige_Kommune/SDG-Indikatoren_fuer_Kommunen_final.pdf;
Bertelsmann Stiftung (2018), *Monitor Nachhaltige Kommune – Bericht 2018* [*Monitor Sustainable Community - Report 2018]* https://www.bertelsmann-stiftung.de/fileadmin/files/Projekte/Monitor_Nachhaltige_Kommune/MNK_Bericht_2018.pdf.

The city of Kitakyushu, Japan, has also carried out a comprehensive analysis of how SDGs targets and indicators can be contextualised, including drawing on indicators used for monitoring existing strategies and plans. This work has been done partly in collaboration with the national government, within the scope of the Kitakyushu SDGs Future City plan supported by the national SDGs Promotion Headquarters, for which 22 indicators have been established. Another vehicle to local measurement is the Kitakyushu Basic Environment Plan, revised in 2017 to include an "Environmental Capital and SDGs Realisation Plan". Its monitoring framework includes 38 indicators to measure progress related to the SDGs. All of these indicators are already available for Kitakyushu and are evaluated annually.

The indicators in the Basic Environment Plan and SDGs Future City plan are further complemented by indicators in other administrative plans of the city, as well as the Kitakyushu statistical yearbook. Each bureau and department of the city administration monitors data for relevant SDGs related to their policy domains. For example, the Environment Bureau covers indicators like greenhouse gas emissions, air pollution and water quality. In addition, most city bureaus and departments undertake project-based monitoring to verify the results of specific projects. The General Affairs Bureau compiles these results in an annual report. All ongoing projects in the city (around 2 000) will be linked to the SDGs from the 2019 fiscal year.

Acknowledging that the UN and national SDG targets and indicators are not always suited to the city level, Kitakyushu has proposed some adaptation to better suit the local context. Some of these are illustrated in Table 1.3.

In Flanders, Belgium, VVSG has developed a "menu" of about 200 indicators, of which 54 are almost exclusively available from existing public sources and cover all the SDGs (1-5 indicators per goal). While this is described as a "ready-to-go" set, the organisation recommends that each municipality customises and complements the set based on the local indicators and needs.

The state of Paraná, Brazil, is measuring 13 SDGs and 44 targets with 83 indicators in 399 municipalities. These indicators are calculated with data from national surveys that are regularly published (periodically and some of them on a yearly base). If data is not available, official registries and proxies at the regional level can be used. The state is working to complement the initial 83 indicators by 2020, which are under review to check consistency and viability at the local level. The state of Paraná is using business intelligence

(BI) tools to monitor the evolution of the SDGs and to better support the decision-making process related to the achievements of the goals. The main objective is to deliver more effective public policies. Based on the "BI Paraná Keeping an Eye on SDGs", the government is planning to create a system-based report that will help the state and municipalities develop a diagnosis to identify priority SDGs. In addition to the BI tool, there is a digital platform to share good practices in the state. It aims to stimulate the replication of good practice and contribute to a better quality of life by registering and disseminating initiatives from all sectors in the state related to the SDGs.

Table 1.3. Proposed localisation of selected SDG indicators in Kitakyushu, Japan

SDGs and target	Proposed localisation of indicators
SDG 4 – Quality education	Example of national-level target: Extent to which education for sustainable development is mainstreamed at all levels of education (target 4.7.1) Example of city-level indicator: Number of citizens who are engaging in Education for Sustainable Development (ESD)
SDG 6 – Clean water and sanitation	Example of national-level target: Amount of water- and sanitation-related official development assistance (6.a.1) Example of city-level indicator: Number of water- and sewage-related international co-operation under the intercity collaboration
SDG 7 – Affordable and clean energy	Example of national-level target: Renewable energy share in the total energy consumption (7.2.1) Example of city-level indicator: Introduced renewable energy (amount of renewable energy produced within the city)
SDG 17 – Partnerships for the goals	Example of national-level target: Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies (17.7.1) Example of city-level indicator: Number of projects in developing countries by the intercity co-operation Example of national-level target: Dollar value of financial and technical assistance committed to developing countries (17.9.1) Example of city-level indicator: Number of trainees from the cities of developing countries accepted at the city to support capacity building

Source: OECD SDGs Questionnaire completed by the local team of the City of Kitakyushu (2018).

Cities and regions' increasing attention to data-driven policymaking

The SDGs provide an opportunity to strengthen data-driven policymaking in cities and regions. In the province of Córdoba (Argentina) and the municipality of Kópavogur (Iceland) efforts are being put into further developing a culture of, and competencies for, performance measurement and data-driven policymaking. These efforts include – inter alia – developing survey instruments and information systems, such as, for example, Córdoba's well-being survey and Kópavogur's open-source software MÆLKÓ, integrating over 50 different databases from the municipality's different services.

The province of Córdoba, Argentina, has started to define relevant indicators to monitor in the context of the province's prioritised SDG targets. As a first priority, 82 of the 169 UN targets were selected while an additional 90 to 111 targets are under discussion. The Secretariat of Institutional Strengthening, which is the provincial government's focal point institution for the SDGs, and the provincial Statistics and Census Department (DGEyC) collaborate on identifying relevant indicators. Using the prioritised SDG targets as a basis,

both institutions have carried out an analysis of the following indicator sets to define place-based metrics for Córdoba:

- SDG indicators proposed by the United Nations and the World Bank (based on the World Development Indicators).
- SDG indicators adopted at the national level by the Argentinian government.
- Provincial indicators within the OECD regional well-being framework.
- Management indicators used by the various departments for monitoring programmes and initiatives of the provincial government.

Córdoba estimates that 40% of the prioritised SDG target indicators could be measured through the provincial well-being survey carried out directly by the DGEyC, as part of a broader effort to measure 12 material and non-material conditions that matter to people against the OECD regional well-being framework. The development of provincial well-being statistics has been supported through policy dialogues with the OECD since 2019, in view of modernising and strengthening the provincial statistical infrastructure (OECD, 2019).

In Kópavogur, Iceland, the municipal administration invested in improved infrastructure and competencies for data-driven policymaking as part of the strategic work on localising the SDGs. In 2016, the municipality started drafting its new 5-year strategy, prioritising 36 SDG targets. Part of the strategy development consisted in developing a local Social Progress Index (SPI)[3] for Kópavogur, including the collection of survey data to assess its strengths and weaknesses related to social and environmental outcomes. A total of 56 context-specific indicators were thus collected to create a local "social progress portrait" for Kópavogur, showing how the municipality performs in relation to the SPI. The SPI has been mapped against the SDGs to show how the indicators can be used to monitor the implementation of the goals. However, this exercise needs to be further refined if the SPI indicators are going to be used to monitor the SDGs.

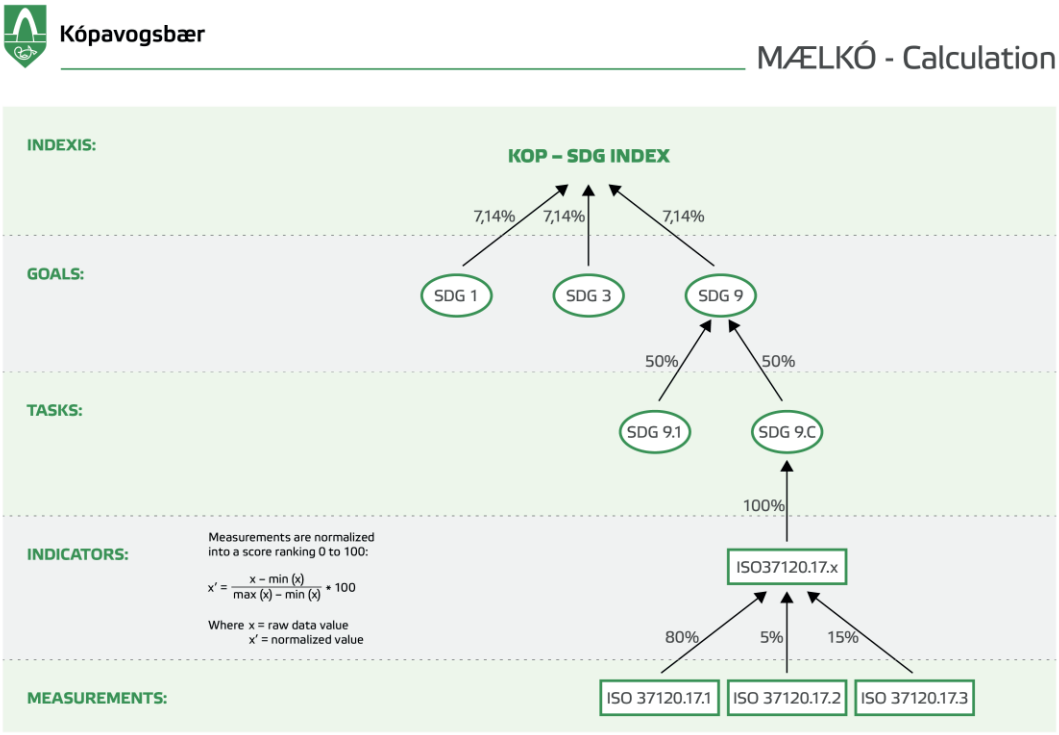
More recently, Kópavogur issued data and relevant supporting documents for 97 key performance indicators that are part of the ISO 37120 standard for sustainable development of communities. The ISO 37120 standard was developed by the World Council on City Data (WCCD) to raise the bar for high-calibre city data (all ISO data is verified by third parties). In June 2019, Kópavogur was awarded the "Platinum" certification – the highest ISO 37120 certification level available – due to the quality of the data provided. As part of this process, the Administration Department is promoting an internal culture of monitoring and performance measurement. Kópavogur has developed the Child Friendly City Index (CFCI) in co-operation with the United Nations Children's Fund (UNICEF) and the Ministry of Social Affairs in Iceland as the goal of the municipality is to become a child-friendly city. The index recently won a Child Friendly City Initiative Inspire Award at a UNICEF summit.

In Kópavogur, the SPI, CFCI and ISO 37120 indicators will be linked to the municipality's prioritised SDG targets through the local administration's online management and information system MÆLKÓ. MÆLKÓ draws on over 50 local databases integrated into one data warehouse, including service data from schools and kindergartens, building inspections data, human resources indicators, among others. The main function of MÆLKÓ is to link performance indicators with tasks and goals. The system will further help the local administration to calculate performance measures and composite SDG

indexes (see Figure 1.17). The next steps for Kópavogur foresee the use of MÆLKÓ and the key performance indicators as a tool for policy dialogue.

Figure 1.17. Planned calculations of SDGs indexes in Kópavogur, Iceland

The information and management system MÆLKÓ links performance indicators with tasks and goals related to the SPI, ISO 37120 and the SDGs



Note: The assigning of weights in the SDGs indexes is work in progress. The figure is for illustrative purposes. ISO 37120 in the figure includes: ISO 37120.17.1 Internet connections per 100 000 inhabitants; ISO37120.17.2 Cell phone connections per 100 000 inhabitants; ISO37120.17.3 Landline connections per 100 000 inhabitants.
Source: Provided by the municipality of Kópavogur.

Regional level data is an essential input to strategic planning. In Viken (Norway) for instance, regional development trends have been analysed using the SDGs as a framework to inform the region's planning strategy, while in Flanders (Belgium), SDGs targets were analysed and translated into a set of 48 goals linked to the region's long-term Vision 2050. In Southern Denmark, the SDGs are used to shape regional policy dialogue.

In Viken, the new county administration (taking office as of 1 January 2020) was tasked to develop a comprehensive baseline study of regional trends in Viken – the "knowledge base" – using the SDGs as an overarching framework. The knowledge base will include indicators showing societal development trends that relate to all the SDGs and help the county to prioritise actions and targets while monitoring progress towards the SDGs. While county and municipal level data is rather well developed in Norway, the Knowledge Base may incorporate indicators that are currently not available at regional and municipal level. These include for example waste management in other sectors than private households (SDG 12), such as the construction sector, which is estimated to make up 25% of total

waste in the county. The knowledge base is also seen as an instrument to inform strategic planning. For example, the political Joint County Board for Viken prescribed some specific uses of the Knowledge Base, including informing the formation of new inter-municipal political boards based on functional and socioeconomic regions, as well as opportunities for smart specialisation. Such analyses are essential in the context of Viken, where geographic "mismatches" between national and subnational levels lead to a complex system of territorial governance with overlapping functions and administrative borders.

The challenge of aligning SDGs indicators across government levels

In many cities and regions, aligning indicators across levels of government is both a multi-level governance challenge and a natural result of different government capacities. In Belgium, for instance, indicator frameworks to measure progress related to the SDGs are developed in parallel by different subnational governments, reflecting different data needs and availability depending on the competencies of the different governments. Both civil society and municipalities have expressed a desire to be active in the monitoring of progress towards the SDGs and in the definition of indicators used for local-, regional- and national-level reporting.

In Southern Denmark, the Regional Development Strategy 2020-23 is linked to the SDGs. For each strategy track, three regional goals are formulated that define the direction and contribute to meeting the challenges, or to bringing special regional potential to bear. At the same time, the regional goals all contribute directly or indirectly to help achieve the ambitions set out in the SDGs. In each of the six strategy tracks, status and development will be traced in an annual publication. The annual follow-up will feature a brief description of developments in relation to the regional goals. This description will be backed by a range of indicators that can be adapted in relation to both the current situation and the development achieved. In this way, the follow-up can not only identify current challenges but also track new developments. The method for following up will naturally vary depending on the different types of goals. Some data can be collected directly from the set of indicators in the SDGs, while other indicators will be used as a supplement if this provides more accurate information about local and regional conditions. When developing the indicators, the region of Southern Denmark gets inspiration from OECD, Statistics Denmark and the municipalities. For instance, the region works with the municipality of Haderslev to develop indicators at the municipal level in Denmark.

Indicators at the municipal level vary according to the availability of national statistics sources and the capacity and interest of the local administrations. Small municipalities naturally have less human resource capacity to develop local indicators, which is why strengthened support from national governments is needed in many cases. At the same time, there is some reluctance observed at the national level to "impose" reporting requirements on municipalities. Such a lock-in situation was observed in the context of Viken, where the Ministry of Local Development and Modernisation of Norway did not want to place additional burdens on municipalities in terms of monitoring the SDGs, while small municipalities would need ready-made indicators and advice on how to proceed.

Although it exists, structured collaboration between subnational governments and national statistical institute (NSIs) on localising SDGs indicators is rare. NSIs often do not have enough capacity to work on regional and municipal level indicators for the SDGs, even in cases where formal partnerships exist. This makes the alignment of indicators less likely, as subnational governments develop their own frameworks based on operational and other data (see Chapter 2).

Using indicators as a tool for stakeholder dialogue

Localised SDG indicators are not an end in themselves but can be used to structure policy dialogue with territorial stakeholders. Most pilot cities and regions are still at the early stages of developing their SDG indicator frameworks; often these efforts are rather internal to the local or regional administration and do not systematically engage stakeholders because the exercise is considered technical and time-consuming. One exception is Córdoba, where the provincial government has developed an open data portal and started a process of identifying interlinkages between the SDGs through a matrix approach. Kópavogur may embark on a similar process when it comes to developing the SDG composite indexes.

The state of Paraná, Brazil is establishing partnership agreements with its 399 municipalities to implement the SDGs. By August 2019, 248 municipalities had engaged with CEDES in a municipal capacity, building strategy to improve articulation and co-ordination at the local level. Since the beginning of its mandate in 2016, there has been a mobilisation of mayors for the involvement of municipalities. Another strategic partnership the municipalities located in the western part of the state was built with Itaipu bi-national, a world leader in clean and renewable energy production, and there is a plan in place to improve the engagement of the municipalities located in the lakeside. The initiative also involves academia, civil society and the private sector and counts with the participation of all state secretariats. CEDES is the institution in place responsible for supervising the implementation of the SDGs. It is also responsible for developing long-term sustainable planning for the state. The articulation with the federal level and the municipal level and their dependence on systems and statistics that sometimes relies on census implemented every ten years are the main challenges faced so far.

Civil society can also use SDG reporting to hold local governments accountable and to scrutinise policy proposals. This has been witnessed for example in the case of Flanders, where the strategic advisory boards raised some criticism regarding the ambition level of the target framework. In the case of the state of Paraná, stakeholder dialogue is engaging the population through partnerships with the civil society organisations, such as the SDGs art project, which uses artistic and cultural manifestations to stimulate reflection on the 2030 Agenda. CEDES is also bringing together the justice system and the Court of Accounts to improve not only the state justice but also the accountability systems, as SDG 16 is considered a basic condition to implement other SDGs.

Notes

[1] To this end, respondents were asked a series of questions taking the form: "Do you agree with the following statement?". Respondents could choose among the following options: "Strongly agree", "Agree", "Disagree", "Strongly disagree", "No opinion" or not answer.

[2] Platform providing residents with small-scale funding to maintain and improve different areas of the municipality.

[3] For more information on the SPI, visit: https://www.socialprogress.org/.

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Chapter 2. Measuring the distance to the SDGs in OECD regions and cities: Framework and overview

Measuring the distance of regions and cities towards the SDGs implies developing an adapted, comparable and consensual framework that builds on, but goes beyond, the country-centred UN framework. This chapter presents the OECD localised indicator framework for SDGs, as well as its methodology to measure the distance of regions and cities to each of the 17 Sustainable Development Goals. Being a unique internationally comparable SDGs indicator framework for subnational units, it allows documenting the share of OECD regions and cities that are lagging behind with respect to the objectives for 2030 and quantifies the average distance that these regions and cities have to travel in order to reach the desired outcomes. Finally, the chapter identifies the main data gaps and sets the statistical agenda to improve the measurement of the SDGs at the subnational level.

Introduction

The 2030 Agenda for Sustainable Development is an ambitious action plan that requires the involvement of all sectors of the society and levels of government. The 17 Sustainable Development Goals framework with its 169 targets recognises that ending all kinds of social deprivations must go hand in hand with economic prosperity and the planet's protection and that the achievement of this agenda will be possible only with the engagement and co-operation of all sectors of society and levels of government.

Regions and cities have a shared responsibility, alongside national governments, in delivering the Sustainable Development Goals. Regions and cities are closer to people's needs. Their role, when potentiated with adequate capacities and resources, is crucial to ensure "no one is left behind". In 2016, OECD subnational governments were responsible for around 40% of total public expenditure and 60% of total public investment. Of these public resources, at least 70% were invested in core areas of the SDGs, such as education, public services, economic affairs and environmental protection (see OECD, 2018c).

Subnational governments need to know where they stand against the SDGs in order to achieve the 2030 Agenda. Evidence regarding their "distance" to the SDGs is crucial for local governments to redefine priorities, strategies, budgeting and redirect action towards the achievement of the SDGs. Monitoring progress over time is also key for regions and cities. For example, local authorities need data to ensure policies are delivering the intended outcomes and to readjust their actions when necessary.

This chapter presents a framework to localise the SDG targets and indicators in regions and cities. The framework includes a method to measure the distance of regions and cities to each of the 17 Sustainable Development Goals, trying to maximise international comparisons. To shed light on regional disparities and go beyond the national average reported under the UN global indicator framework, many regions and cities are defining place-specific indicator frameworks for SDGs. However, what is currently missing is a consensual, comparable and standardised localised SDGs indicator framework to benchmark performances within countries and across regions and cities. The work presented in this chapter contributes to bridging this gap and supporting public action in cities, regions and countries.

Applying the OECD methodology to measure the distance to the SDGs to a selection of headline indicators, this chapter presents normalised indexes by goal to capture the performance of regions and cities in each of the 17 SDGs. The OECD localised indicator framework normalises SDGs indicators from 0 to 100 – where 100 is the suggested end value of an indicator (to be achieved by 2030) – and aggregates the indicators that belong to the same goal to provide an index score towards each of the SDGs. The distance to the target or goal is simply the number of units the index needs to travel to reach the maximal score of 100. It is worth noting that even if the OECD localised indicator framework builds on the OECD country-level framework (OECD, 2019a); particularly for the definition of end values, there are some methodological differences between the two frameworks that are explained by the nature and objectives of each tool (see section below for more details).

The average distance of OECD regions to the end values for 2030 varies across the 17 goals and ranges from regions being 25% to 60% of the way to achieving the desired outcomes. For example, while the average distance to achieving SDGs 10 "Reduced inequalities", 8 "Decent work", 11 "Sustainable cities", and 16 "Peace and institutions" is on average less than 30% of the total possible distance (the total possible distance being the difference between the end value and the worst possible outcome in the sample of regions), SDGs 15

on "Life on land", 9 "Industry and innovation" and 14 "Life below water" are, on average, halfway from the end values. In SDG 17 (Partnerships and enablers for SDGs), SDG 3 (Good health) and SDG 1 (No poverty), regions are, on average, one-third of the way to reaching the end values for 2030.

According to the available indicators, at least 80% of OECD regions have not achieved the end values for 2030 in any of the 17 goals. Not a single region in the OECD has achieved the suggested end values set for SDG 13 on "Climate action" and SDG 5 on "Gender equality", and only around 20% of OECD regions have achieved the end values of SDG 10 on "Reduced inequalities" and SDG 12 on "Responsible consumption". SDGs 14 (Life below water), 9 (Industry and innovation) and 7 (Clean energy) display the largest distances to the end values for lagging regions (lagging regions being the regions that have not achieved the end values), with an average distance above 50%. SDG 7 about clean energy displays high regional disparities in distances to the objective. While 18% of the regions have completed the goal's end values, the remaining 82% of regions average a distance higher than 44% of the total possible way to travel.

Measuring the distance to the SDGs with an index by goal is sensitive to the selected indicators. This implies that policymakers should always consider the full set of information available to design and implement policies towards the SDGs. The framework presented here includes more than 130 indicators available at the scale of regions or cities (functional urban areas). However, having a readable picture for communication purposes requires reduced metrics. Therefore, this report also provides indexes by goal. SDGs indexes are useful for communication and visualisation, but they are only an entry point to further analyse the whole set of indicators underlying each goal. For this reason, and to ensure the highest transparency of the measurement exercise, it is essential that all individual indicators are easily accessible – for this report, all indicators and the corresponding metadata will be available in the OECD Regional Statistics Database and in the SDGs visualisation tool (see oecd-local-sdgs.org).

The SDGs are pushing the statistical frontier for territorial indicators, where new sources of data and partnerships are key to fill the data gaps and to advance the statistical agenda. In addition to the traditional statistical indicators regularly supplied by national statistical offices (NSOs) and included in the OECD Regional and Metropolitan databases, new sources of information can help to bridge the SDGs data gaps at the subnational level for OECD countries. For example, the OECD is developing protected area statistics at the subnational level using the World Database on Protected Areas (see IUCN/UNEP-WCMC, 2019) and is currently leveraging the potential of earth observation and geospatial information to produce more SDGs indicators disaggregated by geographical location. For instance, through the publicly available GHSL gridded data on population and built-up area (see Schiavina et al., 2019; and Corbane et al., 2018), it has been possible to estimate the gap "of land consumption rate to population growth rate" (SDG 11.3.1) for all regions and cities in OECD countries.

The OECD localised indicator framework for SDGs

The UN global indicator framework defines countries as the main spatial scale at which national governments and agencies should measure and report progress towards the SDGs. The UN General Assembly adopted the UN global indicator framework in July 2017 (resolution A/RES/71/313). The Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDG) developed a set of 232 indicators to follow and

review the SDGs. These indicators are "a voluntary and country-led instrument that includes the initial set of indicators to be refined annually" (see UN, 2017).

National averages often misrepresent realities in regions and cities, and they tend to mask large territorial disparities, compromising the SDGs' premise of leaving no one behind. OECD economic and well-being indicators at the subnational level confirm that national averages mask important within-country disparities. For example, while "fine particulate matter 2.5" seems to have been achieved in Australia at the country level in 2017 (value lower than 10 micrograms per cubic metre), four cities of Australia appear to be lagging behind in this indicator – the worst-off city being 5 micrograms per cubic metre above the suggested levels.

At the same time, cities and regions are increasingly using the SDGs to shape their local development plans and strategies, which is generating a demand for subnational indicators to assess policies and progress towards the SDGs. Regions and cities require a more adapted and context-specific indicator framework to monitor progress towards all the SDGs and to generate evidence to guide local actions. A localised indicator framework for subnational geographies should go far beyond SDG 11 on "Sustainable cities and settlements" and build on the consideration of the UN global indicator framework that "Sustainable Development Goal indicators should be disaggregated, where relevant, by […] geographic location, […] in accordance with the Fundamental Principles of Official Statistics".

The OECD has identified that at least 105 out of the 169 SDG targets require the full engagement and participation of regions and cities to deliver the intended outcomes. These targets often relate to core public services and policies that subnational governments are responsible for, such as the "percentage of seats held by women in local governments", or relate to outcomes strongly associated to place characteristics, such as the "gender gap in the unemployment rate".

The localised indicator framework for SDGs presented in this chapter aims at supporting regions and cities in OECD and partner countries to measure their distance towards the SDGs. With more than 130 indicators, the OECD localised indicator framework for SDGs covers more than 600 regions and 600 cities in 65 out of the 105 subnational SDG targets (although the regional and city coverage can widely vary from one indicator to another). To shed light on territorial disparities and to go beyond national averages, many regions and cities are defining place-specific sets of SDGs indicators. However, what is currently missing is a consensual, comparable and standardised localised SDGs indicator framework to measure performances across regions and cities from an international comparative perspective. The OECD localised indicator framework aims to bridge this gap by ensuring consistent definitions and comparable indicators across regions and cities of OECD and selected partner countries.

Building on and complementing other initiatives linked to SDGs at the subnational level

The OECD localised indicator framework gets part of its inspiration from the OECD country-level framework presented in the series of "Measuring the Distance to SDG Targets" (OECD, 2017a; 2019a), particularly for the methodology to measure distance and the definition of end values. However, due to the nature and objectives of each tool, there are important methodological differences between the two frameworks.

The three main differences between the OECD country-level framework and the OECD localised framework are the selection process of relevant indicators, the method to normalise indicators, and the level of aggregation of indexes for communication purposes. While the country-level framework is quite strict in following the UN global indicator framework, the localised framework prioritises indicators with good spatial coverage over following the exact definitions of the official UN indicators. This is mainly for two reasons, lower data availability at the subnational level and a higher number of spatial units. The country-level framework currently covers 36 OECD countries in 105 targets, while the localised framework covers more than 1 000 OECD regions and cities in 65 SDG targets.

Regarding the normalisation process, for communication purposes the localised indicator framework uses scores from 0 to 100 (using the ratio scale max-min method); whereas the country-level framework measures distance in terms of standard deviations (modified z-score method)[1]. Finally, even if both frameworks can measure the distance at the indicator, target and goal levels, the national framework tends to communicate results using indexes at the level of the target (see OECD, 2019a) and the subnational framework presented here focuses on indexes at the goal level.

The OECD localised indicator framework has also benefitted from the work and knowledge of other initiatives to localise the SDGs, mainly to identify relevant subnational targets and indicators. For example, to identify the relevant SDGs targets to be measured at the subnational level (see section below), the OECD drew inspiration from the conceptual work of United Cities and Local Governments (UCLG) that provides a rationale to localise a broad selection of targets (UCLG, n.d.). Once the relevant OECD subnational targets were identified, the necessary step consisted in mapping SDG indicators. This exercise benefitted from other indicators mappings initiatives, such as the ones by Eurostat (for the national level), the World Council on City Data (WCCD), the European Commission's Joint Research Centre (JRC) and the UN Sustainable Development Solutions Network (SDSN), among others (see Box 2.1 for more details about other initiatives).

Box 2.1. Other initiatives to localise the SDGs at the subnational level

In parallel to the *OECD Territorial Approach to the SDGs*, other initiatives led by national and local governments or international organisations have been supporting the monitoring of the SDGs at the subnational level. Many of the programmes and initiatives to localise SDGs focus on providing guidelines, roadmaps and mappings of indicators, which have inspired some aspects of the OECD localised framework; with respect to the existing initiatives, the OECD localised indicator framework focuses on measuring the distance to the SDGs and in particular in a broad and diverse international setting.

Many national statistical offices (NSOs) are working on localising SDGs data to help their regions and cities monitor progress towards the SDGs. These initiatives provide useful tools for regional policy at the country level, although they tend to focus less on ensuring international comparability. For instance, the government of Ireland – in partnership with Ordnance Survey Ireland, the Central Statistics Office and the Environmental Systems Research Institute (Esri) – has created an online SDG platform (irelandsdg.geohive.ie) that provides data and maps at the regional level (large and small regions) for some of the indicators listed in the UN indicator framework. The Italian Alliance for Sustainable Development (ASviS) – with the statistical support of the Italian National Institute for Statistics (Istat) – has created an interactive online database that allows tracking the

progress of the Italian regions with respect to the SDGs. The platform contains the time series of available UN indicators and indexes by SDG (https://asvis.it/dati/#). The government of Mexico and the INEGI (*Instituto Nacional de Estadísticas y Geografía*) have gathered state-level data in the Information System of Sustainable Development Goals (SIODS) to track the evolution of Mexican states in several indicators drawn from the UN framework (agenda2030.mx). Although these national governments, NSOs and associations have engaged in the production of publicly available detailed statistics to measure the SDGs at the local level, they often adopt an approach that focuses on their country's territory and does not allow for international comparisons. An international perspective can nonetheless enhance co-operation and sharing of best practices across regions and cities from different countries.

Other international organisations are also working on the localisation of the SDGs with an international perspective. Some of the initiatives do not focus on the measurement aspects or have limited coverage in terms of regions and cities. Among the most visible initiatives figure the ones of the Joint Research Centre (JRC), the World Council on City Data (WCCD) and the Sustainable Development Solutions Network (SDSN):

- The JRC developed *The European Handbook for the preparation of Voluntary Local Reviews on SDGs*. One of the objectives of the handbook is to help European cities access and utilise European Union (EU) data so they can assess where they stand regarding the SDGs. The handbook provides a detailed description of each relevant indicator, its advantages and limitations and specifies the data sources where cities can extract information for each indicator. Most of these data are available from Eurostat (ec.europa.eu/eurostat/data/database) and in the Urban Platform Database (urban.jrc.ec.europa.eu).

  This JRC work is in line with the OECD approach to identify relevant SDG targets and indicators at the subnational level, as well as making the data and methodologies easily accessible for policymakers. One difference between the JRC handbook and the OECD localised framework – explained by the aim of each initiative – is that the OECD approach provides results on the distance of OECD regions and cities towards the SDGs. Another difference is that while JRC focuses on cities and urban areas, the OECD approach also includes regions in the analysis.

- The WCCD report *WCCD City Data for the United Nations Sustainable Development Goals* (2018). The WCCD has started to implement the first ISO standard (ISO 37120) to grant certification to cities that collect and measure a certain range of indicators on sustainable development – with a focus on city services and quality of life (www.dataforcities.org). After mapping the standardised 100 indicators with the UN indicator framework for SDGs, the WCCD provides the results by indicator for each city that belongs to the network. Since certification is demand-led, the WCCD's network currently covers around 60 cities across the world.

  One important difference between the WCCD and the OECD approach relates to the OECD methodology to measure the distance towards goals. In addition, while the WCCD defines cities based on municipal administrative boundaries, the OECD approach defines them following the functional urban areas (FUAs) approach.

- The SDSN *2019 SDG Index and Dashboards Report on European Cities*. The SDSN's initiative has achieved both a degree of measurement at the subnational

level and an international perspective (for Europe). Similar to the OECD approach, the SDSN's work also provides quantitative results based on scores by goal (euro-cities.sdgindex.org), although it uses a system of rankings and scoreboards for cities rather than focusing on distances to the end values. In its first prototype, the SDSN covers around 45 cities that are either the capital or large cities in Europe. It is worth noting that while the SDSN defines cities based on the administrative boundary approach, the OECD framework follows the functional urban approach and includes regions – which allows coverage of the entire territory of each country included in the analysis.

One similar element between the OECD localised framework and the SDSN is the use of normalised indexes from 0 to 100 (where 100 is the best possible score). However, while the SDSN defines upper bounds or end values using top performer cities (five top cities), the OECD localised framework uses the average generated by the top regions or cities of each OECD country. The OECD approach – which covers all regions and cities in each country – allows this method to set end values, where at least one region or city of each country involved in the analysis participates to define an end value that is both ambitious and feasible in their own context.

Sources: JRC (2020), *The European Handbook for the preparation of Voluntary Local Reviews on SDGs*; WCCD (2018); *WCCD City Data for the United Nations Sustainable Development Goals*, https://www.dataforcities.org/; SDSN (2019), *2019 SDG Index and Dashboards Report on European Cities*, https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sdg_index_euro_cities.pdf.

Identifying the relevant SDG targets for OECD regions and cities

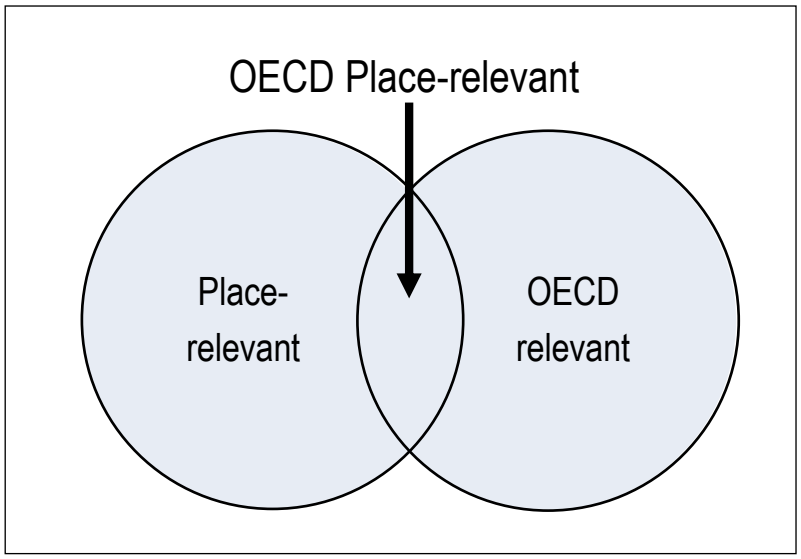
Localising an indicator framework for SDGs requires identifying which SDG targets are most relevant at the subnational scale. In the context of OECD countries, 105 out of the 169 SDG targets have been identified as very relevant for regions and cities. Through an extensive literature review and expert consultation (see Box 2.1 and Box 2.3), the 169 SDG targets from the UN indicator framework have been classified by their level of relevance – in terms of measurement – at the subnational level. Subsequently, a subset of these SDG targets has been selected on the basis of its applicability to the context and specificities of OECD countries. The result is a selection of 105 SDG targets for OECD regions and cities (hereafter also referred to as the "subnational SDG targets", see Annex Table 2.A.1).

Measuring SDGs at the subnational level requires selecting the appropriate scale of analysis. Depending on the phenomenon under consideration, specific geographical scales at which to monitor indicators can be more appropriate than others and different levels of granularity should be ideally pursued. Going subnational requires that consistent definitions of geographical units are used when collecting or producing indicators in order to maximise international comparability. At the same time, it is important to ensure a clear link between the indicators and the action of subnational governments. This implies that measuring SDGs at the subnational level should integrate, to the extent possible, geographical units based on the existing administrative organisation of regions and cities (administrative boundary approach) with those reflecting the actual economic and functional organisation of places (the functional economic approach). While subnational authorities are interested in measuring outcomes within the boundaries of their jurisdictions, in several policy domains it is important to take into account the economic

dynamic of the many contiguous local authorities that function as an integrated whole. This analysis looks at both regions[2] – administrative approach – and cities[3] – functional approach – to capture the SDGs at two of the main subnational scales relevant for policymakers.

The SDGs indicator framework for OECD regions and cities is place-based and OECD relevant. The SDG targets for regions and cities under the framework presented here fulfil two criteria. The first is that the SDG targets should have a strong subnational component, (in opposition to being place-neutral). The second criterion requires the SDG targets to be relevant in the context of OECD countries (contrary to targets highly directed at "low-income countries") (Figure 2.1). While 159 of the SDG targets appear to have a strong subnational component, only 105 of them are also very important in the context of OECD countries, and thus should be included in the OECD localised indicator framework for SDGs (Table 2.1). The indicators suggested for these targets (by the IAEG-SDG in the UN indicator framework) are by default considered as potentially relevant for OECD regions and cities and subjected to a second assessment, similar to the one applied at the target level.

Figure 2.1. Relevant SDG targets for OECD regions and cities



SDG targets and indicators are relevant for OECD regions and cities either for being a competence or jurisdiction of a subnational government or because they are connected to regional development policy (i.e. due to potential regional disparities within countries). For example, SDG indicators 1.5.4 "[…] local governments implementing a disaster risk reduction strategy" or 5.5.1 "[…] seats held by women in local governments" explicitly evoke the subnational dimension of the target. Alternatively, the OECD has largely documented that SDG indicators such as 8.5.2 "unemployment rates, by sex and age" or 11.6.2 "exposure to air pollution (PM2.5)" depict strong regional disparities within countries and thus require subnational monitoring and place-based policies to be dealt with (OECD, 2018b).

SDG targets and indicators that refer explicitly to a domain of national governments or that are not generally relevant in the context of OECD countries are not included in the OECD localised framework. All SDGs and targets are crucial for the world's sustainable development, and all countries, regions and cities should contribute to their achievement.

However, some targets' elements and indicators are less relevant for OECD regions and cities and thus their measurement and monitoring are not seen as a priority. For instance, SDG indicator 8.8.2 about "compliance with labour rights based on national legislation" explicitly highlights that the implementation has to take place at the national level. Other types of SDG indicators such as 7.1.1 on "access to electricity" and 2.1.1 on "undernourishment" seem not to be among the main challenges for OECD countries, which pushes the OECD to focus on indicators better adapted or more relevant to the OECD context, namely "percentage of renewable energy in total electricity production" or "adult obesity rates" respectively.

In 15 out of the 17 goals, at least half of the targets are relevant for OECD regions and cities. As shown in Table 2.1, the proportion of sub-nationally relevant targets in the context of the OECD countries reaches 75% or more in the case of SDG 9 "Industry and innovation", SDG 7 "Clean energy", SDG 13 "Climate action', SDG 4 "Quality education", SDG 1 "No poverty", SDG 5 "Gender equality" and SDG 11 "Sustainable cities". While 90% of the targets for "Sustainable cities" are clearly applicable to OECD regions and cities, only around 30% of the targets of SDG 17 "Partnerships and enablers for the SDGs" and 40% of the targets for SDG 14 "Life below water" appear as a priority to be measured at the subnational level in OECD countries.

Table 2.1. Relevant SDG targets for OECD regions and cities, by SDG

	Number of SDG targets	Targets with a subnational component (OECD and non-OECD)	Relevant targets for OECD regions and cities	Percentage of targets relevant for OECD regions and cities
All SDGs	**169**	**159**	**105**	**62.1**
SDG 1. No poverty	7	7	6	85.7
SDG 2. Food security and agriculture	8	6	5	62.5
SDG 3. Good health	13	11	7	53.8
SDG 4. Quality education	10	10	8	80.0
SDG 5. Gender equality	9	9	8	88.9
SDG 6. Clean water	8	8	5	62.5
SDG 7. Clean energy	5	4	4	80.0
SDG 8. Decent work	12	11	8	66.7
SDG 9. Industry and innovation	8	8	6	75.0
SDG 10. Reduced inequalities	10	9	5	50.0
SDG 11. Sustainable cities	10	10	9	90.0
SDG 12. Responsible consumption	11	11	7	63.6
SDG 13. Climate action	5	4	4	80.0
SDG 14. Life below water	10	10	4	40.0
SDG 15. Life on land	12	12	6	50.0
SDG 16. Peace and institutions	12	11	7	58.3
SDG 17. Partnerships and enablers for SDGs	19	18	6	31.6

Mapping OECD territorial indicators to the subnational SDG targets

Building on its longstanding work on territorial indicators, the OECD has gathered 135 indicators to monitor progress in regions and cities towards the SDGs. Comparable indicators for regions and cities in OECD member and partner countries are consolidated in the OECD Regional and Metropolitan Databases (see Box 2.2 for more information). Over the last 20 years, these tools have extensively supported regional analysis and policymaking, as well as the monitoring of well-being and inclusive growth in regions and cities.

The localised indicator framework presented in this chapter builds on the subnational statistics of the OECD Regional and Metropolitan Databases but it is not limited to those sources. By looking at the OECD databases though the SDG lens (OECD, 2016a), more than 100 indicators for regions and cities have been identified as relevant to monitor the SDG targets of the UN framework. These indicators cover around 62% of the subnational SDG targets. In addition to the OECD databases, other indicators were collected or modelled from different sources, including Eurostat, JRC and specific large international databases of microdata such as Gallup World Poll (see Brezzi and Diaz, 2016; and OECD, 2013) or world gridded data (see the complete list of indicators in Annex Table 2.A.2). While the OECD databases provide around 67% of the indicators to monitor SDGs in regions and cities (with the OECD Regional and Metropolitan Databases contributing to around 60% and the OECD Environmental Database to 7%), the remaining 33% of the indicators come either from Eurostat and JRC or from OECD estimations using sources such as Gallup World Poll, the World Database on Protected Areas (IUCN/UNEP-WCMC, 2019), the Global Database of Power Plants (Byers L. et al. 2019; Global Energy Observatory, 2018) and the Historical global-gridded degree-days Database (Mistry, 2019). Besides, to fill the data gaps, the OECD is increasing its work with the Working Party on Territorial Indicators as well as exploring new sources of data and modelling methods.

Box 2.2. The OECD Regional and Metropolitan Databases

The OECD Regional Database provides a unique set of comparable statistics and indicators on about 2 000 regions in 36 OECD countries, plus Brazil, China, Colombia, India, Peru, the Russian Federation, South Africa and Tunisia. It currently encompasses yearly time series for more than 100 indicators of demography, economic accounts, labour market, social and innovation themes in the OECD member countries and other economies.

The OECD classifies its regions on two territorial levels, reflecting the administrative organisation of countries. The 398 OECD large (TL2) regions represent the first administrative tier of subnational government, for example the Ontario Province in Canada. The 2 251 OECD small (TL3) regions correspond to administrative regions, with the exception of Australia, Canada and the United States. These TL3 regions are contained in a TL2 region, with the exception of the United States for which the economic areas cross the states' borders. For New Zealand, TL2 and TL3 levels are equivalent and defined by regional councils. All regions are defined within national borders.

This classification – which, for European countries, is largely consistent with the Eurostat NUTS 2013 classification – facilitates greater comparability of geographic units at the same territorial level. Indeed, these two levels, which are officially established and relatively

stable in all member countries, are used as a framework for implementing regional policies in most countries.

The OECD Metropolitan Database provides a set of economic, environmental, social, labour market and demographic estimated indicators on the 649 OECD metropolitan areas (functional urban areas with 250 000 or more inhabitants).

The OECD Metropolitan Database relies on a consistent definition of functional urban areas (FUAs) applied across countries, which was developed in collaboration with the European Union. Using population density and travel-to-work flows as key information, an FUA consists of a densely inhabited city and of a surrounding area (commuting zone) whose labour market is highly integrated with the city (OECD, 2012). The ultimate aim of the OECD-EU approach to functional urban areas is to create a harmonised definition of cities and their areas of influence for international comparisons as well as for policy analysis on topics related to urban development.

Using FUAs allows designing policies at the right scale, for example, for mobility and accessibility to services. At the same time, FUAs provide a harmonised methodology to compare similar urban units in size and function. This is particularly relevant in the context of the SDGs, a universal global agenda that requires comparability across the globe in order to track progress towards sustainable development.

Sources: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en; OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en.

Monitoring the achievement of SDGs at subnational level requires setting priorities in terms of indicators and identifying good proxies. The UN global indicator framework for SDGs provides an "official" list of suggested indicators to measure the SDG targets, which in most cases mirrors the statistics adapted and produced by national statistical offices (NSOs) at the national level. Therefore, finding the exact "UN indicator" for OECD subnational units is often challenging, and sometimes not even relevant. In order to select subnational indicators for SDGs, the framework presented here prioritises proxy indicators – those capturing the essence of the target – with high methodological comparability and spatial coverage over exact UN "official" indicators with low territorial availability.

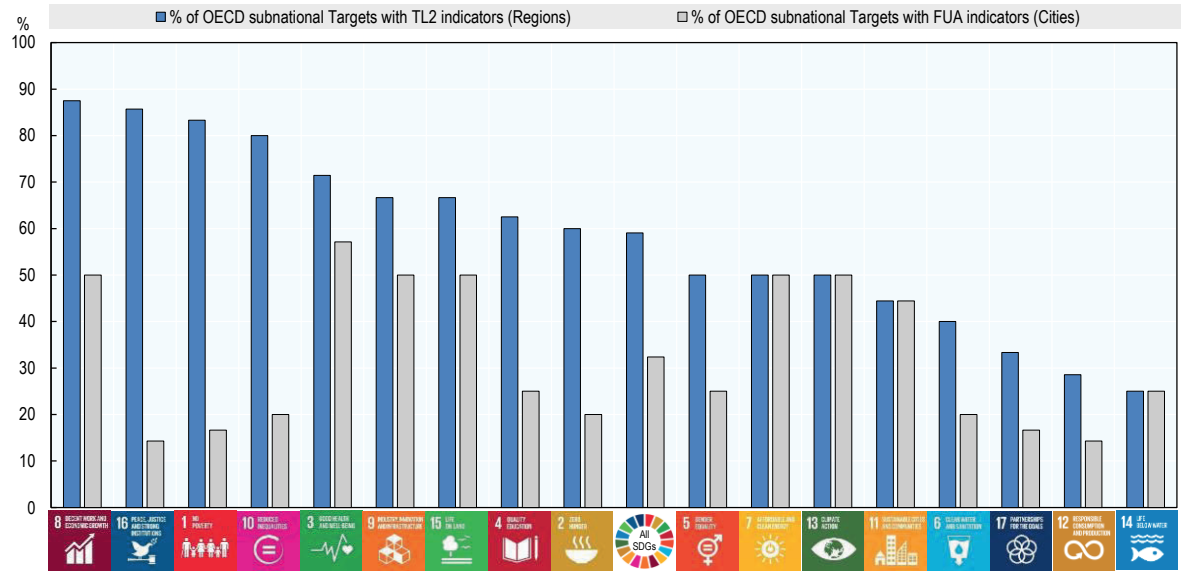
With its 135 indicators, the set of indicators for SDGs presented here covers at least one aspect of each of the 17 SDGs for both regions and cities. Nevertheless, the coverage in terms of indicators and targets is higher for regions than for cities. Table 2.2 shows that in total 135 indicators are available for the measurement of the SDGs in both regions (TL2) and cities (functional urban areas, FUAs). However, the coverage varies depending on the type of geographical unit to which each indicator is associated. While 122 indicators (covering 59% of the subnational SDG targets) are available for regions, only 56 indicators (covering 32% of the subnational SDG targets) are currently available for cities. Although the set of indicators aims to cover the broad spectrum of all 17 SDGs, the coverage in terms of indicators also varies widely across SDGs. Whereas SDGs 8 and 16 have indicators for at least 85% of the selected targets, SDGs 12 and 14 have indicators for less than one-third of the selected targets (Figure 2.2).

Table 2.2. Subnational SDG targets with indicators for regions and cities, by SDG

	OECD subnational targets with TL2 indicators	Number of TL2 indicators	OECD subnational targets with FUA indicators	Number of FUA indicators	OECD subnational targets with TL2 or FUA indicators	Number of different TL2 or FUA indicators
All SDGs	**62**	**122**	**34**	**56**	**65**	**135**
SDG 1. No poverty	5	5	1	1	5	5
SDG 2. Food security and agriculture	3	4	1	1	4	5
SDG 3. Good health	5	9	4	4	5	10
SDG 4. Quality education	5	8	2	3	5	10
SDG 5. Gender equality	4	6	2	2	4	6
SDG 6. Clean water	2	4	1	2	2	4
SDG 7. Clean energy	2	6	2	5	3	7
SDG 8. Decent work	7	20	4	6	7	20
SDG 9. Industry and innovation	4	11	3	5	4	14
SDG 10. Reduced inequalities	4	9	1	2	4	9
SDG 11. Sustainable cities	4	8	4	8	5	12
SDG 12. Responsible consumption	2	3	1	2	2	3
SDG 13. Climate action	2	6	2	5	2	6
SDG 14. Life below water	1	3	1	3	1	3
SDG 15. Life on land	4	7	3	5	4	7
SDG 16. Peace and institutions	6	10	1	1	6	10
SDG 17. Partnerships and enablers for SDGs	2	3	1	1	2	4

Note: TL2 indicators correspond to regions and FUA indicators to cities.

Figure 2.2. Percentage of subnational SDG targets with indicators for regions and cities



Note: TL2 indicators correspond to regions and FUA indicators to cities.

How to measure the distance to the SDGs in regions and cities?

In order to achieve sustainable development globally, the SDGs provide 169 targets to be reached by 2030. Although some of these targets set specific quantitative or qualitative end values, most end values are not explicit in the UN framework. Measuring distance facilitates the understanding of how much progress a region or city needs in order to reach the desired outcomes.

Defining precise end values for 2030 is essential to measuring the distance to the SDGs. By defining end values for 2030, regions and cities can assess where they stand today and seize how much distance they have to travel in order to reach the intended end value. They can also compare their distance with respect to national averages and other peer regions and cities, and monitor progress over time. The distance to the SDGs can be in practice measured either by indicator, target or goal.

This report defines end values with the purpose of shedding light on the global trends in OECD regions and cities towards the SDGs, based on available indicators and with the objective of providing technical guidance for governments on a possible way to use the SDGs indicator framework as a tool to advance local development plans and sustain evidence-based policies. The OECD recognises that the definition of end values by a specific region or city is a political process based on the knowledge of the contextual strengths and challenges, and should be accompanied by a consultative process with local stakeholders. For this reason, it should be kept in mind that the end values defined in this framework are just a mean to exemplify how the SDGs indicators can be used to inform policymakers. These end values do not correspond to any political decision or prioritisation process of any subnational government, hence they should not be regarded as a rule or as a hard policy recommendation – although they can be indicative of a desirable and reachable outcome according to the OECD and other international agencies or expert groups (e.g. the World Health Organization [WHO], UN-Habitat or the International Labour Organization [ILO]).

End values in the OECD localised framework are sufficiently ambitious to reflect the context of OECD countries. When end values are not defined in the UN framework, the setting of end values by local authorities (for their jurisdictions) can turn out to be a sensitive issue. This might favour, for example, the setting of end values that are very easy to achieve. Nevertheless, the SDGs are an urgent call for action and thus require ambitious objectives. The OECD is acting as a platform for regions and cities to set ambitious, realistic and impartial end values for 2030.

While many end values are defined at the level of the target in the UN framework, in practice, end values have to be set at the level of the indicator. For example, Target 4.5 "By 2030, eliminate gender disparities in education […]" suggests achieving zero gender gaps in education whichever indicators are used. For the OECD localised framework, this implies setting to zero the end value for the indicators of the gender gap in the rate of early leavers from education and the gender gap in the adult population with tertiary education.

When they are not inferable from the UN framework, the OECD defines end values for indicators based on the knowledge of experts in the field or, alternatively, based on the best performance of regions and cities in that indicator. Many end values for the indicators are set by the UN framework in the description of the target. For example, Target 3.2 states that by 2030, all countries should "[…] reduce neonatal mortality to at least as low as 12 per 1 000 live births and children (under five years old) mortality to at least as low as 25 per

1 000 live births". This is a clear indication of the levels that all regions and cities should be aiming at.

Nevertheless, most UN targets and indicators are not very clear about the intended end value. For instance, Target 7.2 suggests that by 2030 all countries should "increase substantially the share of renewable energy in the global energy mix". Although this target provides the intended direction of the indicator (an increase), it does not explain what a "substantially increase" is and thus leaves the end value subject to interpretations and ambiguity. Similarly, Target 11.6 that aims at reducing "[…] the adverse per capita environmental impact of cities […]" – measured by annual mean levels of fine particulate matter (PM2.5) – delineates the "positive" sense of the indicator, which is reducing air pollution, but does not specify which levels countries should aim at. For these types of targets, the OECD framework sets end values based on the knowledge from experts and practitioners in the field or, alternatively, based on the best-performing regions or cities in the OECD for the indicator in question. In the case of the indicator on "percentage of electricity production that comes from renewable sources", the end value is based on the best-performing regions and cities (i.e. 82% or more of electricity coming from renewable sources), while in the example of "exposure to air pollution from PM2.5", the recommendation of the WHO (to reach a value of PM2.5 lower than 10 micrograms per cubic metre) is followed (WHO, 2006).

The localised SDG indicator framework presented here attributes end values to 88% of its indicators, of which 65% are defined using the criteria of "best performers". There is a subset of indicators for which end values should not be set, as these indicators are only useful to contextualise or complement an indicator with an actual end value. These indicators are still included in the OECD localised framework since they are useful and informative to understand the context of regions and cities in a specific issue. For example, Target 8.8 aims at protecting "labour rights and promote safe and secure working environments for all workers, including migrant workers […]". For this target, the OECD localised framework uses indicators of labour market integration of migrants such as unemployment rates and over-qualification rates for the foreign-born population. However, it also integrates the indicator of the percentage of foreign-born among the total population as this indicator can help policymakers to gauge the magnitude and contextualise the aforementioned indicators. For example, while Baja California (Mexico) and Queensland (Australia) display very similar levels of unemployment for the foreign-born (of around 6.5%), the presence of migrants varies widely suggesting different needs in terms of resources and policy to tackle unemployment of migrants – in Baja California, only 2.5% of the population (90 000 people) is of foreign origin, whereas in Queensland 25.5% of the population (1 225 000) is migrant (Diaz Ramirez et al., 2018).

Indicators and end values for monitoring distance to SDGs at the subnational level are the result of multiple consultations with experts from NSOs, the pilot regions and cities actively involved in the OECD's programme *A the Territorial Approach to* SDGs and other key stakeholders working on the same topic. The OECD has already held two workshops to consult and discuss the OECD localised indicator framework. The first workshop with the pilot regions took place on 8 March 2019. The second workshop "Towards an OECD localised indicator framework for SDGs", held on 14 May 2019 gathered representatives of the pilots with delegates from the NSOs, and members of the Working Party on Territorial Indicators (WPTI) and the Working Party on Urban Policy (WPURB), as well as other organisations working on localising the SDGs, e.g. the Sustainable Development Solutions Network (SDSN), the Joint Research Centre (JRC), United Cities and Local Governments (UCLG) and associations of local and regional governments (LRG). Through

these dialogues, technical and conceptual bottom-up feedback from stakeholders is reshaping the OECD localised framework into an adapted and useful tool for regions and cities (see Box 2.3).

Box 2.3. Co-designing the OECD localised indicator framework for SDGs

The first workshop on localised SDGs indicators took place in Paris (France) on 8 March 2019. It gathered representatives of the OECD pilot regions and cities working on the localisation of the SDGs. The main conclusions of the workshop were:

- The need to combine international comparable indicators with context-specific indicators.
- Indicators should be used to raise awareness and promote policy dialogue (not only to create rankings).
- Setting end values tends to be a difficult local political process: the OECD can help by suggesting end values based on experts' knowledge and objective criteria.
- Preference for disaggregated data: when using indexes, always show individual indicators.

The second workshop on localised SDGs indicators was held in Paris (France) on 14 May 2019. The pilots, OECD delegates (from the WPTI and WPURB) and stakeholders from other international organisations attended the workshop. The discussion was very technical and centred around two questions:

- For indicators without a predetermined "end value" for 2030, how to define these values?
- For a composite index by SDG, how to normalise and aggregate indicators?

The OECD has also collected bottom-up feedback from the pilots on the OEDC indicator framework. This feedback has helped the OECD to identify common relevant indicators for regions and cities, as well as data gaps at the subnational level. The OECD asked the pilot regions and cities for detailed feedback on the indicators for the OECD localised framework. The main questions of the questionnaire were:

- For each OECD indicator, assess how relevant this indicator is to help measuring the SDGs in regions and cities (from 0 to 5; where 0 stands for "Not relevant" and 5 stands for "Very relevant").
- For each OECD indicator, mark the ones you are also integrating or considering to include in your region- or city-specific indicator framework.
- Which indicators would you suggest to fill the OECD data gaps?

The third workshop on localised SDGs indicators took place in Bonn (Germany) on 10 December 2019 and gathered representatives of the nine OECD pilot regions and cities. This session focused on how to utilise and articulate both SDGs indicators from the OECD localised framework (comparative international perspective) and specific indicators from the pilots (local perspective) to monitor progress and guide their policies towards the SDGs.

A composite index by SDG

A composite index by goal can be useful for communication purposes, although policymaking should always consider all the information available. While the 135 available indicators are the most important and reliable source to help regions and cities to measure their distances to the SDGs (by indicator), having a readable picture for communication purposes requires reduced metrics. Communicating results to the general public can be challenging and ineffective with a large set of indicators. For this reason, the OECD localised SDG framework also presents an index by goal. Contrary to having only one index that aggregates the 17 SDGs (and potentially creating a black box effect), an index by goal seems to represent a good compromise between the need to make an overall assessment for the SDGs and the accuracy and coherence of the information provided.

Even though the SDGs indexes are useful for data communication and visualisation, they are only an entry point to further analyse the whole set of indicators. Policymakers should always consider the full set of information available to have a reliable picture of the distance to SDGs, as well as to design and implement policies for sustainable development. For this reason, transparency is an essential feature of the OECD localised framework, where accessibility to all individual indicators is always ensured.

Each of the 17 indexes uses a selection of indicators that better reflect the essence of the goal and that benefit from good coverage across OECD regions and cities. One of the main issues when dealing with composite indexes is the fact that if one of the selected indicators is missing for one region or city, this region or city has to be excluded from the analysis in order to avoid biased and misleading results. Using too many indicators within goals would also increase complexity and create a "black box" effect. For these reasons, in this framework, each index by goal does not use more than four indicators.

Apart from prioritising indicators that capture the essence of the goals and with a good data coverage across OECD regions and cities, the composite index by goal combines only certain types of indicators to keep some readability and coherence in the framework. The main technical criteria used to select the indicators included in the computation of the composite index are the following:

- Indicators expressed in relative terms are not combined with indicators expressed in absolute terms. Indicators in relative terms are generally prioritised, as they ensure higher comparability and less dependency on the size of the geographical units. Examples of such indicators include, among many others, the gross value added (GVA) per worker, patent applications per 1 000 000 people, or early leavers from education expressed as a percentage of the 18-24 year-old population.
- Avoid combining the same indicator expressed in levels and changes over time. For example, income levels and income growth rate since the growth levels of low-income economies will tend to be higher, everything else being equal.
- Favour the combination of positively correlated indicators (once the indicators have been defined towards a "positive" direction, e.g. "reduce" air pollution, or "increase" productivity) as tracking progress over time can become very difficult when using highly uncorrelated indicators.
- Prioritise indicators from official and consolidated data sources over new modelled indicators or experimental data sources, as official sources tend to be more reliable and undisputed by policymakers.

The index by goal is estimated as the aggregation of normalised indicators that take values from 0 to 100, where 0 is the worst possible outcome and 100 is the end value of the goal. The process of estimation can be described in six steps that have to be applied separately for regions and for cities (the description below focuses on regions):

1. For each selected indicator, define its desired direction. For example, the gender gap in the unemployment rate (female-male) is positive on average, hence the desired direction for this indicator is "negative" as it should "decrease" from current positive values towards zero in 2030.
2. Define the end value of the indicators based on the UN framework, experts' knowledge or best performers. According to the 2030 Agenda (UN framework), countries should aim at eradicating gender disparities; therefore, the selected end value should be equal to zero for the indicator of the gender gap in the unemployment rate. If the end value for the indicator is based on the "best performers" criteria, the OECD estimates an unweighted average using the top performer region of each country. This method is preferred over the one using the top 10% of all regions together as the latter can result in an end value being determined by the regions of only one or very few countries. Although there is an ongoing discussion on whether end values should be defined separately for OECD and non-OECD countries or by macro-region (e.g. Latin American Countries [LAC], Middle East and North Africa [MENA], European Union [EU], etc.), this report uses only OECD countries to define the end values for all the OECD and non-OECD regions and cities included in the analysis.
3. Define the start value (estimated worst possible performance) of the indicators based on the bottom 10% of regions and cities. Outliers can have a distortive and misleading interpretation of normalised indicators. For this reason, instead of using the minimum value of the whole distribution of regions as the starting value, the OECD methodology opts for using the average of the bottom 10% of all regions.
4. Normalise indicators using the min-max method, where *min* stands for the start value and *max* represents the end value. The scores of the indexes are obtained using the formula $\hat{x}_i$ in the case of a positive indicator (e.g. employment rate or patent application rate) or the formula $\check{x}_i$ for negative indicators (e.g. unemployment rate or air pollution). Regions with values below 0 are set to 0, and regions with values above 100 are set to 100 (indicator achieved).

$$\hat{x}_i = 100 * \left(\frac{x_i - \min(x)}{\max(x) - \min(x)}\right) \qquad \check{x}_i = 100 * \left(\frac{\max(x) - x_i}{\max(x) - \min(x)}\right)$$

5. For goals with more than one indicator, the index is defined by the unweighted mean of the normalised value of the respective indicators. The decision of not assigning weights to the indicators comes from the fact that there is not a clear rule on which indicator is more relevant with respect to the others. All the indicators included for a composite index aim at capturing one specific component of the goal that would not be captured by the other indicators alone. Most composite indexes rely on equal weighting (EW), which implies that each indicator is worth the same in the index (see OECD/JRC, 2008).
6. Finally, the distance of each region to the end value for 2030 is simply estimated as 100 minus the value of its index in that goal. For example, a region with an index of 75 in SDG 3 is 25 points away from the end value of 100. A distance equal to zero implies that the goal has been achieved.

The composite index by goal summarises the performance of a region or city, based on today's outcomes (i.e. most recent data), towards the intended end values (from 0 to 100, where 100 is the end value). As end values are normalised to 100, the index allows inferring in an easy way the distance that a region or city still has to travel to reach the intended outcome for 2030 (i.e. 100 minus the value of the index). In this sense, one can also interpret the average distance of a region or city to an end value in terms of the remaining trajectory that the region or city has to travel as a percentage of the longest distance a region or city could face in a given indicator or index. For example, since the maximal distance one can face is always of 100 points, if the index in one goal is of 70 points, thus the distance to reach the goal is of 30 points and this represents 30% of the maximal distance a region or city could face in this or any goal.

Based on the criteria outlined above, the OECD has selected 39 indicators for regions and 25 indicators for cities to produce the 17 indexes for the goals. Tables 2.3 and 2.4 show the indicators selected for the indexes as well as the desired direction of the indicator and the rule to define end value. While 39 indicators were selected for regions, only 25 indicators were identified for cities due to the lower availability of indicators at the FUA level. Nevertheless, the complete set of 135 indicators selected for the framework will be available through the visualisation tool designed by the OECD (Box 2.4). It is worth noting that these indexes capture some elements of each SDG, while they might miss other important aspects of the goals. For this reason, the indexes should always be interpreted based on the indicators that compose them. Table 2.5 summarises some of the main OECD relevant data gaps identified for each SDG, as well as some of the OECD ongoing work to fill these data gaps.

Table 2.3. Selected indicators for the regional indexes, by SDG

Goal	OECD TL2 indicator	Desired direction of indicator	Rule to define end value
SDG 1. No poverty	Average disposable income per day of the first quintile (equivalised household, in USD purchasing power parity [PPP], constant prices of 2010)	+	Best performers
	Percentage of population with a disposable income below the 60% of national median disposable income	-	Best performers
SDG 2. Food security and agriculture	Productivity (GVA per worker) in agriculture, forestry and fishing (ISIC rev4) (in constant 2010 USD PPP)	+	Best performers
	Change in cropland (from 1992 to 2015, percentage points)	+	Based on UN framework
SDG 3. Good health	Infant mortality rate (number of deaths of children 1-year-old or younger per 1 000 live births)	-	Best performers
	Life expectancy at birth	+	Best performers
	Active physicians rate (active physicians per 1 000 people)	+	Best performers
SDG 4. Quality education	Percentage of early leavers from education and training, for the 18-24 year-old population	-	Best performers
	Percentage of population from 25 to 64 years old with at least tertiary education	+	Best performers
SDG 5. Gender equality	Gender gap in employment rate (male-female, percentage points)	-	Based on UN framework
	Gender gap in part-time employment incidence (female-male, percentage points)	-	Based on UN framework
SDG 6. Clean water	Change in water bodies (from 1992 to 2015, percentage points)	+	Best performers

Goal	OECD TL2 indicator	Desired direction of indicator	Rule to define end value
SDG 7. Clean energy	Percentage of total electricity production that comes from renewable sources	+	Best performers
	Percentage of total electricity production that comes from coal	-	Based on Paris Agreement
	Percentage of total electricity production that comes from fossil fuels (natural gas and oil, excluding coal)	-	Based on Paris Agreement
SDG 8. Decent work	Annual growth rate of real GVA per worker (%)	+	Best performers
	Unemployment rate (%)	-	Best performers
	Youth unemployment rate (%)	-	Best performers
SDG 9. Industry and innovation	Productivity (GVA per worker) in manufacture (ISIC rev4) (in constant 2010 USD PPP)	+	Best performers
	Patent applications (Patent Cooperation Treaty [PCT]) per 1 000 000 people	+	Best performers
	Percentage of labour force with at least tertiary education	+	Best performers
SDG 10. Reduced inequalities	Gini index of disposable income (after taxes and transfers) (from 0 to 1)	-	Best performers
	Ratio between average disposable income of top and bottom quintiles	-	Best performers
SDG 11. Sustainable cities	Difference between built-up area growth rate and population growth rate (percentage points)	-	Based on OECD (2017b)
	Exposure to PM2.5 in µg/m³, population weighted (micrograms per cubic metre)	-	Based on WHO
SDG 12. Responsible consumption	Municipal waste rate (kilos per capita)	-	Best performers
	Number of motor road vehicles per 100 people	-	Best performers
SDG 13. Climate action	Percentage of population satisfied with efforts to preserve the environment	+	Best performers
	CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours)	-	Best performers
	Change in cooling degree-days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970-84 to 2004-18[4]	-	Based on Paris Agreement
SDG 14. Life below water	Protected coastal area as a percentage of total coastal area[5]	+	Best performers
SDG 15. Life on land	Change in tree cover (from 1992 to 2015, percentage points)	+	Best performers
	Terrestrial protected areas as a percentage of total area	+	Best performers
SDG 16. Peace and institutions	Homicides per 100 000 persons	-	Best performers
	Percentage of population that feel safe walking alone at night around the area they live	+	Best performers
	Percentage of population that have confidence in the national government	+	Best performers
	Percentage of population that have confidence in the local police force	+	Best performers
SDG 17. Partnerships and enablers for SDGs	Share of PCT co-patent applications that are done with foreign regions (in % of co-patent applications)	+	Best performers
	Percentage of households with broadband internet access	+	Best performers

Table 2.4. Selected indicators for the city indexes, by SDG

Goal	OECD FUA indicator	Desired direction of indicator	Rule to define end value
SDG 1. No poverty	Percentage of population with a disposable income below the 60% of national median disposable income	-	Best performers
SDG 2. Food security and agriculture	Percentage of people with access to at least one food shop within 15 minutes' walking distance	+	Best performers
SDG 3. Good health	Infant mortality rate (number of deaths of children 1-year-old or younger per 1 000 live births)	-	Best performers
	Transport-related mortality rates (deaths per 100 000 people)	-	Best performers
SDG 4. Quality education	Percentage of people with access to at least one school within 20 minutes' walking distance	+	Best performers
	Percentage of population from 25 to 64 years old with at least tertiary education	+	Best performers
SDG 5. Gender equality	Gender gap in employment rate (male-female, percentage points)	-	Based on UN framework
SDG 6. Clean water	Change in water bodies (from 1992 to 2015, percentage points)	+	Best performers
SDG 7. Clean energy	Percentage of total electricity production that comes from renewable sources	+	Best performers
	Percentage of total electricity production that comes from coal	-	Based on Paris Agreement
	Percentage of total electricity production that comes from fossil fuels (natural gas and oil, excluding coal)	-	Based on Paris Agreement
SDG 8. Decent work	Annual growth rate of real GDP per worker (%)	+	Best performers
	Unemployment rate (%)	-	Best performers
SDG 9. Industry and innovation	Patent applications (PCT) per 1 000 000 people	+	Best performers
SDG 10. Reduced inequalities	Gini index of disposable income (after taxes and transfers) (from 0 to 1)	-	Best performers
SDG 11. Sustainable cities	Difference between built-up area growth rate and population growth rate (percentage points)	-	Based on OECD (2017b)
	Exposure to PM2.5 in µg/m³, population weighted (micrograms per cubic metre)	-	Based on WHO
SDG 12. Responsible consumption	Number of motor road vehicles per 100 people	-	Best performers
SDG 13. Climate action	CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours)	-	Best performers
	Change in cooling degree-days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970-84 to 2004-18	-	Based on Paris Agreement
SDG 14. Life below water	Protected coastal area as a percentage of total coastal area	+	Best performers
SDG 15. Life on land	Change in tree cover (from 1992 to 2015, percentage points)	+	Best performers
	Terrestrial protected areas as a percentage of total area	+	Best performers
SDG 16. Peace and institutions	Homicides per 100 000 persons	-	Best performers
SDG 17. Partnerships and enablers for SDGs	Percentage of houses and buildings connected to optical fibre	+	Best performers

Table 2.5. Summary of data gaps in SDG indexes

Goal	Some relevant data gaps in SDGs indexes	Ongoing OECD work related to data gaps
SDG 1. No poverty	• Households with access to basic services (e.g. sewer lines, heating, water and electricity)	
SDG 2. Food security and agriculture	• Malnutrition (e.g. undernourishment and obesity)	• Adult obesity (data collection in progress through the WPTI)
SDG 3. Good health	• Mortality from non-communicable diseases (e.g. mortality attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease) • Deaths and illnesses from pollution (e.g. mortality attributed to ambient air pollution)	• Mortality due to respiratory and cardiovascular diseases (data collection in progress through the WPTI)
SDG 4. Quality education	• Lifelong learning • Population with information and communications technology (ICT) skills	• Percentage of population from 25 to 64 years old participating in education and training (data collection in progress through the WPTI)
SDG 5. Gender equality	• Violence towards women (e.g. physical or sexual violence, and feminicides) • Women participation in government	• Percentage of women who experienced physical or sexual violence in the last 12 months (data collection in progress through the WPTI) • Percentage of women who are mayors (data collection in progress through the WPTI)
SDG 6. Clean water	• Proportion of wastewater safely treated • Level of water stress	• Households with at least secondary wastewater treatment (data collection in progress through the WPTI)
SDG 7. Clean energy	• Population with primary reliance on clean fuels	
SDG 8. Decent work	• Child labour • Sustainable tourism	
SDG 9. Industry and innovation	• Access of small- and medium-sized enterprises (SMEs) to credit • High-tech industry value added (in total value added) • CO2 emission per unit of value added	
SDG 10. Reduced inequalities	• Income growth of the poorest population	
SDG 11. Sustainable cities	• Slums (geolocalised) • Homelessness • Victims of physical or sexual harassment	
SDG 12. Responsible consumption	• Recycling • Material footprint per capita	• Percentage of municipal waste that is recycled (data collection in progress through the WPTI) • Electric vehicles as a percentage of total vehicles (data collection in progress through the WPTI)
SDG 13. Climate action	• Victims of natural disasters	
SDG 14. Life below water	• Plastics debris • Sustainable fishing	
SDG 15. Life on land	• Conservation of mountain ecosystems	• Assessing the possibility of estimating mountainous protected areas
SDG 16. Peace and institutions	• Corruption • Discrimination • Victims of violence	• Using Gallup World Poll to estimate percentage of population that believes corruption is spread throughout the government • Using Gallup World Poll to estimate percentage of population that believes their place of residence is a good place to live for migrants, or gays and lesbians
SDG 17. Partnerships and enablers for SDGs	• Subnational finance and decentralisation (e.g. government revenue as a percentage of gross domestic product (GDP), and budget funded by own taxes) • Decentralised development co-operation (e.g. official development assistance [ODA]) • Partnerships for SDGs between regions and cities, and between the public and private sector	• Assessing the use of individual regional accounts to estimate government revenue as a percentage of GDP, and budget funded by own taxes • When available, using agency codes to disaggregate ODA at the subnational level

Box 2.4. OECD visualisation tool for SDGs in regions and cities

Under the Territorial Approach to the SDGs programme, the OECD is developing a visualisation tool to help policymakers to measure the distance of regions and cities towards the SDGs (see oecd-local-sdgs.org). The tool will cover around 600 regions and 600 cities from OECD and partner countries (Argentina, Brazil, Colombia, Costa Rica, Peru, the Russian Federation, Tunisia and the non-OECD EU-28) and will include around 130 indicators to monitor progress across the 17 SDGs. These indicators can be visualised individually or as a composite index (based on the methodology described in this chapter).

Figure 2.3. Homepage of the visualisation tool

The web tool will allow each region and city to visualise its distance to an end value for 2030, compare it to its country peer regions and to the country average. In the example below, the region of Brussels-Capital was selected. The wheel of distances (Figure 2.4) displays the normalised performance (from 0 to 100) of Brussels-Capital in each of the 17 SDGs. The pointed circumference at the end of the wheel is the normalised end value to be achieved by 2030. The tool allows visualising in a simple way the distance that Brussels-Capital has to travel in order to achieve each SDG and to compare it to the national average distance of Belgium, as well as the distances of its peer Belgian regions of Wallonia and Flanders.

With the objective of enhancing partnerships and the sharing of best practices for the SDGs among regions and cities, the tool will also suggest three profiles of similar regions or cities from different countries (e.g. similar to Brussels-Capital). The similarity between regions is determined in terms of relevant characteristics (e.g. population size or GDP per capita).

However, only the regions or cities that overall are performing better on their path towards achieving the Sustainable Development Goals are considered. Finally, the web tool will also allow visualising the distance of a region or city towards an end value with respect to all OECD regions or cities (Figure 2.5). This visualisation can be done either by goal index or by individual indicator.

Figure 2.4. Wheel of regions' and cities' distances to the SDGs

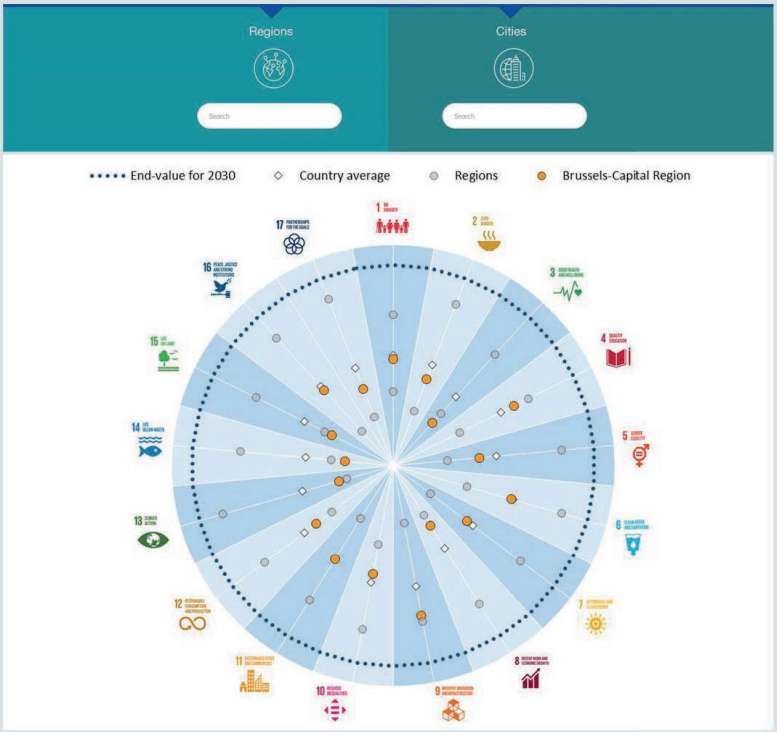
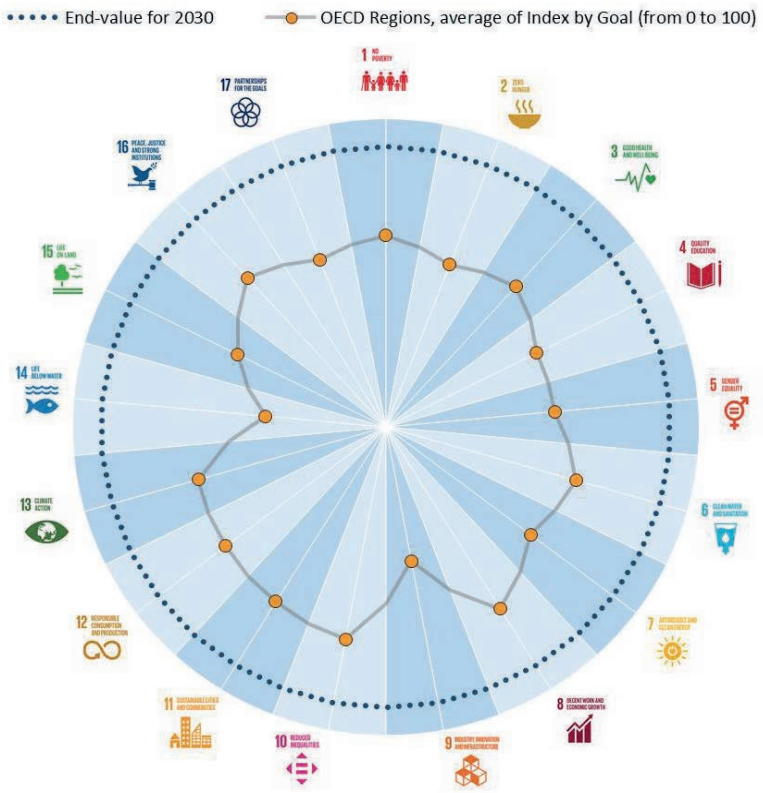


Figure 2.5. Distance to end value by index and indicator

General overview of the distance to the SDGs in OECD regions and cities

The average distance of OECD regions to the end values for 2030 varies across the 17 goals and ranges from 25% to 60% of the total possible distance to achieve the desired outcomes. The average distance of a region or city to an end value is the remaining trajectory the region or city has to travel as a percentage of the longest distance a region or city could face in a given indicator or index. While the average distance of regions to achieve SDGs 10 "Reduced inequalities", 8 "Decent work", 11 "Sustainable cities" and 16 "Peace and institutions" is on average less than 30% of the total possible trajectory, SDGs 15 on "Life on land", 9 "Industry and innovation" and 14 "Life below water" are, on average, halfway from the end values. In SDG 17 (Partnerships and enablers for SDGs), SDG 3 (Good health) and SDG 1 (No poverty), regions are, on average, one-third of the way to reach the end values for 2030 (Figure 2.6).

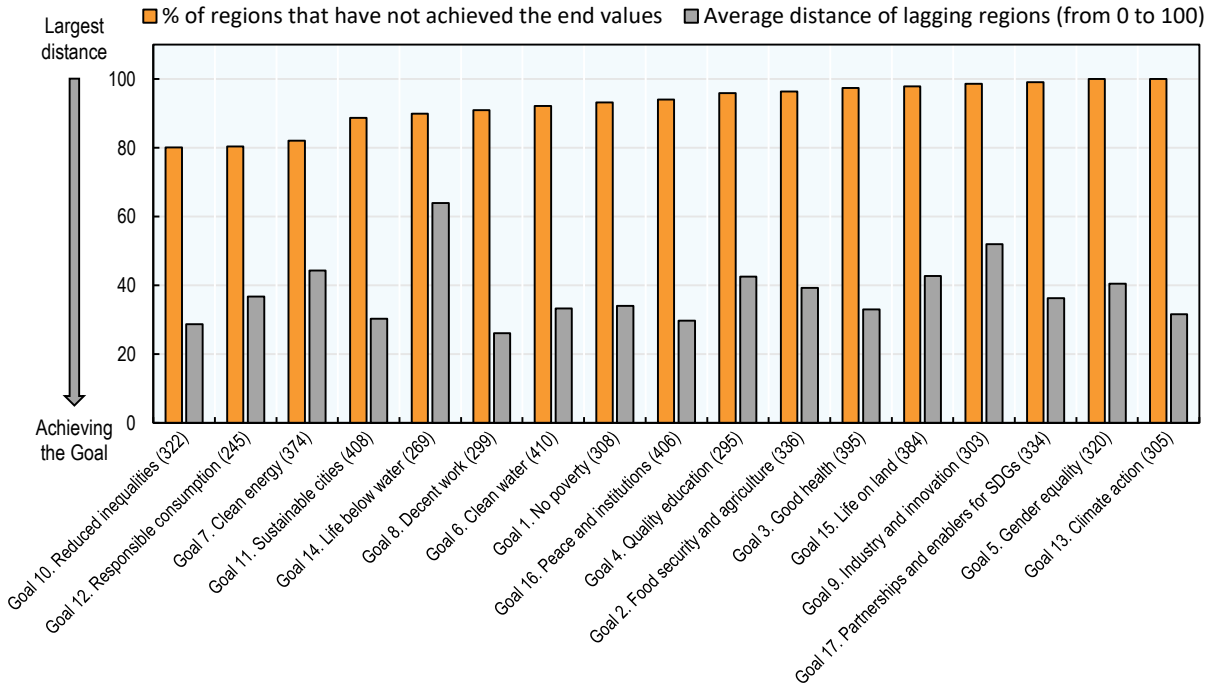
Figure 2.6. Distance of OECD regions to the end values for 2030, by SDG



Note: This graph uses 39 indicators distributed across the 17 SDGs. OECD averages include Colombia when data are available; this applies to all the Figures and Tables of this chapter. On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD averages reported in this publication, at the time of its preparation, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.
Sources: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en; OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en; IUCN/UNEP-WCMC (2019), *The World Database on Protected Areas (WDPA)*, http://www.protectedplanet.net; Mistry (2019), "Historical global-gridded degree-days: A high-spatial-resolution database of CDD and HDD", https://doi.org/10.1002/gdj3.83; Byers L. et al. (2019), "A Global Database of Power Plants", https://www.wri.org/publication/global-power-plant-database; and Gallup World Poll (2019), *Gallup World Poll (database)*, www.gallup.com/services/170945/world-poll.aspx.

In all the 17 SDGs, at least 80% of OECD regions have not achieved the end values for 2030. While around 20% of regions have achieved the end value for reduced inequalities (Gini of 0.28 or lower and an inter-quintile ration below 4), not a single region in the OECD has achieved the end values suggested for SDG 5 on Gender equality (i.e. zero gender gap in both employment rate and part-time job incidence) and for SDG 13 on Climate action. Figure 2.7 also presents the average distance of the lagging regions – regions that have not achieved the end value – by goal. SDG 7 about clean energy displays high regional disparities in distances to the objective. While 18% of the regions have completed the goal's end values of at least 82% of their electricity coming from renewable sources and 0% coming from coal or fossil fuels (therefore having a distance to travel equal to zero), the remaining 82% of regions average a distance close to 44% of the total way to travel.

Figure 2.7. Share of regions that have not achieved the end values for 2030, by SDG



Note: This graph uses 39 indicators distributed across the 17 SDGs. Number of regions between parentheses. Lagging regions are the regions that have not achieved the end values for 2030.
Sources: Same as Figure 2.6.

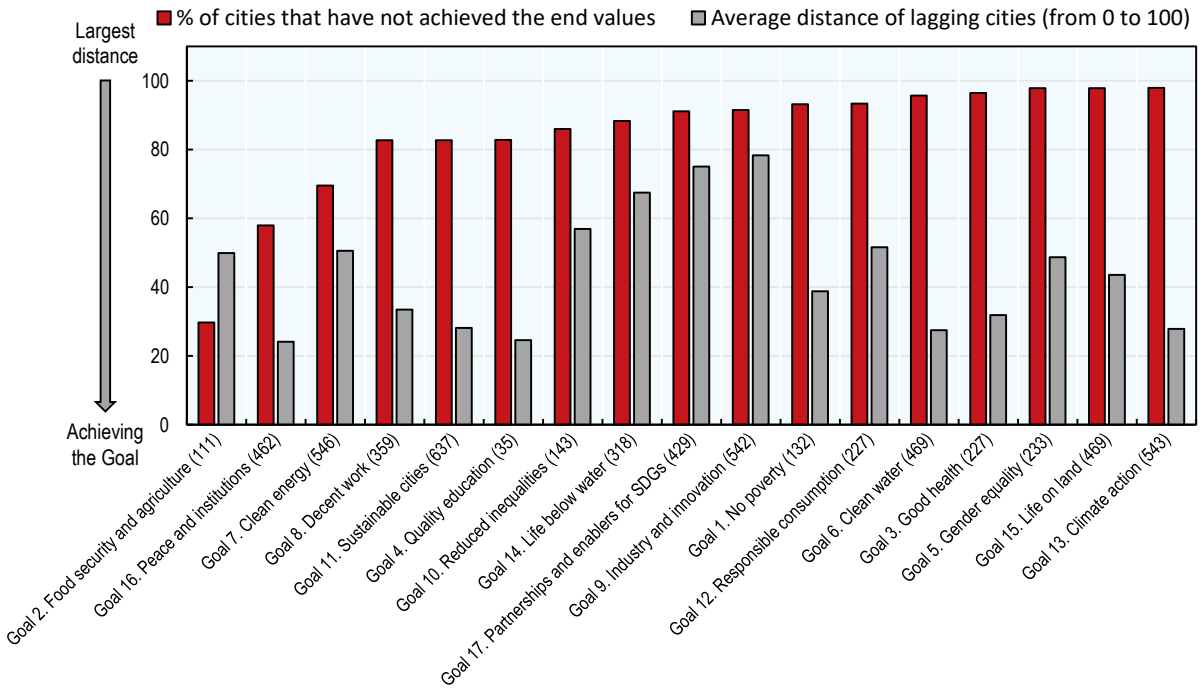
Similar to regions, the average distance of OECD cities to the completion of the suggested end values varies widely across the 17 SDGs. Figure 2.8 displays the average distance of cities – including the ones that have already met the proposed end values – towards the end values calculated for each of the 17 goals. For OECD cities, the best overall performance is in SDG 16 "Peace and institutions", SDG 2 "Food security and agriculture" and SDG 4 "Quality of education", where only 20% or less of the distance remains to be travelled to achieve the suggested end values. Conversely, SDGs 9 "Industry and innovation" and 17 "Partnership and enablers for SDGs" are the goals for which cities are the furthest away from the suggested end values – they are 70 points (out of 100) away from reaching the suggested outcomes.

OECD cities' path towards reaching the SDGs is still challenging, as 70% of cities or more have not yet achieved the suggested end values for 2030 in 15 out of the 17 SDGs – the two goals for which this does not apply are SDG 2 about food security and SDG 16 about peace and institutions. The goals where most cities are lagging behind are those related to the environment (SDGs 13 "Climate action" and 15 "Life on land") and to gender equality (SDG 5), where at least 95% of cities have not met the suggested end values (Figure 2.9). In contrast to Figure 2.8 that shows the performance of all cities, Figure 2.9 focuses exclusively on the distances of the cities that have not achieved the goals. This allows seeing that even if in SDG 2 (about food security and agriculture) only 30% of OECD cities have not reached the end value for 2030, these remaining cities are on average halfway from the goal, a distance that is relatively large. In 6 out of the 17 goals, the registered average distance of the lagging regions is greater than 50% of the total possible way.

Figure 2.8. Distance of OECD cities to the end values for 2030, by SDG

Note: This graph uses 25 indicators distributed across the 17 SDGs.
Sources: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en; OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en; IUCN/UNEP-WCMC (2019), *The World Database on Protected Areas (WDPA)*, http://www.protectedplanet.net; Mistry (2019), "Historical global-gridded degree-days: A high-spatial-resolution database of CDD and HDD", https://doi.org/10.1002/gdj3.83; Byers L. et al. (2019), "A Global Database of Power Plants", https://www.wri.org/publication/global-power-plant-database; and Eurostat (2019), *Functional Urban Areas (database)*, https://ec.europa.eu/eurostat/web/cities/data/database.

Figure 2.9. Share of cities that have not achieved the end values for 2030, by SDG



Note: This graph uses 25 indicators distributed across the 17 SDGs. Number of regions between parentheses. Lagging regions are the regions that have not achieved the end values for 2030.
Sources: Same as Figure 2.8.

Although Figure 2.6-2.9 allow exploring the performance of OECD regions across the 17 SDGs (see Annex Tables of Chapter 3 for more details about the indicators and end values), they hide important within-countries inequalities in terms of regional performance towards the SDGs. Chapter 3 provides a more disaggregated analysis where regional and city distances to the goals' end values are presented by country, and within-country disparities are highlighted. The format of Chapter 3 is based on two-pagers for each of the 17 Sustainable Development Goals. It should be noted that the next chapter focuses on a selection of headline indicators (39 for regions and 25 for cities) to build indexes and look at OECD regional and city trends towards the SDGs. Nevertheless, a more in-depth assessment of the performance of a region or a city with respect to the SDGs would require the use of further and more specific indicators. For this reason, the OECD localised indicator framework for SDGs provides complementary indicators that go beyond the ones used for the indexes (135 in total) and recognises the potential need of other local indicators – not included in this framework – to expand the analysis and for policymaking towards the 2030 Agenda.

New sources, technologies and partnerships for subnational SDG indicators

The SDGs are pushing the statistical frontier at the global, national and subnational levels. By defining a broad range of ambitious global targets to achieve by 2030, the UN global framework has indirectly set new statistical challenges for international organisations, countries, regions and cities worldwide. The clearest evidence of this is the creation of the "Tier Classification for SDGs indicators" by the Inter-agency and Expert Group on

Sustainable Development Goal Indicators (IAEG-SDGs), which categorises the official UN indicators into different tiers based on their level of methodological development and the availability of data across the world.[6] While Tiers I and II focus on indicators with established methodologies, Tier III gathers indicators without internationally established methodologies or consolidated standards. As new methodologies are developed and applied to measure Tier III indicators, these indicators can be reclassified into Tiers II or I – depending on their level of availability across countries. Since the adoption of the global indicator framework in 2017, the different statistical agencies and expert groups have made remarkable progress in creating new methodologies to monitor SDG Tier III indicators. For instance, while one of the initial tier classifications of official UN indicators (in December 2017) suggested that around 70 indicators (out of 232) were Tier III, and by December 2019 only 20 of these indicators were still classified as without a well-established methodology.

While creating robust methodologies is essential to measure the distance to the SDGs, resources and capacity are also needed to produce SDGs indicators in a timely manner and at the adequate spatial scale. For example, as December 2019, around 40% of the official UN indicators were classified as Tier II, meaning that even if the methodology and standards to measure these indicators have been consolidated, the data is not regularly produced by countries. What is more, even when indicators are classified as Tier I for their established methodology and availability for countries worldwide (which is the case only for 116 out of the 232 official UN indicators), this does not guarantee the possibility to disaggregate the indicators at the adequate subnational scale. This suggests that if disaggregation at the regional or city scale were also a criterion of "availability", less than 50% of the UN indicators would be classified as Tier I.

The statistical gaps and challenges in measuring SDGs at the subnational level are more pronounced than at the country level. While the OECD approach to monitoring SDGs at the country level is currently able to cover 105 targets (out of 169) using 132 indicators (out of 232 official UN indicators) (OECD, 2019a), the OECD localised indicator framework for regions and cities presented in this report covers 65 targets (out of 105 deemed relevant for OECD subnational units) using 135 indicators. However, it is worth noting that while the OECD country-level framework uses official UN indicators, the localised framework for regions and cities has to rely mostly on proxy indicators (i.e. indicators that capture part of the essence of the SDGs targets, but do not necessarily coincide with the exact definition suggested by the UN). It is also important to highlight that while the OECD country-level framework uses all its indicators to measure the distance to the targets, the localised indicator framework uses only a subset of 64 indicators (43 unrepeated indicators) to produce indexes that measure the distance of regions and cities to the global goals. The localised framework uses a subset of indicators, instead of the whole set, in order to maximise the coverage of OECD regions and cities as data availability tends to be lower at the subnational level.

The SDGs are increasing the demand for more and better territorial indicators and geospatial information, where new sources of data and partnerships are key to filling the SDG data gaps. Despite the longstanding work of the OECD on territorial indicators, clearly reflected in the Regional and Metropolitan Databases, more efforts such as collecting data from OECD countries (e.g. through the WPTI) and modelling new indicators were required to fill many of the initial data gaps faced when building the first version of the localised indicator framework for SDGs. Nevertheless, bridging the remaining SDGs data gap will require further efforts, resources and capacity building, as

well as new sources of data, technologies and innovation, all of which could be enhanced through new collaborations, such as public-private and civil society partnerships.

New sources and technologies for SDG territorial indicators and analysis

Using the Global Human Settlement Layer (GHSL) to measure land consumption and "sustainable urbanisation", the OECD has estimated the "Difference of land consumption rate to population growth rate" suggested in SDG 11 about sustainable urbanisation. Beyond the official UN indicator, the GHSL on built-up area and population allows for more profound analyses of the world urbanisation process. For example, DG-REGIO and the JRC are suggesting the complementary indicators to capture relevant elements of the urbanisation phenomenon, such as infill and expansion, and the marginal land consumption per new inhabitant.

Exploiting remote sensing and machine learning to capture the spatial component of "slums" is another example of how new sources and technologies are advancing the measurement of SDGs at the subnational level. Following the work of UN-Habitat (the custodian agency for SDG 11), the SDG framework captures slums at the level of the household – i.e. if the household suffers certain housing deprivations, it is classified as a "slum household". This definition of slum does not capture one of the most relevant characteristics of slums, which is their spatial dimension. Clusters of deprived households might yield negative externalities, such as (more than proportionally) higher crime rates and health risks. The University of Twente (the Netherlands) is developing new methodologies to capture the spatial dimension of slums using remote sensing (from satellites) and machine learning.

To advance the monitoring of SDGs 14 and 15 on "Preserving life on land and below water", the OECD is taking stock of the World Database on Protected Areas to estimate terrestrial and coastal protected areas at the subnational level. Across different initiatives to measure SDGs at the subnational level, SDGs 14 and 15 tend to appear as the goals with the largest data gaps. Using different geospatial techniques applied to the World Database on Protected Areas (IUCN/UNEP-WCMC, 2019), the OECD has initiated some work to model the share of protected terrestrial and coastal areas in regions and cities.

To fill the data gaps in SDG 7 for "Clean energy" and SDG 13 for "Climate action", the OECD is taking advantage of global gridded data such as the Global Database of Power Plants and the Historical global-gridded degree-days Database. By applying standard geospatial analysis techniques to the Global Database of Power Plants (Byers et al., 2019), it is possible to estimate the percentage of total electricity production that comes from different sources of energy such as coal, fossil fuels, nuclear power and renewable sources. Similarly, by analysing the Historical global-gridded degree-days Database (Mistry, 2019), it is possible to calculate the evolution in cooling and heating degree days from 1970 to 2018. Since all these statistics are modelled using gridded data, these indicators can be estimated for both regions and cities, as well as for other relevant geographical scales.

New partnerships for SDG territorial indicators and analysis

Measuring SDG targets and indicators at the local level requires a joint effort between all stakeholders, including governments, universities, non-governmental organisations (NGOs), the private sector and the civil society. The measurement of homelessness is an enlightening example of a partnership between universities, NGOs and the civil society. While the SDG Target 11.1 aims to "By 2030, ensure access for all to adequate, safe and affordable housing […]", the UN indicator framework does not currently propose a

measure of homelessness. Homeless people are among the most vulnerable population groups – particularly in urban areas – and even if they might represent small shares of the overall population, ensuring basic standards of well-being for this population is crucial to achieving the SDGs. Currently, good quality and comparable statistics of homelessness are unavailable even at the country level. The University of Bocconi and Fondazione Rodolfo Debenedetti, together with NGOs and volunteers from the civil society are developing new methodologies and working on the field to measure homelessness in cities and urban areas.

Monitoring SDGs requires also agreeing on the definition of cities, rural and urban areas – as several SDGs indicators that are reported at those geographical levels can be highly scale-sensitive. In this respect, partnerships between experts are crucial to reach consensus and sound comparable definitions. The OECD – in collaboration with five international organisations, namely the European Commission (EC), the Food and Agriculture Organization (FAO), the International Labour Organization (ILO), UN-Habitat and the World Bank – is developing a new method to delineate cities, metropolitan, urban and rural areas for international statistical comparison purposes. This project is particularly relevant in the context of the Sustainable Development Goals, as many SDGs indicators are very sensitive to the definition of urban and rural areas (e.g. accessibility to transport and services). For this reason, using different national definitions of urban and rural areas undermines international comparability and thus the global monitoring of the SDGs. The method proposed by this group of organisations consists of two definitions, the degree of urbanisation (DEGURBA) and the functional urban areas (FUAs), which have a common definition of a city. The proposed definitions will be discussed for endorsement at the UN Statistical Commission in New York in 2020.

Notes

[1] For a detailed discussion of the pros and cons of both methods, see OECD, 2017a.

[2] OECD large regions (TL2) also include "administrative cities" that belong to the first administrative tier of subnational government, such as Mexico City and the City of Moscow.

[3] Functional urban areas (FUAs) of more than 250 000 people.

[4] The initial (1970-84) and final (2004-18) time reference points are estimated as multi-annual averages to avoid year-to-year volatility, in particular for small spatial units.

[5] A coastal area corresponds to a region or city area within 50 km from the coastline. This method can include regions or cities without an actual coastline (in an administrative-boundary sense) but that are within 50 km from any coastline. The regions and cities with less than 15 km^2 of their area being coastal are excluded from the analysis.

[6] Tier I: Indicator is conceptually clear, has an internationally established methodology and standards are available, and data are regularly produced by countries for at least 50% of countries and of the population in every region where the indicator is relevant. Tier II: Indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries. Tier III: No internationally established methodology or standards are yet available for the indicator, but methodology/standards are being (or will be) developed or tested.

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Annex 2.A. Complete list of SDG targets and indicators of the OECD localised framework

Annex Table 2.A.1. Complete list of SDG targets for OECD regions and cities

Goal	OECD subnational SDG targets	OECD subnational SDG targets with available indicators
SDG 1. No poverty	1.1, 1.2, 1.3, 1.4, 1.5, 1.b	1.1, 1.2, 1.3, 1.4, 1.b
SDG 2. Food security and agriculture	2.1, 2.2, 2.3, 2.4, 2.5	2.1, 2.2, 2.3, 2.4
SDG 3. Good health	3.2, 3.3, 3.4, 3.5, 3.6, 3.8, 3.c	3.2, 3.4, 3.6, 3.8, 3.c
SDG 4. Quality education	4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.a	4.1, 4.2, 4.3, 4.5, 4.6
SDG 5. Gender equality	5.1, 5.2, 5.4, 5.5, 5.6, 5.a, 5.b, 5.c	5.1, 5.2, 5.4, 5.5
SDG 6. Clean water	6.3, 6.4, 6.5, 6.6, 6.b	6.3, 6.6
SDG 7. Clean energy	7.1, 7.2, 7.3, 7.b	7.1, 7.2, 7.b
SDG 8. Decent work	8.1, 8.2, 8.3, 8.5, 8.6, 8.8, 8.9, 8.b	8.1, 8.2, 8.3, 8.5, 8.6, 8.8, 8.b
SDG 9. Industry and innovation	9.1, 9.2, 9.3, 9.4, 9.5, 9.c	9.1, 9.2, 9.5, 9.c
SDG 10. Reduced inequalities	10.1, 10.2, 10.3, 10.4, 10.7	10.1, 10.2, 10.3, 10.4
SDG 11. Sustainable cities	11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.a, 11.b	11.1, 11.2, 11.3, 11.6, 11.7
SDG 12. Responsible consumption	12.2, 12.3, 12.4, 12.5, 12.6, 12.8, 12.b	12.5, 12.8
SDG 13. Climate action	13.1, 13.2, 13.3, 13.b	13.1, 13.2
SDG 14. Life below water	14.1, 14.3, 14.4, 14.5	14.5
SDG 15. Life on land	15.1, 15.2, 15.3, 15.4, 15.5, 15.9	15.1, 15.3, 15.4, 15.5
SDG 16. Peace and institutions	16.1, 16.2, 16.3, 16.5, 16.6, 16.7, 16.b	16.1, 16.3, 16.5, 16.6, 16.7, 16.b
SDG 17. Partnerships and enablers for SDGs	17.1, 17.6, 17.8, 17.16, 17.17, 17.19	17.6, 17.8

Annex Table 2.A.2. Complete list of SDG indicators for OECD regions and cities

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
SDG 1. No poverty	Average disposable income per day of the first quintile (equivalised household, in USD PPP, constant prices of 2010)	TL2	OECD Regional Database	Positive	Best performers	TL2
	Percentage of population with a disposable income below the 60% of national median disposable income	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	Best performers	TL2 and FUA
	Decrease in poverty rates (national poverty line) due to transfers and taxes (%)	TL2	OECD Regional Database	Positive	Best performers	No
	Rooms per person	TL2	OECD Regional Database	Positive	Best performers	No
	Percentage of population satisfied with efforts to deal with poverty	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
SDG 2. Food security and agriculture	Percentage of people with access to at least one food shop within 15 minutes' walking distance	FUA	OECD-ITF Database	Positive	Best performers	FUA

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Obesity rate of adults (%)	TL2	OECD Regional Database	Negative	Best performers	No
	Productivity (GVA per worker) in agriculture, forestry and fishing (ISIC rev4) (in constant 2010 USD PPP)	TL2	OECD Regional Database	Positive	Best performers	TL2
	Change in cropland (from 1992 to 2015, percentage points)	TL2	OECD Environment Database	Positive	0 percentage points	TL2
	Cropland as a percentage of total area in 2015	TL2	OECD Environment Database	Informative	Not applicable	No
SDG 3. Good health	Mortality rates for the 0 to 4 years old population	TL2	OECD Regional Database	Negative	Best performers	No
	Infant mortality rate (number of deaths of children 1-year-old or younger per 1 000 live births)	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Negative	Best performers	TL2 and FUA
	Mortality rate due to diseases of the circulatory or respiratory systems, for the under 65-year-old population	TL2 and FUA	Eurostat	Negative	Best performers	No
	Satisfaction with life as a whole (from 0 to 10)	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Life expectancy at birth	TL2	OECD Regional Database	Positive	Best performers	TL2
	Transport-related mortality rates (deaths per 100 000 people)	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Negative	Best performers	FUA
	Percentage of people satisfied with the availability or quality of healthcare	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Percentage of people with access to at least one hospital within 20 minutes' driving distance	FUA	OECD-ITF Database	Positive	Best performers	No
	Active physicians rate (active physicians per 1 000 people)	TL2	OECD Regional Database	Positive	Best performers	TL2
	Hospital beds rate (hospital beds per 10 000 people)	TL2	OECD Regional Database	Positive	Best performers	No
SDG 4. Quality education	Percentage of population from 15 to 19 years old enrolled in public or private institutions	TL2	OECD Regional Database	Positive	100%	No
	Percentage of early leavers from education and training, for the 18-24 year-old population	TL2	OECD Regional Database	Negative	Best performers	TL2
	Percentage of people with access to at least one school within 15 minutes of public transport	FUA	OECD-ITF Database	Positive	Best performers	No
	Percentage of people with access to at least one school within 20 minutes' walking distance	FUA	OECD-ITF Database	Positive	Best performers	FUA
	Percentage of population from 25 to 64 years old participating in education and training	TL2	OECD Regional Database	Positive	Best performers	No
	Percentage of population from 25 to 64 years old with at least tertiary education	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Positive	Best performers	TL2 and FUA

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Gender gap in tertiary education (percentage points)	TL2	OECD Regional Database	Negative	0 percentage points	No
	Gender gap in the rate of early leavers (percentage points)	TL2	OECD Regional Database	Negative	0 percentage points	No
	Gender gap in the rate of young population (from 18 to 24 years old) not in education, employment or training (NEET) (percentage points)	TL2	OECD Regional Database	Negative	0 percentage points	No
	Mean literacy score of the 16-65 year-old population (PIAAC – Survey of Adult Skills)	TL2	OECD PIAAC Database	Positive	Not applicable	No
SDG 5. Gender equality	Percentage of population that believe women are treated with respect and dignity in their country	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Percentage of women who experienced physical and sexual violence in the previous 12 months, for the female population aged 15 years or more	TL2	OECD Regional Database	Negative	0%	No
	Gender gap in employment rate (male-female, percentage points)	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Negative	0 percentage points	TL2 and FUA
	Gender gap in part-time employment incidence (female-male, percentage points)	TL2	OECD Regional Database	Negative	0 percentage points	TL2
	Percentage of women who are mayors	TL2 and FUA	OECD Regional and Metropolitan Databases	Positive	At least 50%	No
	Female research and development personnel as a percentage of total research and development employment	TL2	OECD Regional Database	Positive	At least 50%	No
SDG 6. Clean water	Percentage of population connected to at least secondary wastewater treatment	TL2	OECD Regional Database	Positive	Best performers	No
	Percentage of population satisfied with quality of water	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Change in water bodies (from 1992 to 2015, percentage points)	TL2 and FUA	OECD Environment Database	Positive	Best performers	TL2 and FUA
	Water bodies as percentage of total area in 2015	TL2 and FUA	OECD Environment Database	Informative	Not applicable	No
SDG 7. Clean energy	Total electricity production per capita (in kWh)	TL2	OECD Regional Database	Informative	Not applicable	No
	Final energy consumption per capita (in kg of oil equivalent)	TL2	OECD Regional Database	Negative	Best performers	No
	Percentage of total electricity production that comes from renewable sources	TL2 and FUA	OECD based on Global Power Plant Database	Positive	Best performers	TL2 and FUA
	Percentage of total electricity production that comes from coal	TL2 and FUA	OECD based on Global Power Plant Database	Negative	0%	TL2 and FUA

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Percentage of total electricity production that comes from fossil fuels (natural gas and oil, excluding coal)	TL2 and FUA	OECD based on Global Power Plant Database	Negative	0%	TL2 and FUA
	Percentage of total electricity production that comes from nuclear power	TL2 and FUA	OECD based on Global Power Plant Database	Informative	Not applicable	No
	Percentage of residential houses which have been built after the year 1980	FUA	Urban Data Platform	Positive	Best performers	No
SDG 8. Decent work	Annual growth rate of real GDP per capita (%)	TL2 and FUA	OECD Regional and Metropolitan Databases	Positive	Best performers	No
	Annual growth rate of real GVA (GDP for FUA) per worker (%)	TL2 and FUA	OECD Regional and Metropolitan Databases	Positive	Best performers	TL2 and FUA
	Employment in knowledge-intensive services as a percentage of total employment	TL2	OECD Regional Database	Positive	Best performers	No
	Percentage of labour force with at least secondary education	TL2	OECD Regional Database	Positive	Best performers	No
	Firm creation rate (%)	TL2	OECD Regional Database	Positive	Best performers	No
	Employment rate associated to newly created firms (%)	TL2	OECD Regional Database	Positive	Best performers	No
	Three-year survival rate of firms (%)	TL2	OECD Regional Database	Positive	Not applicable	No
	Net firm creation rate (%) (firm birth rate minus firm death rate)	TL2	OECD Regional Database	Positive	Not applicable	No
	Unemployment rate (%)	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	Best performers	TL2 and FUA
	Gender gap in unemployment rate (percentage points)	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Negative	0 percentage points	No
	Long-term unemployment incidence (%)	TL2	OECD Regional Database	Negative	Best performers	No
	Part-time employment incidence (%)	TL2	OECD Regional Database	Negative	Best performers	No
	Employment rate (%)	TL2 and FUA	OECD Regional and Metropolitan Databases	Positive	Best performers	No
	Percentage of young population (from 18 to 24 years old) not in education, employment or training (NEET)	TL2	OECD Regional Database	Negative	Best performers	No
	Employment rate of the foreign-born (%)	TL2	OECD Regional Database	Positive	0 percentage points	No
	Unemployment rate of the foreign-born (%)	TL2	OECD Regional Database	Negative	0 percentage points	No
	Over-qualification rates for the foreign-born (%)	TL2	OECD Regional Database	Negative	0 percentage points	No
	Gender gap in employment rate for the foreign-born (percentage points)	TL2	OECD Regional Database	Negative	Best performers	No

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Percentage of foreign-born among the total population	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Informative	Not applicable	No
	Youth unemployment rate (%)	TL2	OECD Regional Database	Negative	Best performers	TL2
SDG 9. Industry and innovation	Percentage of population satisfied with roads and highways	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Percentage of population that lives in rural remote areas	TL2	OECD Regional Database	Informative	Not applicable	No
	Percentage of population that lives in the commuting zones	FUA	OECD Metropolitan Database	Informative	Not applicable	No
	Performance of public transport network, ratio between accessibility and proximity to people	FUA	OECD-ITF Database	Positive	Best performers	No
	Performance of car transport network, ratio between accessibility and proximity to people	FUA	OECD-ITF Database	Positive	Best performers	No
	Productivity (GVA per worker) in manufacture (ISIC rev4) (in constant 2010 USD PPP)	TL2	OECD Regional Database	Positive	Best performers	TL2
	GVA in manufacture (ISIC rev4) as a percentage of GDP	TL2	OECD Regional Database	Informative	Not applicable	No
	Manufacturing employment as a percentage of total employment	TL2	OECD Regional Database	Informative	Not applicable	No
	Employment in high-technology manufacturing as a percentage of total manufacturing employment	TL2	OECD Regional Database	Positive	Best performers	No
	Research and development expenditure as a proportion of GDP (%)	TL2	OECD Regional Database	Positive	Best performers	No
	Research and development personnel as a share of total employment	TL2	OECD Regional Database	Positive	Best performers	No
	Patent applications (PCT) per 1 000 000 people	TL2 and FUA	OECD Regional and Metropolitan Databases	Positive	Best performers	TL2 and FUA
	Percentage of labour force with at least tertiary education	TL2	OECD Regional Database	Positive	Best performers	TL2
	Percentage of households connected to high-speed internet (30 megabytes per second)	TL2 and FUA	OECD Regional and Metropolitan Databases	0	Best performers	No
SDG 10. Reduced inequalities	Growth in disposable income per capita (%)	TL2	OECD Regional Database	Positive	Best performers	No
	Average disposable income per equivalised household (in USD PPP, constant prices of 2010)	TL2 and FUA	OECD Regional and Metropolitan Databases	Positive	Best performers	No
	Gini index of disposable income (after taxes and transfers) (from 0 to 1)	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	Best performers	TL2 and FUA
	Ratio between average disposable income of top and bottom quintiles	TL2	OECD Regional Database	Negative	Best performers	TL2
	Median disposable income per equivalised household (in USD PPP, constant prices of 2010)	TL2	OECD Regional Database	Positive	Best performers	No

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Percentage of population living below the 50% of regional median disposable income	TL2	OECD Regional Database	Negative	Best performers	No
	Percentage of population that believes their place of residence is a good place to live for racial and ethnic minorities	TL2	OECD based on Gallup World Poll (2019)	Positive	100%	No
	Decrease in poverty rates (regional poverty line) due to transfers and taxes (%)	TL2	OECD Regional Database	Positive	Best performers	No
	Decrease in Gini index due to transfers and taxes (%)	TL2	OECD Regional Database	Positive	Best performers	No
SDG 11. Sustainable cities	Percentage of households' expenses dedicated to housing costs	TL2	OECD Regional Database	Negative	Best performers	No
	Percentage of population satisfied with affordability of housing	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Performance of public transport network, ratio between accessibility and proximity to hospitals	FUA	OECD-ITF Database	Positive	Best performers	No
	Performance of car transport network, ratio between accessibility and proximity to hospitals	FUA	OECD-ITF Database	Positive	Best performers	No
	Percentage of population satisfied with the quality of public transportation systems	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Difference between built-up area growth rate and population growth rate (percentage points)	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	0 percentage points	TL2 and FUA
	Built-up area per capita (square metres per capita)	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	Best performers	No
	Exposure to PM2.5 in µg/m³, population weighted (micrograms per cubic metre)	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	Less than 10 µg/m³	TL2 and FUA
	Percentage of population satisfied with quality of air	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Percentage of people exposed to more than 10 µg/m³ (micrograms per cubic metre) of PM2.5	TL2 and FUA	OECD Environment Database	Negative	0%	No
	Percentage of population with access to at least 1 hectare of green urban areas (parks) and forests within 15 minutes' walking distance	FUA	OECD-ITF Database	Positive	Best performers	No
	Percentage of population with access to at least one recreational opportunity (theatres, museums, cinemas, stadiums or cultural attractions) within 15 minutes of cycling	FUA	OECD-ITF Database	Positive	Best performers	No
SDG 12. Responsible consumption	Municipal waste rate (kilos per capita)	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Negative	Best performers	TL2
	Percentage of municipal waste that is recycled	TL2	OECD Regional Database	Positive	Best performers	No

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Number of motor road vehicles per 100 people	TL2 and FUA	OECD Regional Database (TL2) and Eurostat (FUA)	Negative	Best performers	TL2 and FUA
SDG 13. Climate action	Percentage of population satisfied with efforts to preserve the environment	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	TL2
	CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours)	TL2 and FUA	OECD based on Global Power Plant Database	Negative	Best performers	TL2 and FUA
	Change in cooling degree days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970-84 to 2004-18	TL2 and FUA	OECD based on Historical Global-Gridded Degree-Day Database	Negative	0 percentage points	TL2 and FUA
	Cooling degree-days needed to maintain an average building indoor temperature of 22 degree Celsius, 2004-18	TL2 and FUA	OECD based on Historical Global-Gridded Degree-Day Database	Informative	Not applicable	No
	Change in heating degree days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970-84 to 2004-18	TL2 and FUA	OECD based on Historical Global-Gridded Degree-Day Database	Negative	0 percentage points	No
	Heating degree days needed to maintain an average building indoor temperature of 22 degree Celsius, 2004-18	TL2 and FUA	OECD based on Historical Global-Gridded Degree-Day Database	Informative	Not applicable	No
SDG 14. Life below water	Protected coastal area as a percent of total coastal area	TL2 and FUA	OECD based on Natural Earth Database, and World Database on Protected Areas (WDPA)	Positive	Best performers	TL2 and FUA
	Coastal area as a percent of total area	TL2 and FUA	OECD based on Natural Earth Database	Informative	Not applicable	No
	Percentage of population that lives 50 km from the coast	TL2 and FUA	OECD based on Natural Earth Database, and GHSL Population Grid	Informative	Not applicable	No
SDG 15. Life on land	Change in tree cover (from 1992 to 2015, percentage points)	TL2 and FUA	OECD Environment Database	Positive	Best performers	TL2 and FUA
	Tree cover as a percent of total area in 2015	TL2 and FUA	OECD Environment Database	Informative	Not applicable	No
	Increase in artificial areas (from 1992 to 2015, percentage points)	TL2 and FUA	OECD Environment Database	Informative	Not applicable	No
	Artificial areas as a percent of total area in 2015	TL2 and FUA	OECD Environment Database	Informative	Not applicable	No
	Mountainous area as a percent of total area	TL2	OECD based on Mountains and Tree Cover in Mountain Regions Database	Informative	Not applicable	No

Goal	Indicator description	Subnational scale	Source	Desired direction	End value	Included in index
	Percentage of population that lives in mountainous area	TL2	OECD based on Mountains and Tree Cover in Mountain Regions Database, and GHSL Population Grid	Informative	Not applicable	No
	Terrestrial protected areas as a percent of total area	TL2 and FUA	OECD based on World Database on Protected Areas (WDPA)	Positive	Best performers	TL2 and FUA
SDG 16. Peace and institutions	Homicides per 100 000 persons	TL2 and FUA	OECD Regional and Metropolitan Databases	Negative	Best performers	TL2 and FUA
	Percentage of population that have been assaulted or mugged in the previous 12 months	TL2	OECD based on Gallup World Poll (2019)	Negative	Best performers	No
	Percentage of population that feel safe walking alone at night around the area they live	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	TL2
	Confidence in judicial system and courts	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	No
	Percentage of population that believes corruption is spread throughout the government in the country	TL2	OECD based on Gallup World Poll (2019)	Negative	Best performers	No
	Percentage of population that have confidence in the national government	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	TL2
	Percentage of population that have confidence in the local police force	TL2	OECD based on Gallup World Poll (2019)	Positive	Best performers	TL2
	Voter turnout	TL2	OECD Regional Database	Positive	Best performers	No
	Percentage of population that believes their place of residence is a good place to live for migrants	TL2	OECD based on Gallup World Poll (2019)	Positive	100%	No
	Percentage of population that believes their place of residence is a good place to live for gay or lesbian people	TL2	OECD based on Gallup World Poll (2019)	Positive	100%	No
SDG 17. Partnerships and enablers for SDGs	Share of PCT co-patent applications that are done with foreign regions (in % of co-patent applications)	TL2	OECD Regional Database	Positive	Best performers	TL2
	Percentage of households with broadband internet access	TL2	OECD Regional Database	Positive	Best performers	TL2
	Percentage of houses and buildings connected to optical fibre	FUA	OECD Metropolitan Database	Positive	Best performers	FUA
	Research and development expenditure by the government sector as a proportion of GDP (%)	TL2	OECD Regional Database	Positive	Best performers	No

Chapter 3. The distance of regions and cities, by country, towards each of the 17 SDGs

By applying the OECD localised indicator framework for Sustainable Development Goals (SDGs) to a set of headline indicators, 39 for regions and 25 for cities, this chapter assesses the distance of more than 1 000 regions and cities of OECD and selected partner countries towards each of the 17 SDGs. The structure of the chapter consists of a series of two-pagers for each of the 17 SDGs. Each two-pager provides a separate assessment for regions (first administrative tier of subnational government) and for cities (functional urban areas). Going beyond national averages, this framework allows identifying, by country, which regions and cities have achieved the end values for 2030 (of the available indicators) and which ones are lagging behind – and by how much. Consequently, this methodology also contributes to document the between- and within-country regional and city disparities in performance towards the SDGs.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

SDG 1 for "No poverty"

The index for SDG 1 on poverty eradication combines the indicators of the relative poverty rate and the average disposable income per day of the first quintile. These indicators cover an essential aspect of SDG 1, which is the monetary dimension of poverty. Relative poverty rates contribute to capturing the level of exclusion of households with very low relative incomes, whereas the average income of the first quintile provides an indication of the levels of living standards of the poorest 20% of households in the region or city. Both of these indicators are available for regions, but only the indicator of relative poverty rate is available for cities. It is worth highlighting that poverty goes beyond monetary aspects. For this reason, the SDG localised framework also provides indicators relative to overcrowding conditions of households (rooms per inhabitant) and the effectiveness of the redistributive policy on relative poverty (decrease in poverty rates due to transfers and taxes) – even if, to maximise the coverage, these two indicators are not included in the index for SDG 1.

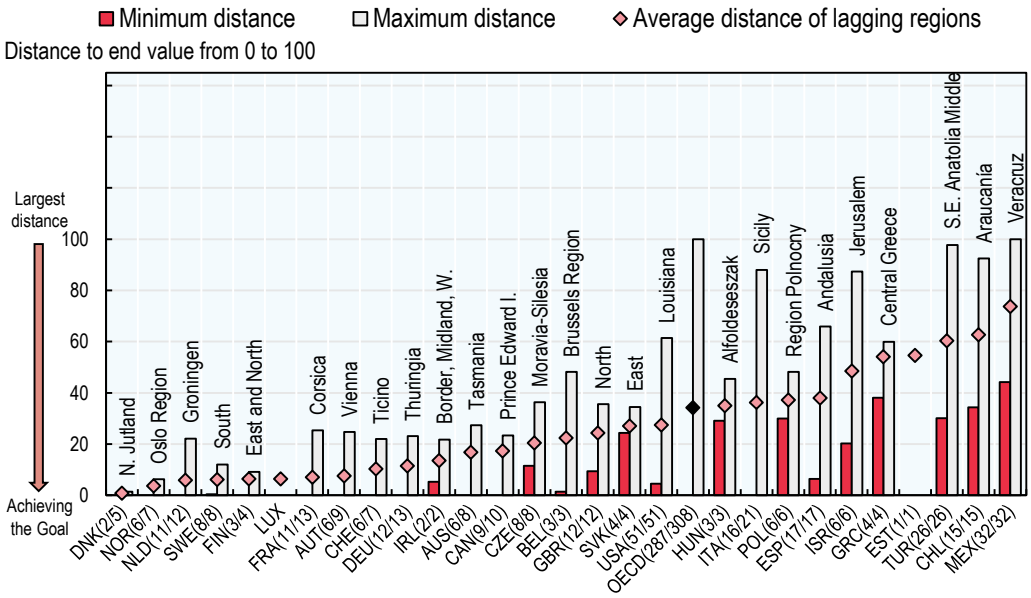
In the OECD, only 7% of regions have achieved the suggested end values for 2030 in SDG 1 about poverty eradication. Figure 3.1 shows the normalised distance of regions to the suggested end values for 2030 in the index for SDG 1. The average distance to travel of the 287 lagging regions (out of the 308 regions with data available in both indicators) is of 34 points (from 0 to 100, where 100 is the largest distance). Nevertheless, the distance to travel in SDG 1 varies widely across countries. While the regions of Nordic countries such as Denmark, Norway, the Netherlands, Sweden and Finland are less than 7 percentage points away from achieving the end value for 2030, the regions in Turkey, Chile, Estonia, Greece and Mexico still have to travel more than half of the distance to meet the goal.

Going beyond cross-country comparisons, disparities in achieving SDG 1 are also pronounced within countries. Italy, Turkey and Israel show the widest within-country gaps, with differences above the 65 percentage points. While Trento and Western Black Sea W. are among the best performing regions for SDG 1 in Italy and Turkey respectively, Sicily (Italy) and S.E. Anatolia Middle (Turkey) are the regions displaying the largest distances to the end values for SDG 1 in these countries. Similar to Veracruz (Mexico), Sicily (Italy) and S.E. Anatolia Middle (Turkey) are between 85 and 100 points away from meeting the end value for SDG 1.

Out of the 123 cities that have not achieved the end value of a relative poverty rate lower than 6.3%, around 75% are cities in the United States, while the remaining 25% are cities in Portugal, Belgium, Italy, Sweden, France and Austria. The average distance to travel for the lagging cities of the United States is of 48 percentage points (on the scale from 0 to 100), almost 10 percentage points above the average distance of the available OECD lagging cities (Figure 3.2). Minneapolis and Washington (Greater) are the only two cities of the United States that have achieved a poverty rate below the end value of 6.3%, while Kern has a poverty rate around the 30%. It is worth noting that relative poverty rates are available only for 132 cities of eight OECD countries and thus more efforts are required to increase the coverage in this goal at the city level.

Figure 3.1. Distance to travel for regions in SDG 1 for "No poverty"

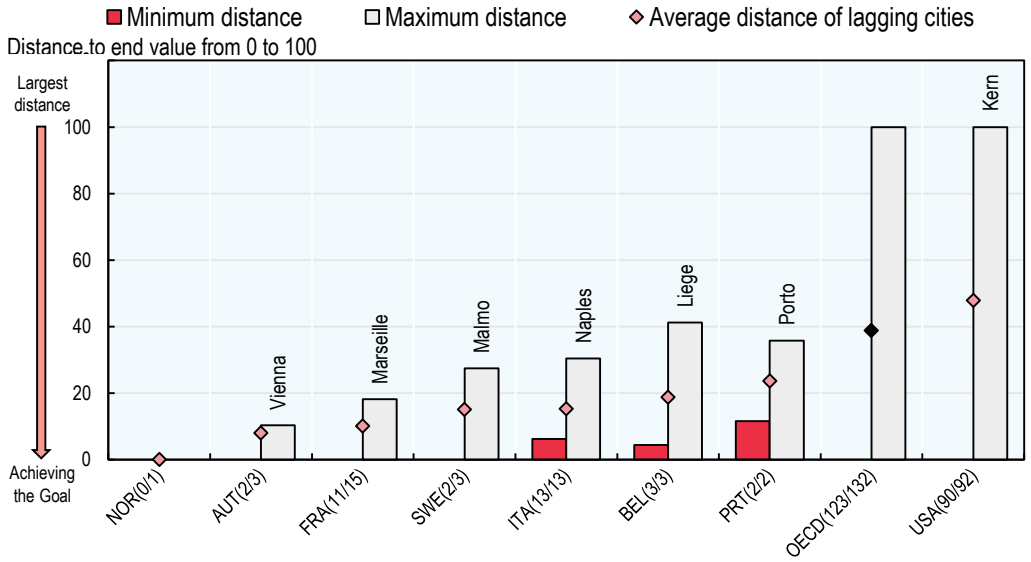
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: OECD averages include Colombia when data are available; this note applies to all the following Figures. Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.2. Distance to travel for cities in SDG 1 for "No poverty"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to functional urban areas (FUAs) of more than 250 000 inhabitants.
Sources: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en; OECD (2016), *Making Cities Work for All: Data and Actions for Inclusive Growth*, https://doi.org/10.1787/9789264263260-en.

SDG 2 for "Food security and agriculture"

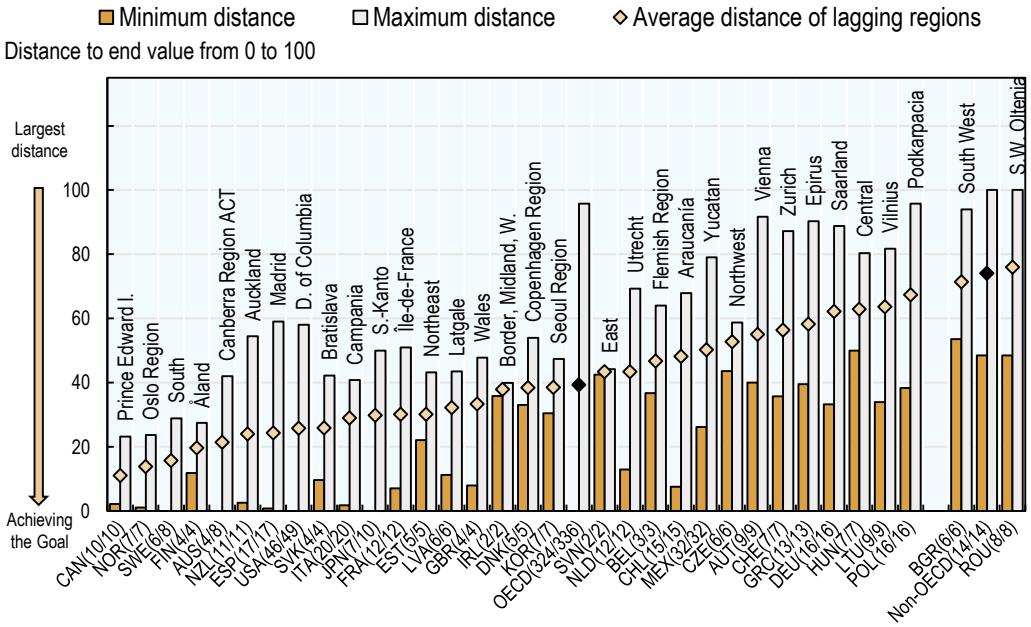
While for regions the indicators of productivity in agriculture and change in cropland compose the index for SDG 2 on food security and agriculture, for cities the index uses only the indicator of percentage of people having access to at least one food shop within 15 minutes' walking distance. SDG 2 recognises, among other dimensions of food security, that to ensure good nutrition for all, agricultural systems must become more productive and less wasteful. Enhancing the potential of existing agricultural lands and reversing the degradation of new territories for agricultural purposes is crucial to guarantee future food needs. While the index focuses on agricultural capacity for regions, the emphasis is on food accessibility in the case of cities. The percentage of people with a food shop within 15 minutes' walking distance relates to both the quantity of food and the diversity of items available for a balanced diet. A higher density of food shops in a city is associated to a larger share of inhabitants having an easier access to food. Yet, the indicators available to measure SDG 2 are not sufficient to capture the essence of food security and nutrition. It is worth mentioning that to improve the measurement for nutrition, the OECD is collecting data on obesity rates for regions (Target 2.2); however, the coverage is still low and although the indicator is included in the general indicator framework for SDGs, it is not yet used as a component of the index for SDG 2.

In the OECD, only 12 regions out of 336 have achieved the end values for 2030 in SDG 2 related to food security and agriculture. Figure 3.3 shows that, on average, OECD regions are around 40 percentage points away from meeting the end values in this goal. The regions of the East European countries of Hungary, Lithuania, Poland and Bulgaria are among the ones with the largest average distances to travel to achieve SDG 2 – with an average distance of 66 points – and significant regional disparities. Indeed, the Central region of Hungary, Vilnius in Lithuania and Podkarpacia in Poland are among the farthest regions from SDG 2, respectively 30 points, 48 points and 57 points behind their peer regions of S. Transdanubia (Hungary), Panevežys (Lithuania) and Lubusz (Poland) which are the best performing regions in these countries.

Accessibility to food in cities is very high, with around 70% of the cities showing at least 87% of their population with access to food shops within 15 minutes' walking distance. Only 33 OECD cities (out of 111 available) have not yet achieved the end value of 87% of the population or more having access to a food shop within 15 minutes' walking distance. The lagging OECD cities are, on average, halfway to reaching the end value. All the available cities of Belgium, Switzerland, Spain, Hungary, Italy, the Netherlands and Portugal have achieved the end value for this indicator, while none of the cities of the Czech Republic has reached this outcome. Austria presents the largest gap between cities in this indicator; while 88% of people in Vienna can access a food shop within 15 minutes' walking distance, only around two-thirds of the inhabitants of Graz and Linz have this level of accessibility to food shops (Figure 3.4).

Figure 3.3. Distance to travel for regions in SDG 2 for "Food security and agriculture"

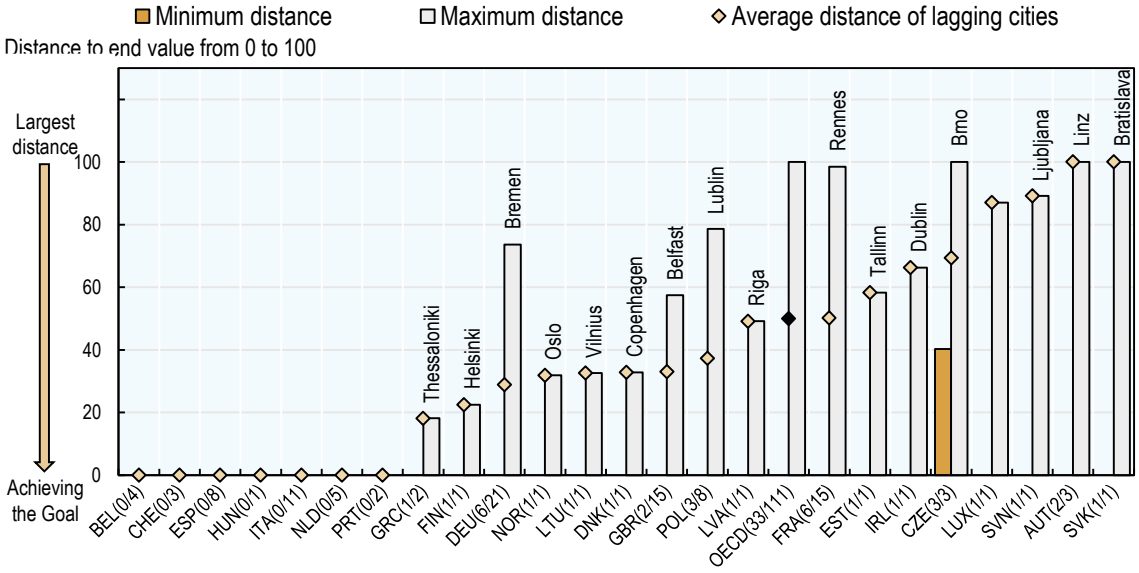
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Sources: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en; OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

Figure 3.4. Distance to travel for cities in SDG 2 for "Food security and agriculture"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD-ITF (2019), *Transport Statistics (database)*.

SDG 3 for "Good health"

The indexes for SDG 3 on good health and well-being include the indicators of infant mortality rate, life expectancy at birth, the rate of active physicians, and transport-related mortality rate. Whereas the first three indicators are used to create the index for regions, only the indicators of infant mortality rate and transport-related mortality rate integrate the index for cities (as functional urban areas are a more adequate scale to measure transport-related issues). While the indicators of infant mortality, life expectancy and transport mortality are related to health and well-being outcomes, the number of active physicians (or doctors) refers to input necessary to improve these health results.

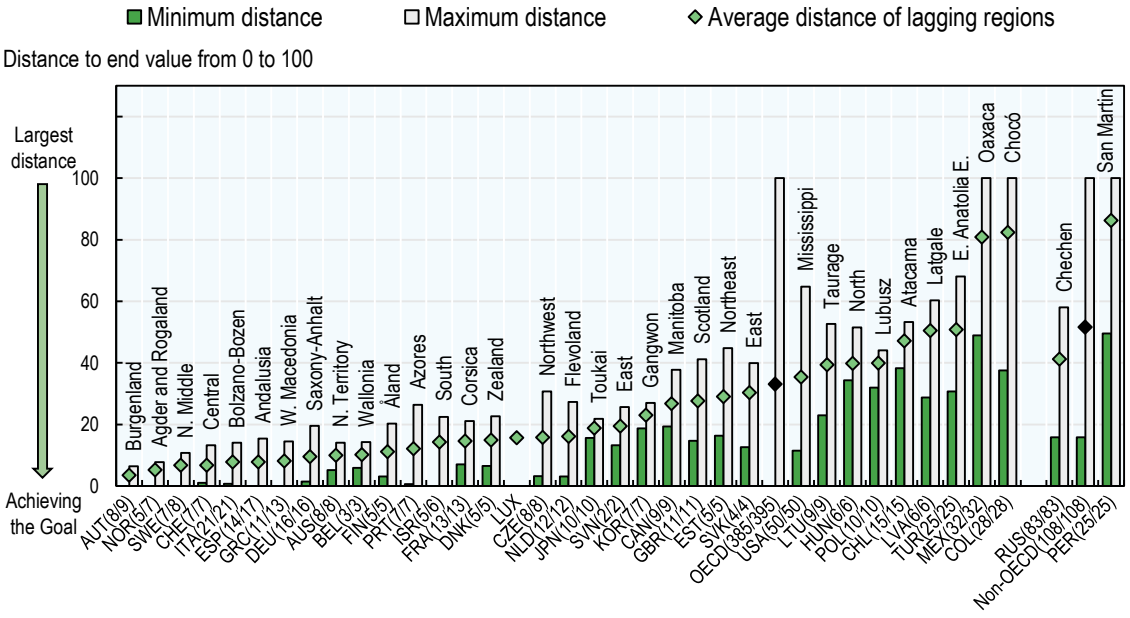
OECD regions are, on average, one-third of the way from achieving SDG 3 on good health and well-being. Achieving the end values for SDG 3 implies recording infant mortality rates lower than 2.8 infant deaths per 1 000 live births, having a life expectancy of 81.5 years or more, and counting with at least 4.8 active physicians per 1 000 inhabitants. Although 97% of OECD regions are still underway towards SDG 3, the average distance they must travel is close to one-third of the total possible distance (Figure 3.5).

Only ten OECD regions have achieved the outcomes suggested for SDG 3, such as the Oslo Region in Norway and La Rioja in Spain. Within these two countries, the lagging regions of Agder and Rogaland (Norway) and Andalusia (Spain) are not very far from reaching the goal as they are respectively 15 and 8 percentage points away from the end values for 2030. On the other hand, Colombia presents the most striking regional gap in the progress made towards SDG 3. While the region of Bogotá is 38 points away from the goal, the region of Chocó is still 100 points apart from it, with an infant mortality rate of 41 infant deaths per 1 000 live births (more than 14 times superior to the suggested end value), a life expectancy of 71 years, and less than 1 active physician per 1 000 people.

Only 8 out of 227 cities have achieved the end value for SDG 3 – which suggests reaching an infant mortality rate lower than 2.2 deaths per every 1 000 live births, and transport-related mortality rates below 2.8 deaths per 100 000 people. All the cities of Switzerland, Spain, Estonia, Finland and Sweden have a distance to travel to SDG 3's end values that is lower than one-third of the total way. The largest inequalities within countries are observed in France and Poland, where the gaps between the cities with the highest and lowest distances to the end values are of 84 and 61 percentage points respectively – between Fort-de-France and Caen for France, and Olsztyn and Tarnow for Poland (Figure 3.6).

Figure 3.5. Distance to travel for regions in SDG 3 for "Good health"

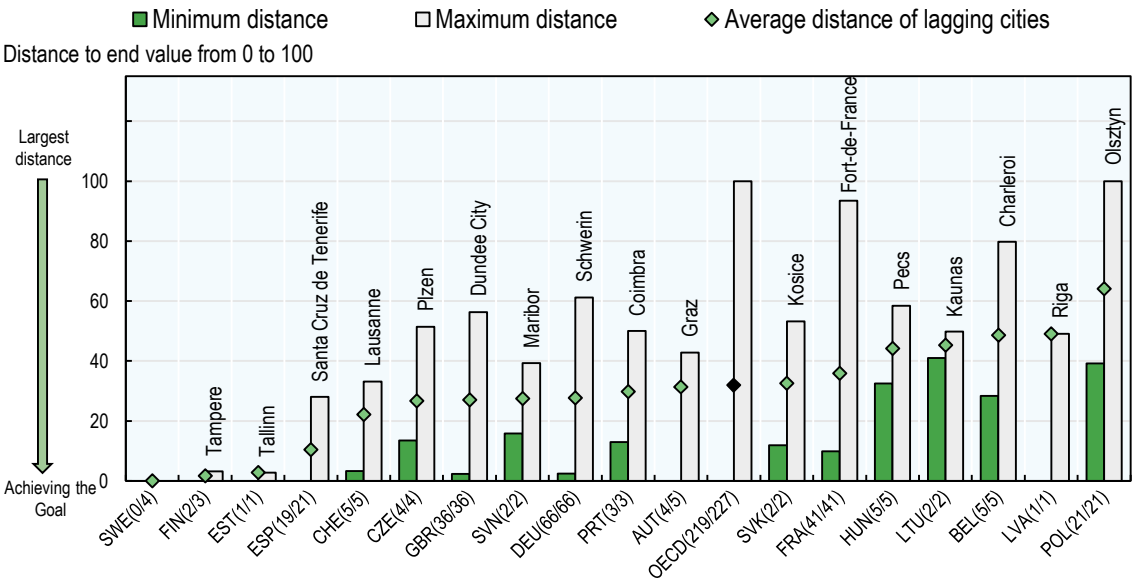
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.6. Distance to travel for cities in SDG 3 for "Good health"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: Elaboration based on Eurostat (2019), *Functional Urban Areas (database)*, https://ec.europa.eu/eurostat/web/cities/data/database.

SDG 4 for "Quality education"

The indexes for SDG 4 on education use the indicators of the percentage of early leavers from education, the percentage of the adult population with at least tertiary education and the percentage of people with access to at least one school within 20 minutes' walking distance. While the indicators of early leavers from school (18-24 year-old population) and the percentage of adult population with tertiary education (25-64 year-old population) constitute the index of SDG 4 for regions, the index for cities uses only the indicators of population with at least tertiary education and the percentage of people with access to schools within 20 minutes' walking distance.

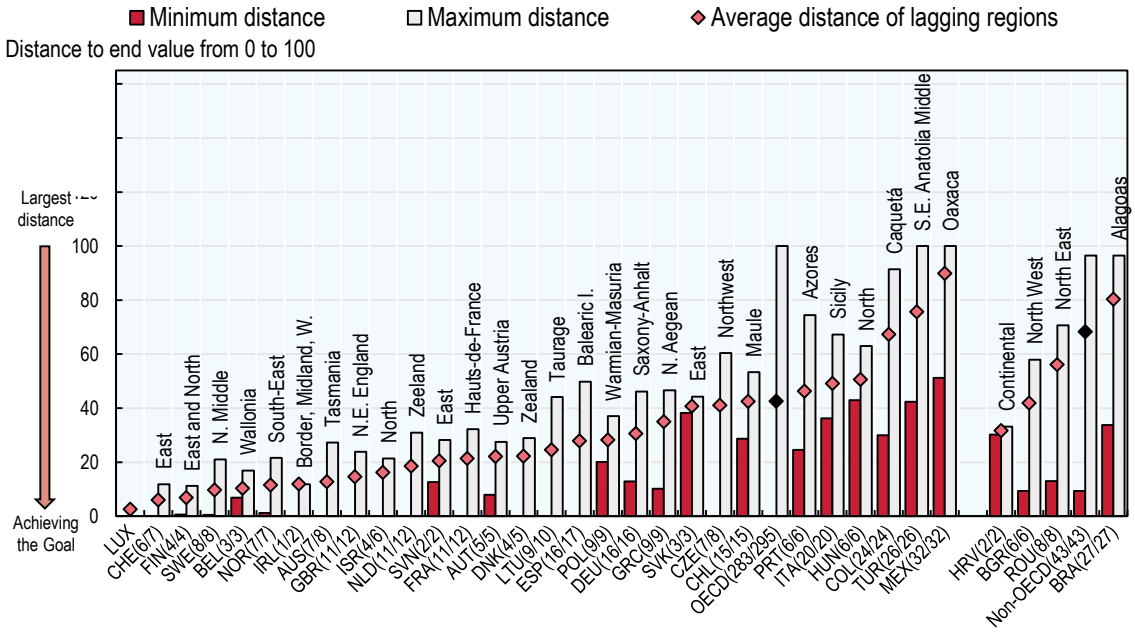
In OECD countries, close to 4% of the regions have achieved the end values for SDG 4 about quality of education. Achieving the regional end values for SDG 4 implies bringing school dropouts to 8% or lower and bringing tertiary education to at least 46% of the adult population. For the regions that have not achieved the end values of this SDG, the average distance to complete the goal is of around 43% of the total possible way. Furthermore, important disparities prevail within countries. For example, while the regions of Vilnius (Lithuania), the Basque Country (Spain) and Prague (Czech Republic) have achieved the end values for this goal, peer regions of the same countries such as Taurage (Lithuania), the Balearic Islands (Spain) and Northwest (Czech Republic) are around halfway to meeting SDG 4 (Figure 3.7).

The end values for cities in SDG 4 consist in achieving at least tertiary education for 48% of the population or more, as well as reaching accessibility to schools within walking distance for 92% of the population. These end values were set based on the best performing OECD cities with available data. Nevertheless, it is worth noting that these indicators are jointly available only for 35 cities across eight OECD countries – which highlights the data gaps and efforts needed to improve the measurement of SDG 4 across OECD cities.

OECD cities are on average one-fourth of the way from meeting the end values for SDG 4 and more than 82% of the cities for which the indicators are available have not yet achieved the suggested end values. Figure 3.8 highlights disparities in the performance of cities in reaching higher levels of tertiary education and school accessibility across OECD countries. While none of the cities of Slovenia, Latvia, Lithuania, France, Hungary and Estonia have reached the suggested end values, in Helsinki (Finland) and 5 cities (out of 14) in the United Kingdom, 48% or more of their population have at least tertiary education and more than 92% of the population have good accessibility to schools. France is the country with the largest disparities in tertiary educational attainment and physical access to schools across cities. In France, Paris is the best performing city in SDG 4 (with around 45% of its population having attained at least tertiary education and 98% living within 20 minutes' walking distance from a school), whereas the city of Saint-Etienne (with only 31% of the population with at least tertiary education and 89% within 20 minutes' walking distance from a school) still has to travel almost half the distance before meeting the suggested end values for 2030.

Figure 3.7. Distance to travel for regions in SDG 4 for "Quality education"

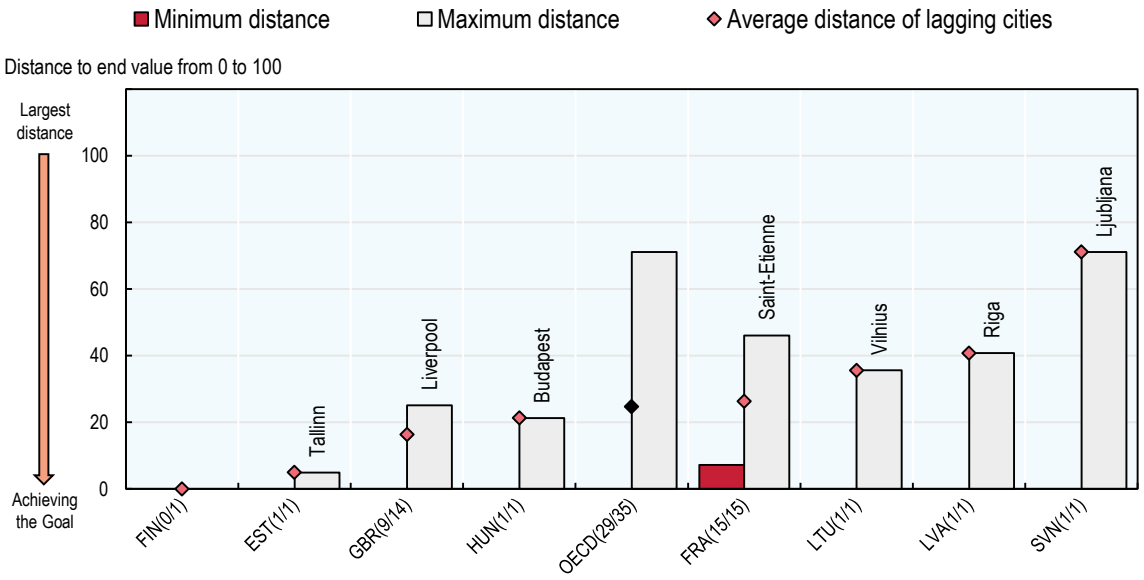
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.8. Distance to travel for cities in SDG 4 for "Quality education"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: Elaboration based on Eurostat (2019), *Functional Urban Areas (database)*, https://ec.europa.eu/eurostat/web/cities/data/database; and OECD-ITF (2019), *Transport Statistics (database)*.

SDG 5 for "Gender equality"

The index for SDG 5 uses the indicators of the gender gap in employment rate and the gender gap in part-time employment incidence to measure the distance to gender equality in regions. While the indicator on the gender gap in the employment rate captures part of the exclusion women face in the labour market, the gender gap in part-time employment incidence accounts for the precariousness of female workers with respect to men. Intra-household inequalities often push women, more than men, towards part-time jobs (in the labour market) and unpaid housework. Reducing the gap in part-time jobs can reflect a more balanced distribution of work between men and women.

As in a society with gender equality no differences in outcomes should be observed between women and men in the labour market, the end values for the gender gap in employment rate and the gender gap in part-time employment have been set at 0 (i.e. same employment rate and part-time employment for both woman and men). While these two indicators are available at the regional level, only the indicator representing the gender gap in employment rate is currently available for cities. It is worth noting that this index only captures gender equality in the labour market, while it misses important elements of SDG 5 such as women's participation in government and violence towards women. The OECD is currently working on collecting the indicators of the share of women who are mayors and the percentage of women who experienced physical or sexual violence but due to limited coverage, these indicators are not yet included in the index for gender equality.

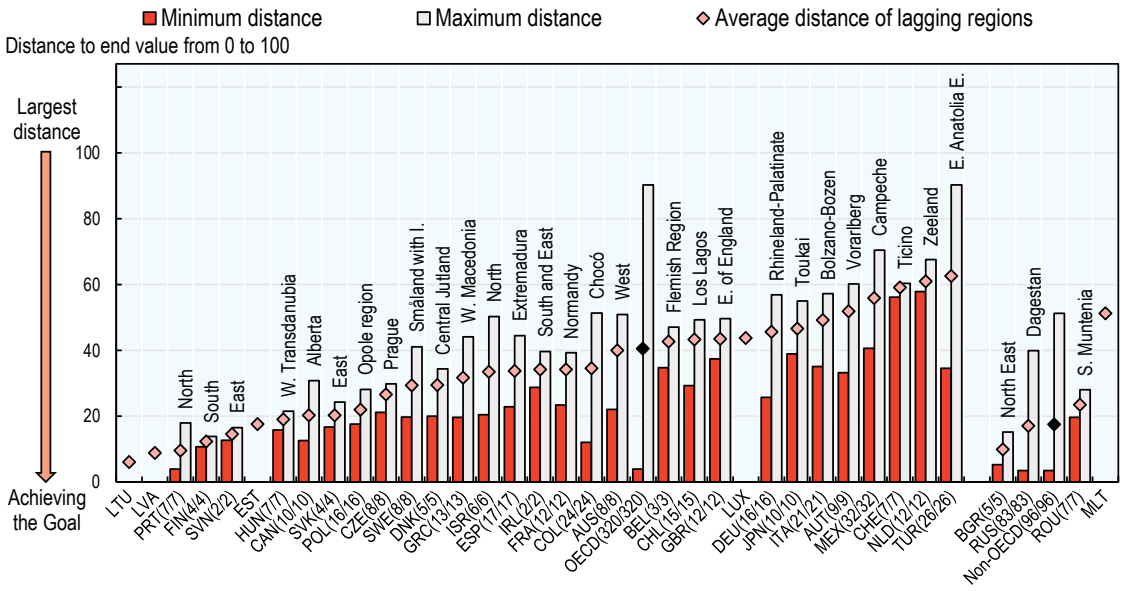
All regions must increase efforts to achieve SDG 5 on gender equality as none of them has reached the intended outcomes in OECD countries. According to Figure 3.9

Figure 3.9, OECD lagging regions should travel more than 40% of the way, on average, to meet this goal. Besides standing far from SDG 5, regions within countries are largely unequal in their progress to meet the end values for this goal. The regions of Turkey are the most uneven, followed by the regions of Colombia, Germany and Israel – displaying regional gaps of more than 30 percentage points between the region with the largest and lowest distance to the goal. Eastern Anatolia E. (Turkey), Chocó (Colombia), the North (Israel) and Rhineland-Palatinate (Germany) are the farthest regions to the end values in their respective countries, while the capital regions of Berlin (Germany) and Tel Aviv (Israel), as well as Eastern Black Sea in Turkey and Córdoba in Colombia are the best performing regions – although they are, on average, 23 percentage points away from the goal.

Only 5 cities in Finland, Germany and Lithuania out of 233 OECD cities have achieved the end value of SDG 5 that suggests an equal employment rate between women and men. Figure 3.10 reveals that 98% of the OECD cities for which data is available still have not reached gender equality in employment rates and are on average 49 percentage points away from meeting this end value for 2030. Apart from the city of Malmö in Sweden which is very close to a zero gender gap in employment (1 point away), all the other OECD cities that have not completed the end value are at least 13 percentage points away from it, with the cities of Venice in Italy, Cheshire West and Chester in the United Kingdom, Tallinn in Estonia and Murcia in Spain still having at least 80 percentage points to travel before meeting this goal. Italy and Germany are the countries that display the largest disparities in employment of men and woman across their cities – between the city of Trier in Germany that has already achieved a zero gap and the city of Ingolstadt (78 points away from the goal), and between Bergamo (13 points away from the end value) in Italy and Venice (facing one of the largest possible distances to the end value).

Figure 3.9. Distance to travel for regions in SDG 5 for "Gender equality"

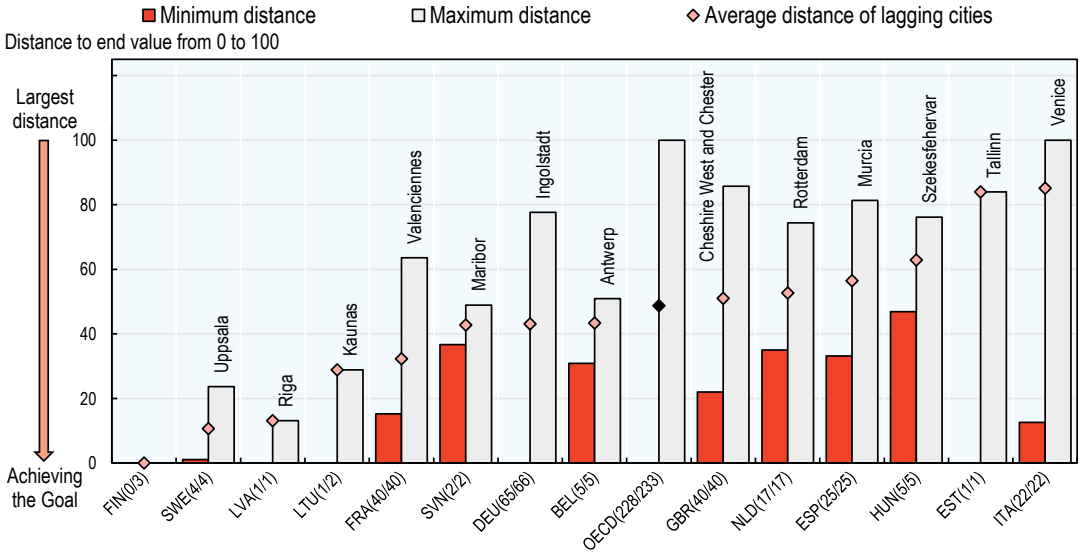
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.10. Distance to travel for cities in SDG 5 for "Gender equality"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: Elaboration based on Eurostat (2019), *Functional Urban Areas (database)*, https://ec.europa.eu/eurostat/web/cities/data/database.

SDG 6 for "Clean water"

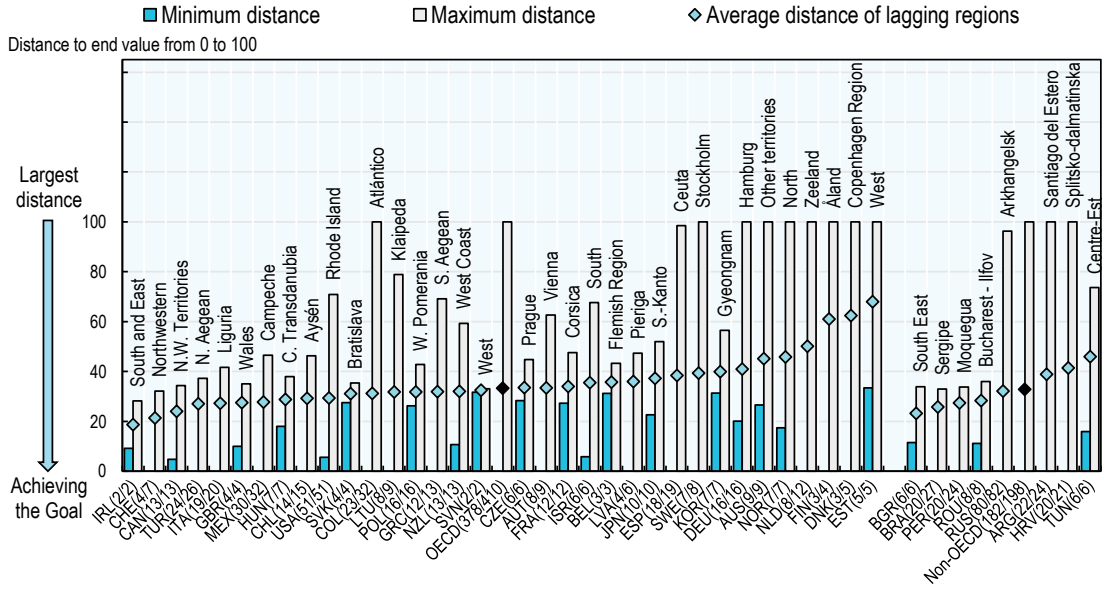
The SDG index for SDG 6 uses the indicator of change in water bodies (rivers, lakes or dams) from 1992 to 2015 (%) that captures the change in the availability of water supplies. SDG 6 acknowledges that the protection of water-related ecosystems is crucial for sustainable water supply management. Halting the loss in water bodies is thus fundamental to ensure the future availability of water resources. It is worth noting that this indicator captures very few of the essence of SDG 6, thus it should be used only as a starting point to advance on the measurement of sustainable management of water at the local level. Some efforts are being carried out at the OECD to collect indicators such as the percentage of the population connected to at least secondary wastewater treatment; however, the coverage in terms of regions is still low. For this reason, the latter indicator is included in the general indicator framework but not to build the index for SDG 6.

OECD regions still need to travel 33% of the road, on average, before securing SDG 6 related to clean water. Although 15 OECD countries out of 34 have at least one region that achieved the end value for this goal, more than 90% of the OECD regions have not met SDG 6 (Figure 3.11). Eleven regions of Finland, Denmark and Estonia are, on average, still more than 60% of the distance to achieve the goal of ensuring the preservation of water bodies. Besides, the Netherlands, Denmark, Finland and Sweden exhibit large within-country regional disparities in their distance towards the end value of this indicator. Four regions in the Netherlands, two in Denmark, one in Finland and one in Sweden have already met the intended outcome for this indicator, while the regions of Zeeland (the Netherlands), Copenhagen (Denmark), Åland (Finland) and Stockholm (Sweden) are still lagging largely behind with most of the distance ahead of them (i.e. presenting the highest decline in water bodies over the studied period).

Only 4% of OECD cities have achieved the suggested end value for SDG 6, which implies that they have not experienced any important decline in their water bodies in the last 20 years; yet, the remaining cities are relatively close to reaching this end value, as they stand only 28 points away from it. It is worth reminding that due to data availability this index only captures the change in water bodies, while it does not capture the availability and the quality of water that households can access or the water-use efficiency. Considering this, Figure 3.12 reveals that the cities of Turku (Finland), Stockholm (Sweden), Antwerp (Belgium) and Marbella (Spain) are among the less performing cities in this goal, as they all stand 100 percentage points away from the suggested end value. The largest within-country differences regarding changes in water bodies are found in Mexico and in the Southern European countries of Spain and Italy. Whereas the cities of Seville (Spain), Taranto (Italy) and Torreon (Mexico) are within the levels suggested by the end value, their counterpart cities of Marbella (Spain), Venice (Italy) and Tapachula (Mexico) belong to the cities experiencing the largest decline in water bodies among OECD cities.

Figure 3.11. Distance to travel for regions in SDG 6 for "Clean water"

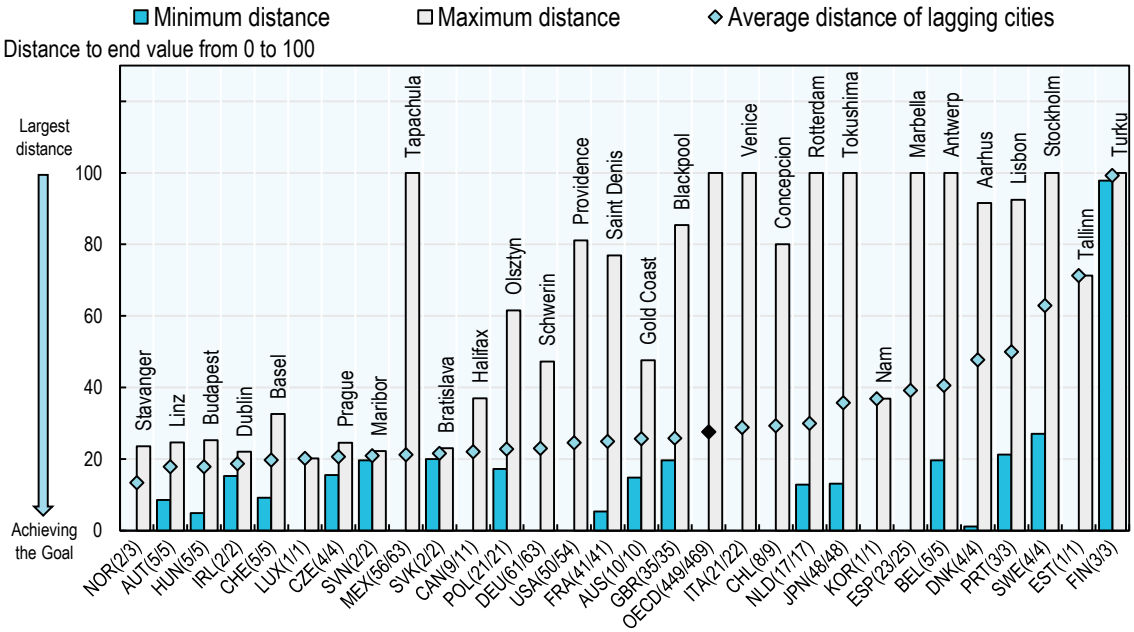
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

Figure 3.12. Distance to travel for cities in SDG 6 for "Clean water"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

SDG 7 for "Clean energy"

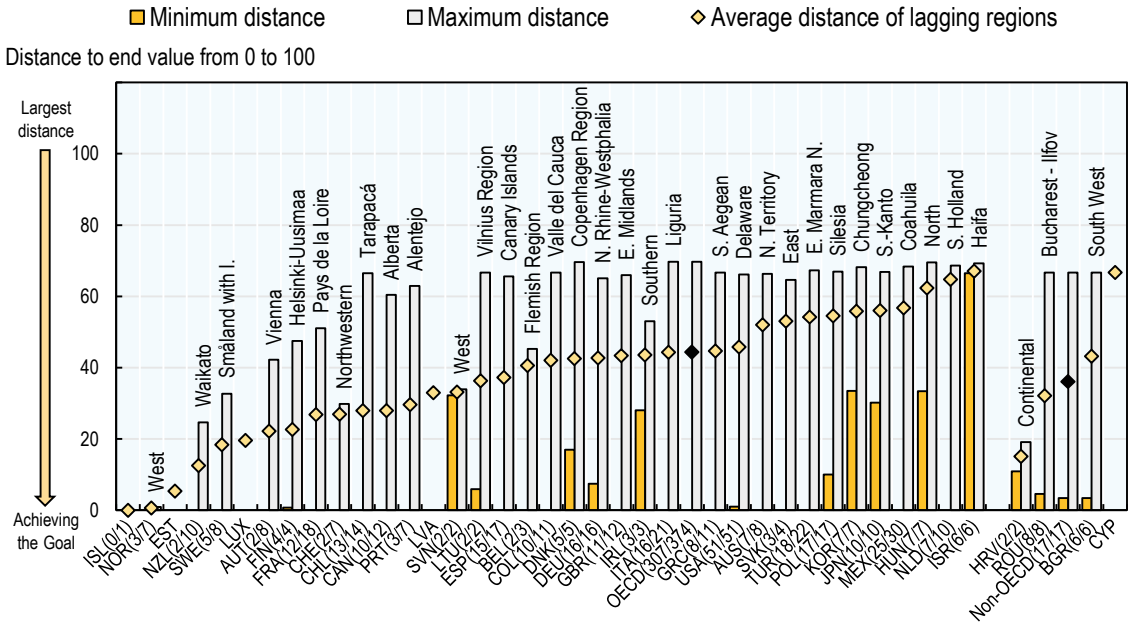
The index for SDG 7 about affordable and clean energy is measured by the combination of three indicators related to the sources for the production of electricity. More precisely, the indicators are defined as the percentage of total electricity production that comes from renewable sources, the percentage coming from coal and the percentage coming from fossil fuels (i.e. natural gas and oil, excluding coal). Since these indicators are modelled using the Global Database of Power Plants (see Byers et al., 2019), these measures are available for both regions and cities. While the end value for the percentage of electricity that comes from renewable sources is based on the best performance of OECD regions or cities, the end values for the percentage of electricity coming from coal and fossil fuels is set to zero for 2030 based on global objectives for the climate, such as the Paris Agreement.

With at least 82% of their electricity production coming from renewable sources and none of their electricity coming from coal or fossil fuels, 18% of OECD regions have achieved SDG 7 on clean energy. Figure 3.13 shows that 21 out of 39 countries have at least one region that has achieved the proposed end value on SDG 7. More than half of the regions in Iceland, New Zealand, Austria, Switzerland, Portugal and Norway have achieved a percentage of electricity production coming from renewable sources above the 83% and 0% production coming from coal or fossil fuels. On the other hand, the average distance of the lagging OECD regions is of 44 percentage points. While the regions of Liguria (Italy) and S. Holland (the Netherlands) are facing a distance of almost 70 percentage points towards the end values, their peer regions of Trento (Italy) and Utrecht (the Netherlands) are already delivering the expected outcomes.

Out of the 546 OECD cities that generate electricity, 166 are already producing more than 81% of their electricity using renewable sources and do not use coal or fossil fuels for this purpose, and thus comply with the suggested end values for SDG 7. Nevertheless, around 70% of OECD cities have not yet achieved the goal and still have to travel half the way before producing their electricity using clean energy sources. Among the cities with a combination of low shares of renewables and a large share of coal and fossil fuels for their electricity production are Jackson (MO, United States), Edmonton (Canada) and Kiel (Germany) (Figure 3.14). On the contrary, around 75% of the cities in France, Austria, Switzerland and Norway have already met the expected end values for SDG 7. In Austria, Switzerland and Norway, the cities that are still lagging behind, such as Vienna (Austria), Bern (Switzerland) and Bergen (Norway) have less than one-third of the way to travel before meeting the suggested outcomes.

Figure 3.13. Distance to travel for regions in SDG 7 for "Clean energy"

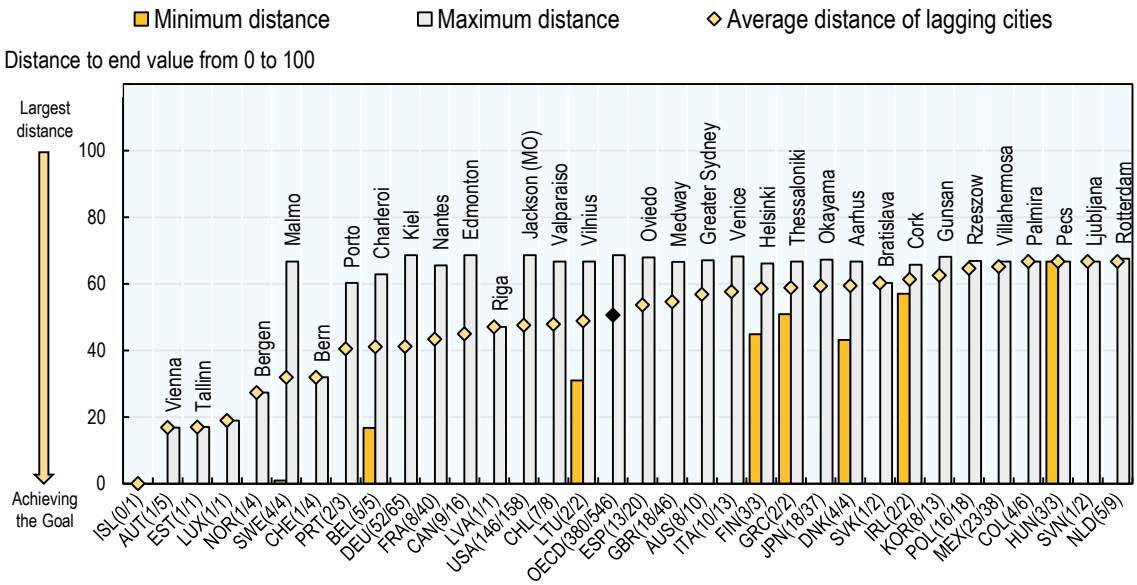
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: Elaboration based on Byers, L., et al. (2019), "A Global Database of Power Plants", https://www.wri.org/publication/global-power-plant-database.

Figure 3.14. Distance to travel for cities in SDG 7 for "Clean energy"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: Elaboration based on Byers, L., et al. (2019), "A Global Database of Power Plants", https://www.wri.org/publication/global-power-plant-database.

SDG 8 for "Decent work"

The OECD index for SDG 8 related to decent work and economic growth employs the indicators of the annual growth rate of real gross value added (GVA) per worker, the unemployment rate and the youth unemployment rate. The first indicator measures workers' productivity at the subnational level. However, beyond economic growth, SDG 8 also highlights the necessity to ensure decent work conditions for all in order to eradicate all kinds of deprivations. The second and third indicators both refer to this aspect. The indicator of youth unemployment also captures the core challenge raised by SDG 8 about the integration of the youth in the labour market. Whereas these three indicators compose the index for SDG 8 in regions, only the indicators of modelled gross domestic product (GDP) per worker (instead of GVA per worker) and the unemployment rate are currently available to build the index for SDG 8 in cities.

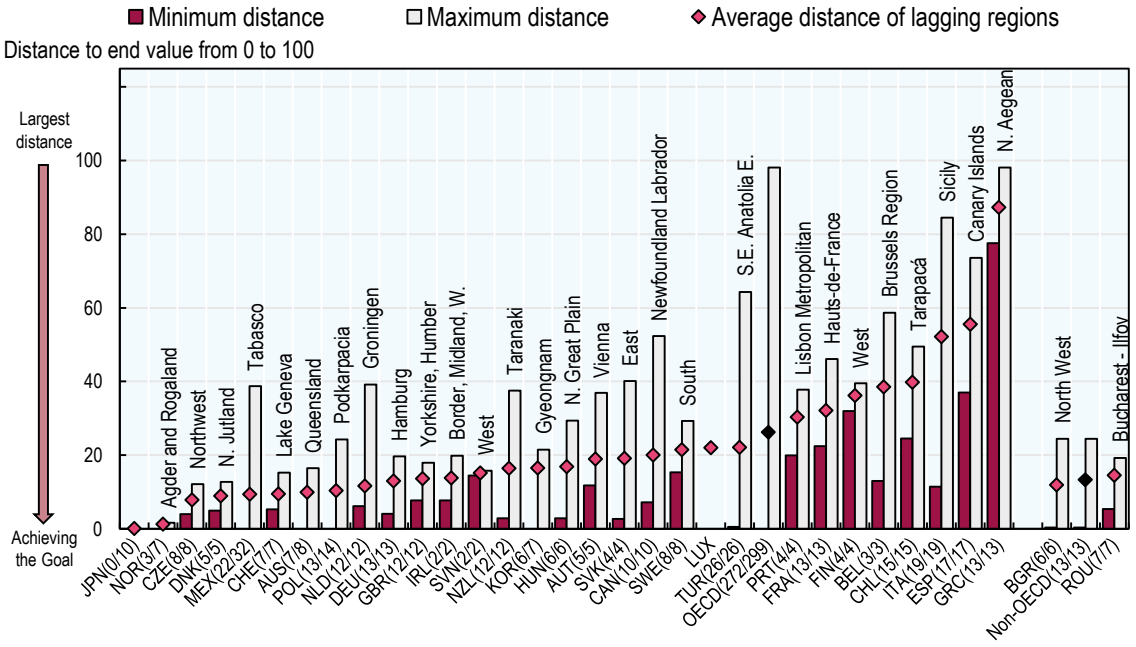
Despite persistent within-country inequalities, most OECD regions are on track to meet the end values for 2030 in SDG 8. Although more than 90% of OECD regions have not yet achieved SDG 8, the average distance they must travel represents less than 26% the maximum possible distance to the goal (Figure 3.15). Nevertheless, important inequalities in this goal are present across the OECD area. While the regions of Japan have already achieved the end value for 2030, the regions of the Southern European countries of Italy, Spain and Greece stand more than half way from the goal, on average.

Around 17% of OECD cities (62 out of the 359) have met SDG 8's end values of an annual growth rate of GDP per worker superior to 2% and an unemployment rate inferior to 6% for the working-age population. While lagging OECD cities have to travel on average 34 percentage points before meeting the end values for SDG 8, all cities of the Southern European countries of Greece, Italy and Spain are still two-thirds of the way from achieving this goal. In these countries, the best performing cities still display higher distances than the average of the lagging OECD cities. For instance, the cities of Bologna in Italy and Donostia-San Sebastian in Spain are 44 and 52 percentage points away from the end values respectively (Figure 3.16).

Mexico and Italy are the countries with the largest within-country city disparities regarding the attainment of SDG 8, with respective gaps of 55 and 56 percentage points between the best and the worst-performing cities. In Mexico, while the most distant city (Villahermosa or Centro) is halfway to the goal, almost 50% of its peer Mexican cities already achieved the end values for 2030. On the contrary, in Italy, the best performing city is still 44 points away from the end values and some of its Italian peer cities are still facing the maximum possible distance to the goal.

Figure 3.15. Distance to travel for regions in SDG 8 for "Decent work"

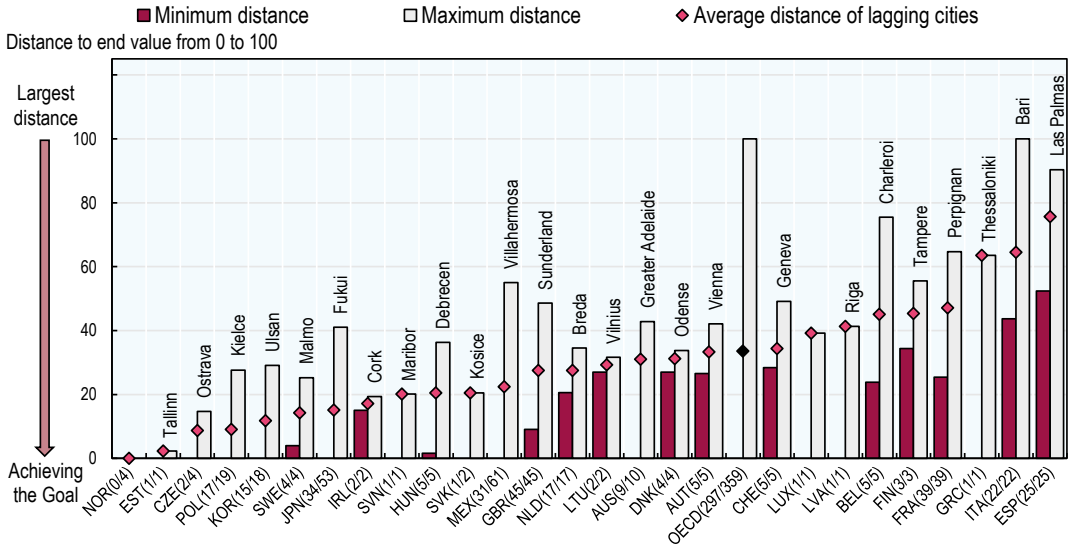
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.16. Distance to travel for cities in SDG 8 for "Decent work"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: The unemployment rate refers to the population aged 15 years or older except for Australia, Mexico and the United Kingdom where it refers to the population aged 15-64. Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en.

SDG 9 for "Industry and innovation"

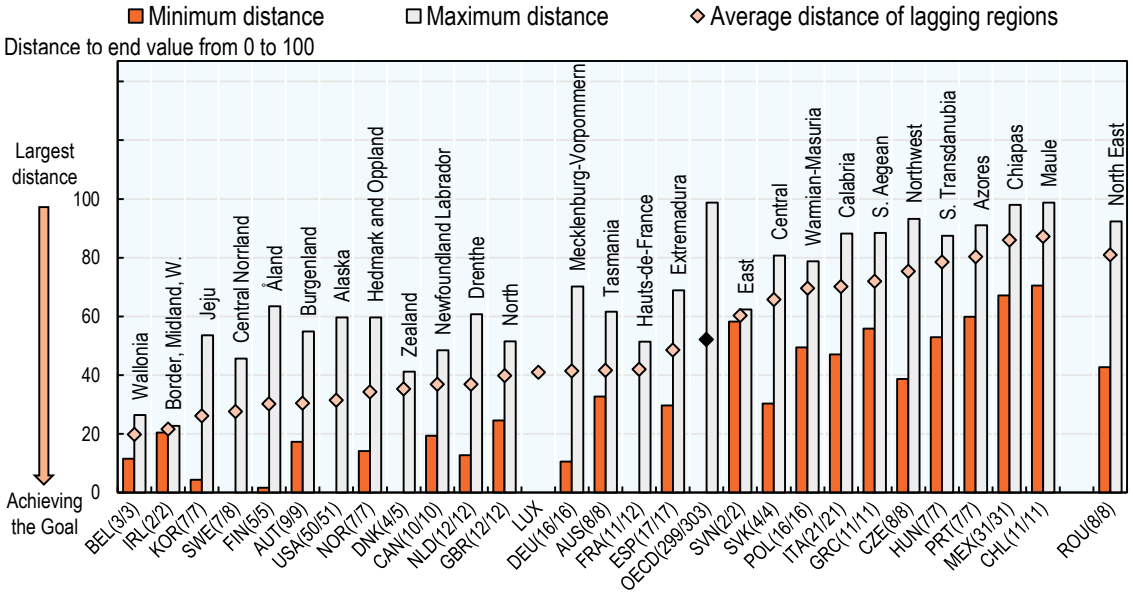
The OECD index that evaluates the distance of OECD regions to SDG 9 about industry and innovation integrates the indicators of productivity in manufacture, the percentage of the labour force with at least tertiary education and of the patent applications (PCT) per 1 000 000 people. SDG 9 recognises the key role of innovation in industries to favour sustainable development. While these three indicators are available to construct the composite index for regions, only the patents application rate per 1 000 000 people is available for cities.

Only 4 OECD regions, out of 303, have reached the end values set for SDG 9 about industry and innovation. Figure 3.17 shows that while only 1% of the OECD regions have met the suggested outcomes for SDG 9, lagging OECD regions are still halfway to the goal, as the average distance they still need to travel is of 52 points on the index scale. The regions that have already attained the end values in this goal are Stockholm (Sweden), Copenhagen (Denmark), Massachusetts (United States) and Ile-de-France (France). While Chungcheong (Korea) and Helsinki-Uusimaa (Finland) are the closest regions to the end value among all the OECD regions that have not achieved the expected outcomes, the regions of Jeju (Korea) and Åland (Finland) still have to travel more than 54 percentage points before meeting the suggested end values for SDG 9.

Around 46 out of 542 OECD cities have reached the end value for SDG 9 of at least 779 patents per 1 000 000 persons, of which 80% are cities located in Germany and in the United States. Figure 3.18 shows that the cities that have not met the end value for this goal are on average 78 points away from reaching a level of 779 patents per 1 000 000 people. While most of the cities of Chile, Mexico and the Slovak Republic are still at the maximum distance to the end value in this indicator (i.e. 100 points away), other countries present greater disparities across cities. For instance, the cities of Jeju in Korea, Washtenaw in the United States and Grenoble in France are among the best performers in this goal as they have already met the end value, whereas their respective peers of Heungdeok, Hidalgo and Dunkerque are still around 100 points away to the end value (on a scale from 0 to 100).

Figure 3.17. Distance to travel for regions in SDG 9 for "Industry and innovation"

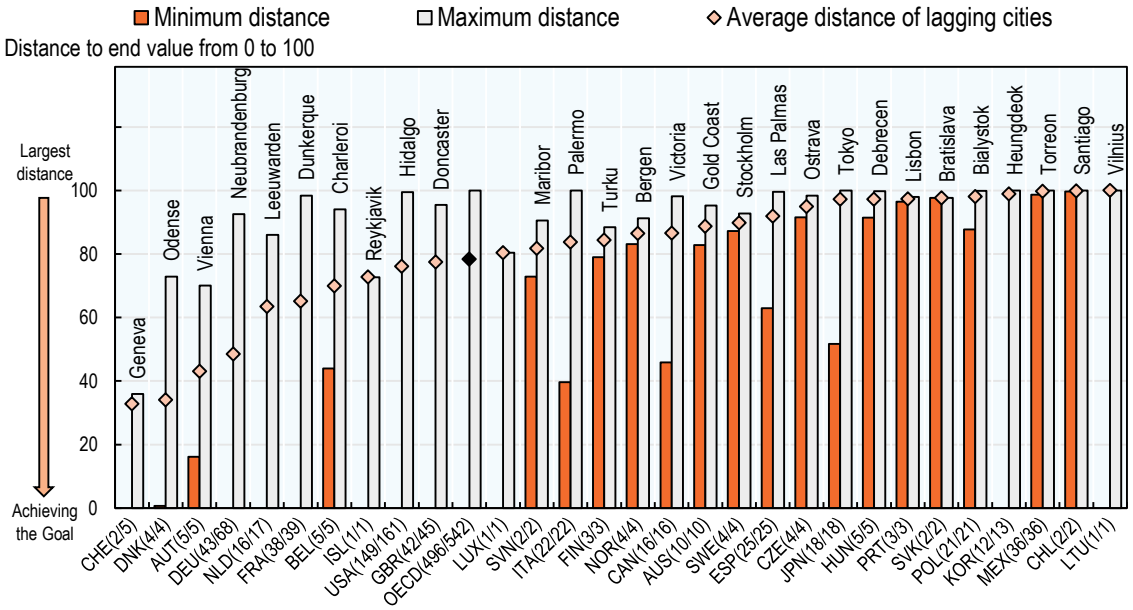
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.18. Distance to travel for cities in SDG 9 for "Industry and innovation"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en.

SDG 10 for "Reduced inequalities"

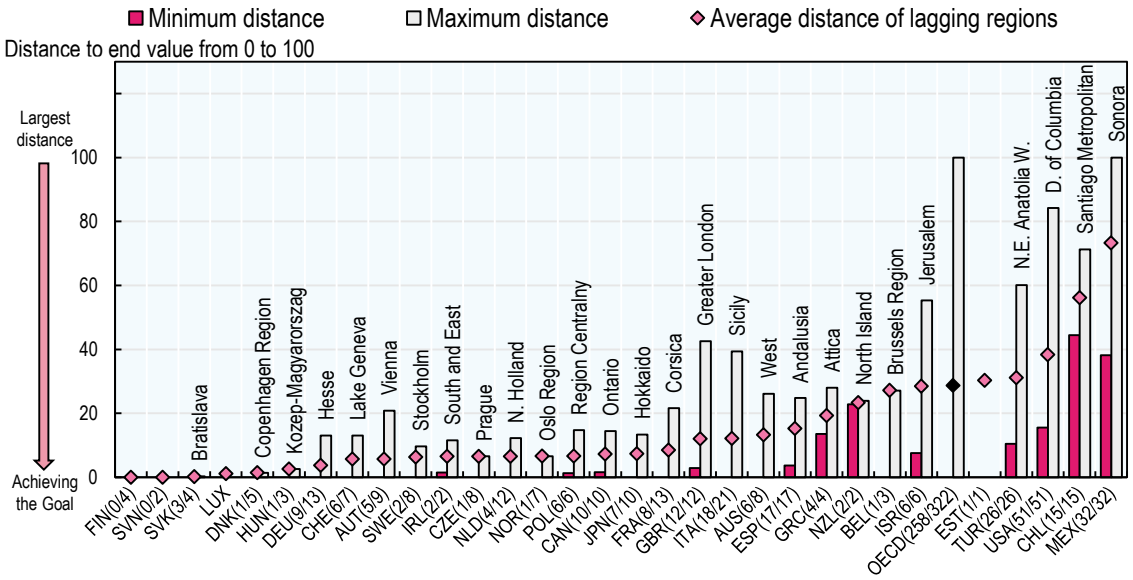
The Gini coefficient of disposable income (after taxes and transfers) and the ratio between the average disposable income of the top and the bottom quintiles constitute the index to measure the distance to SDG 10 on reducing inequalities. These indicators complement each other to capture different aspects of inequality. For example, while the Gini index is more sensitive to changes in the middle of the distribution, the inter-quintile ratio captures changes in the extremes of the income distribution. Both indicators focus on inequality in income after redistribution, which is one of the main OECD issues due to the rising inequality in disposable income in OECD countries in the last 30 years (see OECD, 2015). Whereas these two indicators are available for regions (see Piacentini, 2014), only the Gini coefficient (see OECD, 2016b) is currently available to create the index of SDG 10 for cities.

SDG 10 on reduced inequalities has been achieved in around 20% of the OECD regions, and 17 out of 31 countries have at least one region that has met the end values for this goal. The distance of lagging OECD regions to SDG 10 is, on average, of 29 points. Figure 3.19 reveals that the distance to the goal of the regions of Finland, Slovenia, the Slovak Republic, Luxemburg and Denmark is below the 2 percentage points, whereas 15% of OECD regions – represented by all the regions of Chile and Mexico – still have, on average, 65% of the road to travel. Within countries, regional differences can be stark. For example, in the United States, Utah stands only 16 points away from the end values suggested for 2030, while the District of Columbia is facing a distance of 84 points towards SDG 10, due to a Gini coefficient of 0.46 and the richest 20% of households having incomes 16 times larger than the poorest 20% of households.

Only 20 out of 143 OECD cities have achieved a level of inequality in terms of the Gini coefficient of disposable income lower than 0.29, the end value set for this indicator at the city level. For the remaining 86% of cities, that have not achieved this end value, the average distance to travel before reaching this level of equality in disposable income is of 57 points in terms of the normalised index. While all the cities of Norway and Austria and almost all the cities of France – but Paris – have already met the end value, the cities of the United States and Portugal are among the most distant from the goal – the average distance they still have to travel is superior to the OECD value by more than 8 and 21 percentage points respectively. The largest within-countries disparities in income inequalities are found in Canada and in the United States. In Canada, while the city of Sherbrooke is only 9 percentage points away from the end value with a Gini index of 0.3 points, the city of Calgary still has to travel the maximum distance compared to the other OECD cities, since its Gini coefficient almost reaches a level of 0.45. In the United States, the greatest disparities in income inequality appear between the city of Lancaster (PA) with a Gini of 0.32 and New Haven with a Gini of 0.43, at 20 and 100 percentage points distance (in terms of the normalised index) from the end value respectively (Figure 3.20).

Figure 3.19. Distance to travel for regions in SDG 10 for "Reduced inequalities"

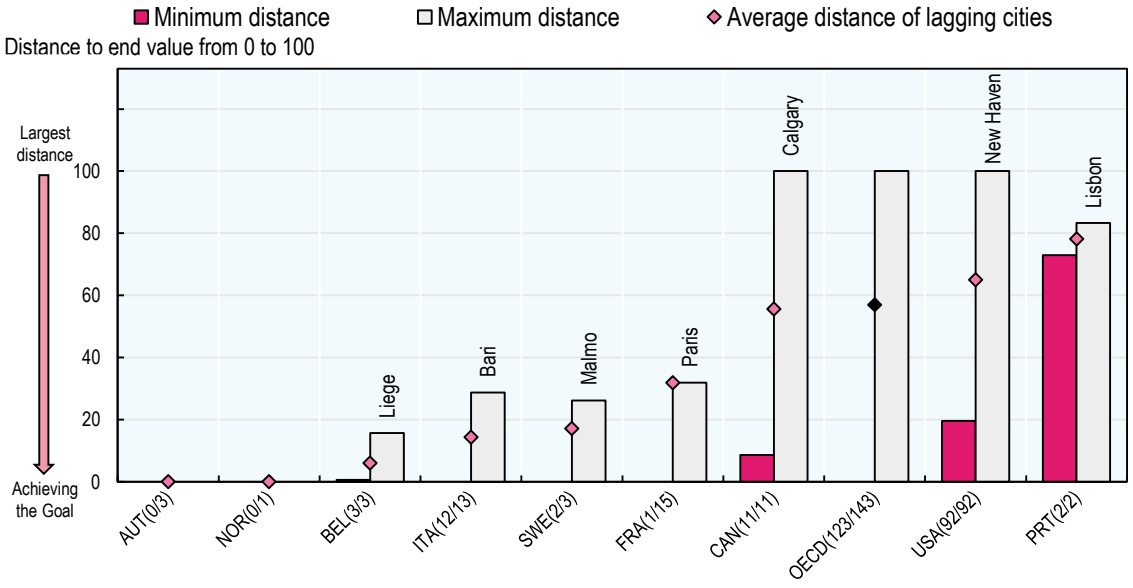
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.20. Distance to travel for cities in SDG 10 for "Reduced inequalities"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en.

SDG 11 for "Sustainable cities"

The index for SDG 11 on sustainable cities combines two indicators, one on environmental quality and one on sustainable urbanisation, namely the average exposure to particulate matter 2.5 (PM2.5) and the difference between land consumption rate and population growth rate. While the UN framework defines the SDG indicator 11.3.1 as the "Ratio of land consumption rate to population growth rate", the OECD localised framework prefers the use of the simple difference between land consumption and population growth rates, as this indicator is less sensitive to cases where population growth is close to zero. Given that these indicators come from open and new sources of data, such as satellite imagery for air pollution (see Van Donkelaar et al., 2016) and the global population and built-up area grids from the Global Human Settlement Layer (GHSL), the two indicators are available for both regions and cities. While the indicators coverage for SDG 11 is relatively good at the subnational level (even if only two indicators are used for this index), more work is needed in certain areas such as the measurement of adequate housing (e.g. homelessness and slums, Target 11.1) and disaster risk in cities and human settlements (Target 11.b).

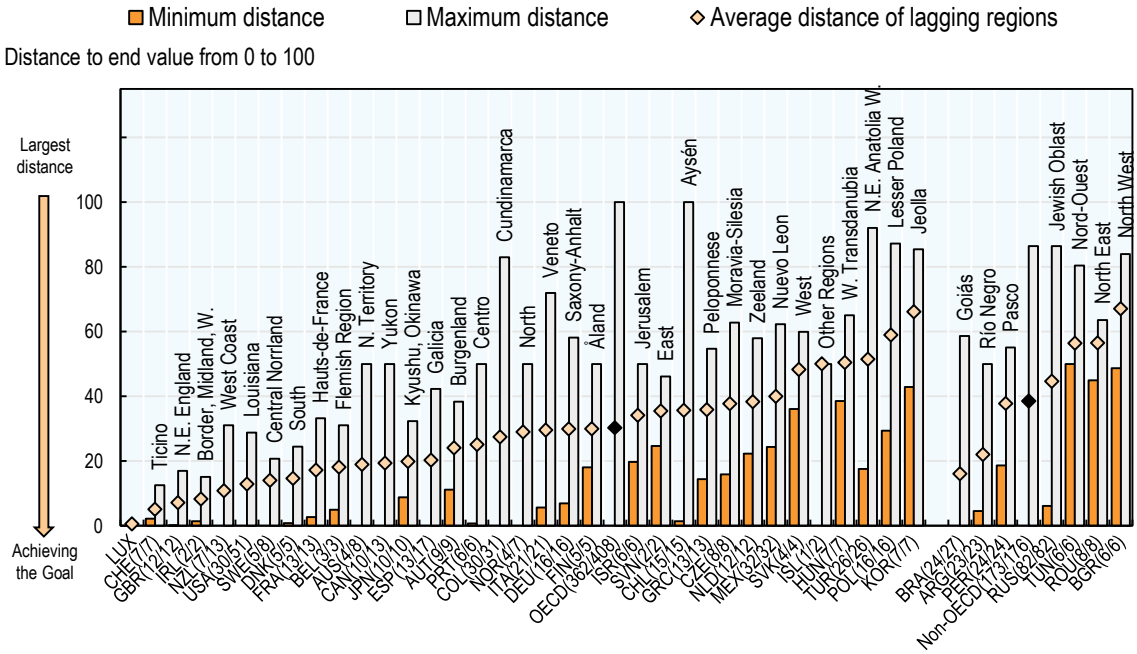
It is worth noting that the end values for these two indicators were not set based on the performance of the best regions or cities but on experts' recommendations or knowledge. For example, the end value for exposure to air pollution was set at 10 or less micrograms per cubic metre, based on the recommendations of the World Health Organization (WHO, 2006). On the other hand, the end value for the gap between land consumption rate and population growth rate was established at zero, suggesting that to achieve sustainable urbanisation in the long term, the built-up area rate should follow the growth path of the population – this goes in line with previous general OECD recommendations for gradual densification (see OECD, 2017b). However, it is important to highlight that setting the end value for the latter indicator is quite sensitive and different urbanisation patterns in different areas of the world could benefit from different end values in the short term. Given the urbanisation patterns of OECD countries, where built-up area seems to be growing faster than population, an end value that calls for a balanced growth path between land consumption and the population was deemed appropriate for this exercise.

Although only 11% of OECD regions have achieved the end values for SDG 11, 26% of OECD countries have at least one region that has met the expected objectives. Lagging regions across the OECD stand 30 points away on average from the end values. Chile, Colombia and Turkey are among the most unequal countries in terms of regions having achieved the goal. For example, while Antofagasta (Chile) has achieved it and Cauca (Colombia) and Thrace (Turkey) are close to the end values with an average distance below the 18 points, Aysén (Chile), Cundinamarca (Colombia) and Northeast Anatolia W. (Turkey) are as far as 74 points from the end values of SDG 11 (Figure 3.21).

Compared to regions, cities are performing better in the indicators of SDG 11. Out of 637 cities, 110 (17%) have achieved the end values of both exposure to air pollution lower than 10 $\mu g/m^3$ and an equal growth rate in land consumption and population. The average distance for the lagging cities towards the goal is of 28 points (from 0 to 100), very similar to the distance faced by lagging regions. One of the largest within-country inequalities in this composite index is observed in Poland, between Olsztyn (best performing Polish city) and Cracow (Figure 3.22).

Figure 3.21. Distance to travel for regions in SDG 11 for "Sustainable cities"

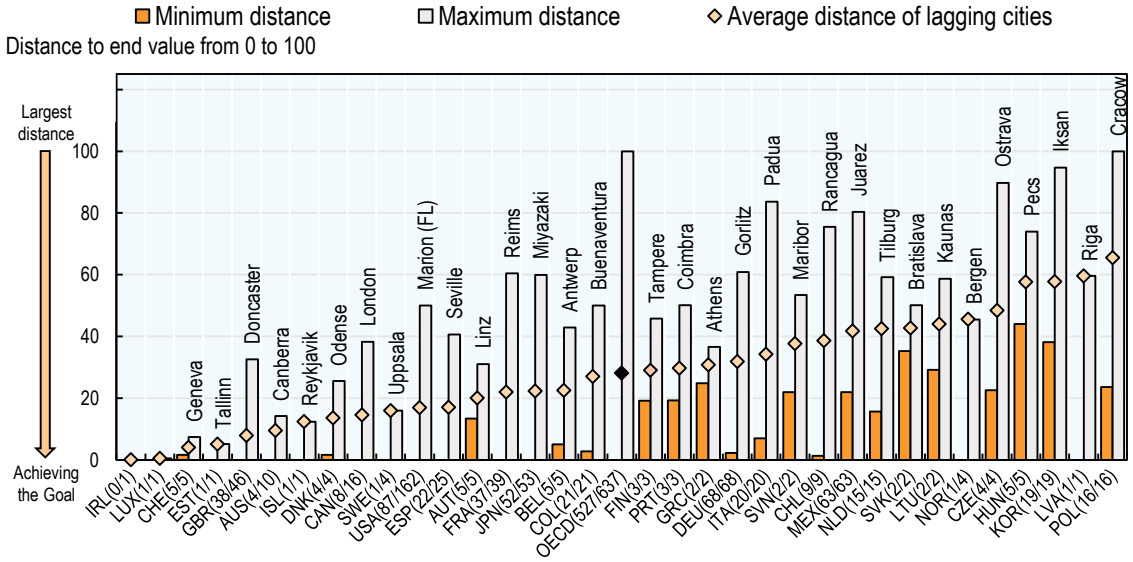
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Sources: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en; OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

Figure 3.22. Distance to travel for cities in SDG 11 for "Sustainable cities"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Sources: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en; OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

SDG 12 for "Responsible consumption"

The index for SDG 12 about sustainable consumption and production systems incorporates the indicators of municipal waste rate and the number of motor road vehicles per 100 people. SDG 12 emphasises the urgent need to disconnect economic growth from intensive resource use in order to reduce the human negative impact on the planet. Both indicators relate to consumers' and producers' material footprint, which should be reduced as much as possible to protect natural resources and to limit pollution. The number of motor road vehicles also relates to the use of fossil fuels, which is one of the major issues of resource utilisation in developed countries. While these two indicators are used to calculate the index for SDG 12 in regions, only the indicator linked to motor vehicles per 100 people is available for cities.

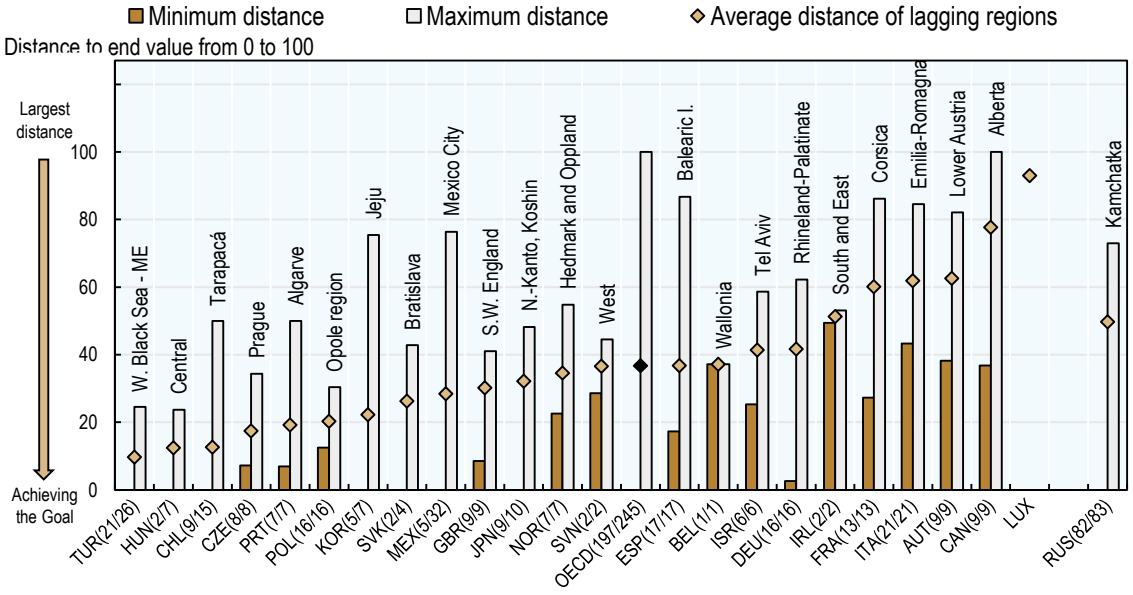
While the municipal waste rate and motor road vehicles are proxies to help monitor SDG 12, improving the measurement of this goal requires further refinements. For example, through the Working Party on Territorial Indicators, the OECD has started the collection of SDGs indicators for SDG 12, such as the percentage of municipal waste that is recycled and the use of electric vehicles as a percentage of total vehicles. Besides these efforts, the indicators suggested in this framework do not capture other relevant elements of SDG 12. Among the main points that require future statistical work are the indicators related to the material footprint and domestic consumption (Target 12.2), food loss (Target 12.3) and hazardous waste per capita (Target 12.4).

OECD regions should increase their commitment to reduce waste and promote both sustainable consumption and production patterns since only around 20% of OECD regions have achieved the end values of SDG 12. Figure 3.23 reveals that OECD regions still have to travel almost 40 points on average before achieving the end values suggested for SDG 12 based on the best performing OECD regions – i.e. a municipal waste rate lower than 366 kilos per capita and a share of motor vehicles lower than 34% of the population. The regions that already completed the end values belong to Mexico, Hungary, the Slovak Republic, Chile, Korea, Turkey and Japan. In these countries, the regions that have not achieved SDG 12 are, on average, 21 percentage points away from the goal. On the other hand, Canada, Spain, France and Italy host the regions with the largest distances from the end value across all OECD regions, namely Alberta (Canada), the Balearic Islands (Spain), Corsica (France) and Emilia-Romagna (Italy), which share an average distance of 90 points out of 100.

In 212 out of 227 OECD cities, the number of motor vehicles represents at least one-third of the total population in the city. In cities, similar to regions, the end value for the number of vehicles per 100 people is set at 36% or lower. While the largest cities of Estonia, Latvia and Sweden display levels of vehicle ownership below one-third of their total population, all the cities of Spain, Slovenia, Belgium, Switzerland, France and Italy have more motor vehicles than 36% of their city population. The largest within-country inequalities in this indicator are in France and in the United Kingdom. Whereas Pau (France) and Southampton (United Kingdom) are facing the largest distance to achieve the end value, the city of Saint-Denis is 3 percentage points away from reaching the end value and London has already achieved it (Figure 3.24).

Figure 3.23. Distance to travel for regions in SDG 12 for "Responsible consumption"

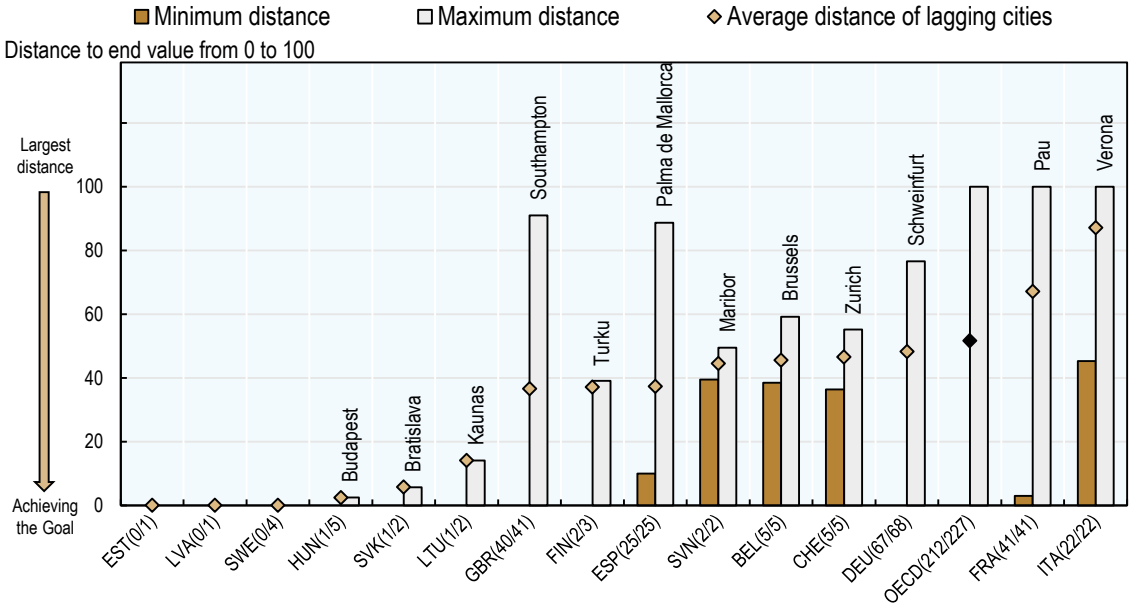
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.24. Distance to travel for cities in SDG 12 for "Responsible consumption"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: Elaboration based on Eurostat (2019), *Functional Urban Areas (database)*, https://ec.europa.eu/eurostat/web/cities/data/database.

SDG 13 for "Climate action"

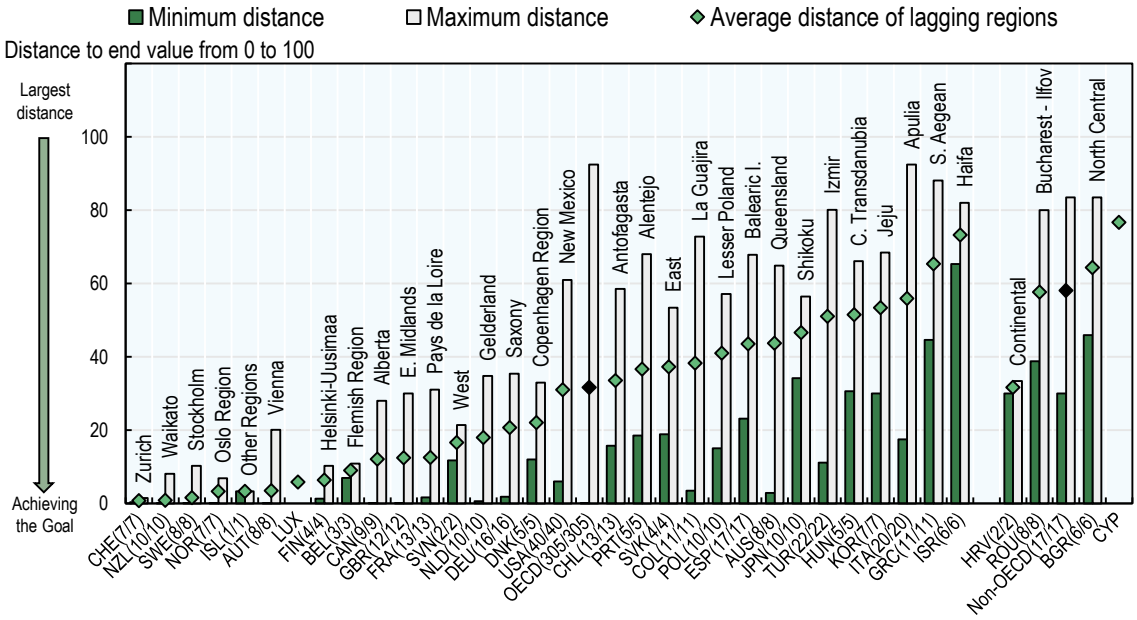
The indexes for SDG 13 use the indicators of CO2 emissions per electricity production, the change in cooling degree days in the last 30 years and the percentage of the population satisfied with efforts to preserve the environment. While the latter indicator reflects the general opinion about the intensity of the action taken for the environment and the climate, the first two indicators capture a core element of SDG 13 that is the reduction of greenhouse gases emissions and the fight against global warming. Cooling degree days indicators are widely used to estimate the energy consumption for cooling buildings (see Moustris et al., 2015) and to assess the impact of climate change on energy demand (see European Environment Agency, 2019). While the indicators of CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours) and the change in cooling degree days (from 1970-84 to 2004-18, needed to maintain an average building indoor temperature of 22 degree Celsius) are available for both regions and cities, the indicator of satisfaction with the action to preserve the environment is only available for regions.

None of the OECD regions has achieved the suggested end values for SDG 13 on climate action but they stand, on average, one-third of the way from accomplishing the suggested outcomes. Figure 3.25 reveals that on average, OECD regions are 32 points away to SDG 13's end values (on a maximum distance of 100). Meeting the end values for SDG 13 implies reaching a level of CO2 emissions per electricity production lower than 90 tons of CO2 equivalent per gigawatt-hour, jointly with displaying a zero increase in the demand for energy to cool buildings (i.e. cooling degree days) and at least 62% of the population satisfied with efforts to preserve the environment. The regions of Apulia (Italy) and S. Aegean (Greece) are the OECD regions with the largest distance to SDG 13 – close to the maximal distance of 100. While all regions of Greece stand far from the goal (at an average 65 points), Italy, Colombia and Turkey are the countries with the greatest disparities in the achievement of the SDG. The regions of Bolzano-Bozen (Italy), Caldas (Colombia) and Eastern Black Sea (Turkey) display the best performances with an average distance inferior to 18 percentage points, whereas Apulia (Italy), La Guajira (Colombia) and Izmir (Turkey) are lagging behind with an average distance close to the 82 points. In the case of Italy, the Apulia region emits 26 times more tons of CO2 per gigawatt-hour of electricity produced than the best performing Italian regions, has increased its demand for cooling by 177 degree days in the last three decades and reveals a satisfaction with the efforts to preserve the environment below the 30%.

Around 98% of OECD cities have not achieved the end values of less than 111 tons of CO2 equivalent per gigawatt hours and a null increase in the demand of energy to cool buildings, measured as cooling degree days. What is more, the average distance of these cities towards the goal is 28 points on a scale from 0 to 100. Figure 3.26 shows that while some cities in the United Kingdom, Mexico, the United States, Colombia and Iceland have achieved the suggested end values for SDG 13, none of the cities of the remaining 28 countries with available data has reached the expected results for CO2 emissions per electricity production and the change in cooling degree days. In particular, Mexico, Colombia and the United States show the largest within-country differences in the distance towards these end values. The cities of La Paz (Mexico), Cartagena (Colombia) and El Paso (TX, United States) display a distance of more than 78 points, whereas their peer cities of Uruapan (Mexico), Bucaramanga (Colombia) and Scott (United States) already comply with the suggested end values for SDG 13.

Figure 3.25. Distance to travel for regions in SDG 13 for "Climate action"

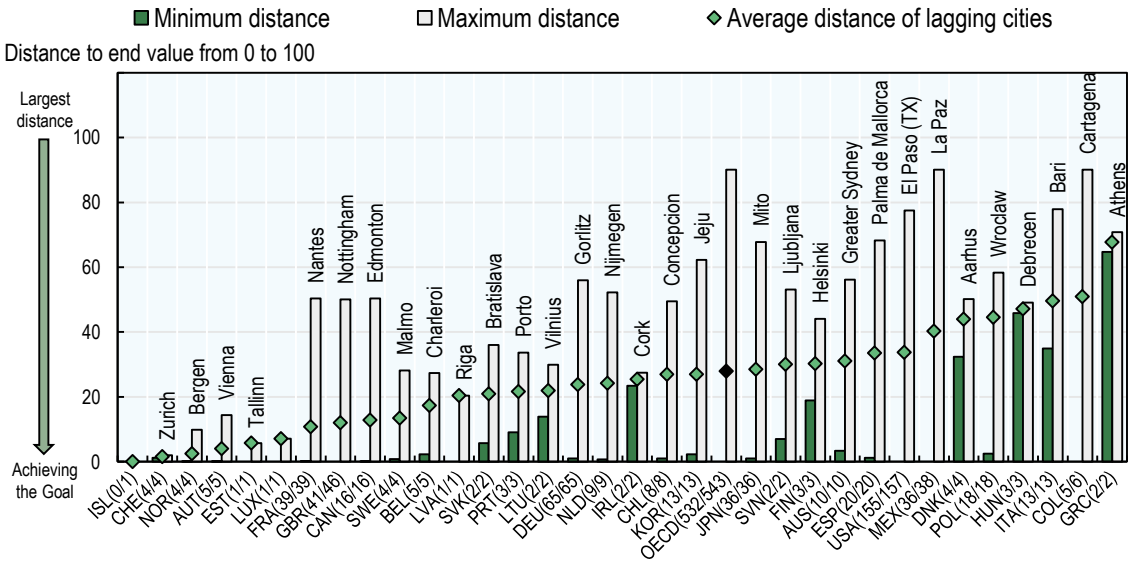
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Sources: Elaboration based on Byers, L., et al. (2019), "A Global Database of Power Plants", https://www.wri.org/publication/global-power-plant-database; Mistry (2019), "Historical global-gridded degree-days: A high-spatial-resolution database of CDD and HDD", https://doi.org/10.1002/gdj3.83; and Gallup World Poll (2019), *Gallup World Poll (database)*, www.gallup.com/services/170945/world-poll.aspx.

Figure 3.26. Distance to travel for cities in SDG 13 for "Climate action"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Sources: Elaboration based on Byers, L., et al. (2019), "A Global Database of Power Plants", https://www.wri.org/publication/global-power-plant-database; and Mistry (2019), "Historical global-gridded degree-days: A high-spatial-resolution database of CDD and HDD", https://doi.org/10.1002/gdj3.83.

SDG 14 for "Life below water"

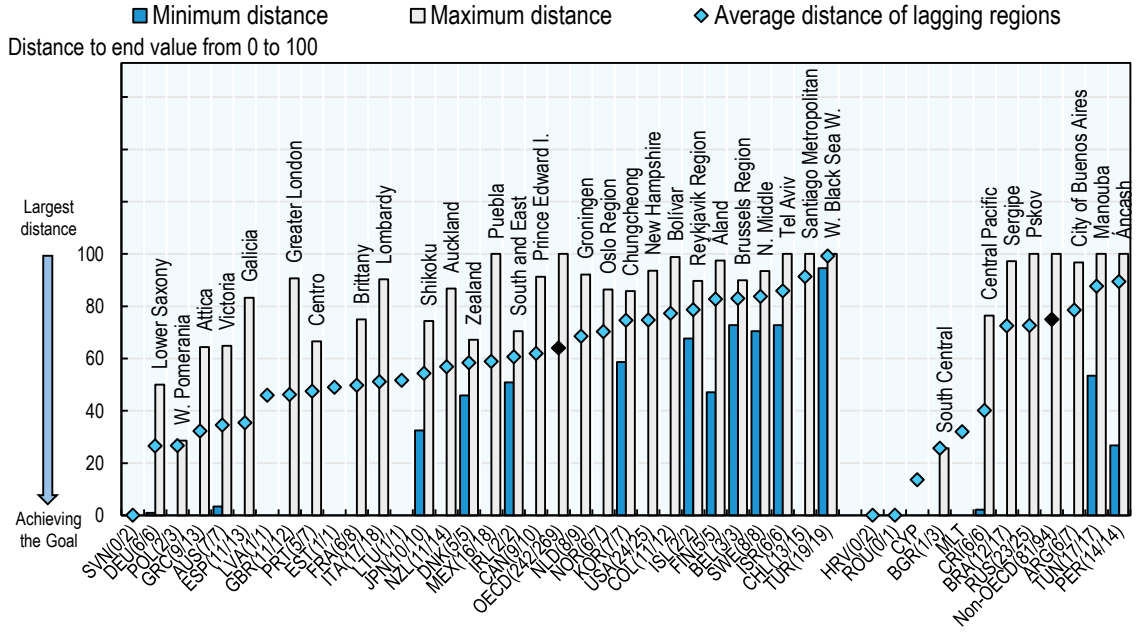
SDG 14 is one of the most challenging SDGs to measure at the local level. The index for SDG 14 about life below water is composed of the indicator of coastal protected areas as a percentage of the total coastal area (it only applies to the coastal regions and cities). The 2030 Agenda has encouraged the OECD to look for new sources of data and methods to help national and subnational governments on the measurement of the SDGs. By applying geospatial analysis techniques to the World Database on Protected Areas (WDPA), it was possible to model both the share of coastal areas of a region or city and the share of that coastal area that is protected according to the WDPA (see Mackie et al., 2017). It is worth noting that going beyond administrative boundaries, the coastal area is here defined as the overlap between the regional or city area and a buffer of 50 km from the coastline (this can include the area of regions or cities without a coastline but within 50 km from it). While the indicators of protected coastal areas are a starting point to monitor SDG 14 at the subnational level, more efforts are needed to fill the data gaps in crucial elements of SDG 14 such as marine pollution (for example through plastics debris, Target 14.1) and for sustainable fishing (Target 14.4).

Only 10% of all OECD coastal regions have achieved the end value for SDG 14 of having protected at least 46% of the total coastal area, while the 237 OECD remaining regions are still two-thirds of the way to meeting this goal. In the OECD, all the regions of Slovenia have achieved this end value as the East region and the West region protect 87% and 58% of their respective coastal area, whereas most coastal regions of Turkey (19) are still away from the goal by more than 95 percentage points with respect to the normalised end value. Large disparities in the achievement of the end value also prevail within countries. The largest inequalities are observed in Chile and in Mexico, where some regions such as Magallanes y Ant. (Chile) and Baja California S. (Mexico) reached the expected end value by protecting more than 42.4% of their coastal areas, while some of the regions in these countries display a share of protected coastal areas around the 0% (Figure 3.27).

Only 37 out of 318 OECD coastal cities have achieved the end value for SDG 14, of which 46% are cities from Spain, the United Kingdom and France. The remaining cities are lagging behind and still have more than two-thirds of the way to go before meeting the end value in this indicator. It should be noted that on the basis of the best performing cities, the end value for the indicator of coastal protected areas was set at 37% for coastal cities (different than for coastal regions). The cities that are the furthest away from the end value are located in Finland and Colombia, which are on average 89 and 95 points away from the end value respectively. The largest inequalities within countries are observed in Colombia, Mexico, Korea, the United States and France. In Colombia, the city of Santa Marta already reached the end value for this goal since the city protects 51% of its coastal area, whereas Sincelejo still has 100 percentage points to travel before reaching the 37% of protected coastal areas. On the other hand, although Finland and Sweden are the countries with the lowest disparities between cities in terms of protection of coastal areas, they do not perform well in this dimension as none of their cities has reached the expected end value. In Finland, even though Helsinki is the best performing city, it still has more than 88 points to travel to meet the goal as only 5% of its coastal areas is protected (Figure 3.28).

Figure 3.27. Distance to travel for regions in SDG 14 for "Life below water"

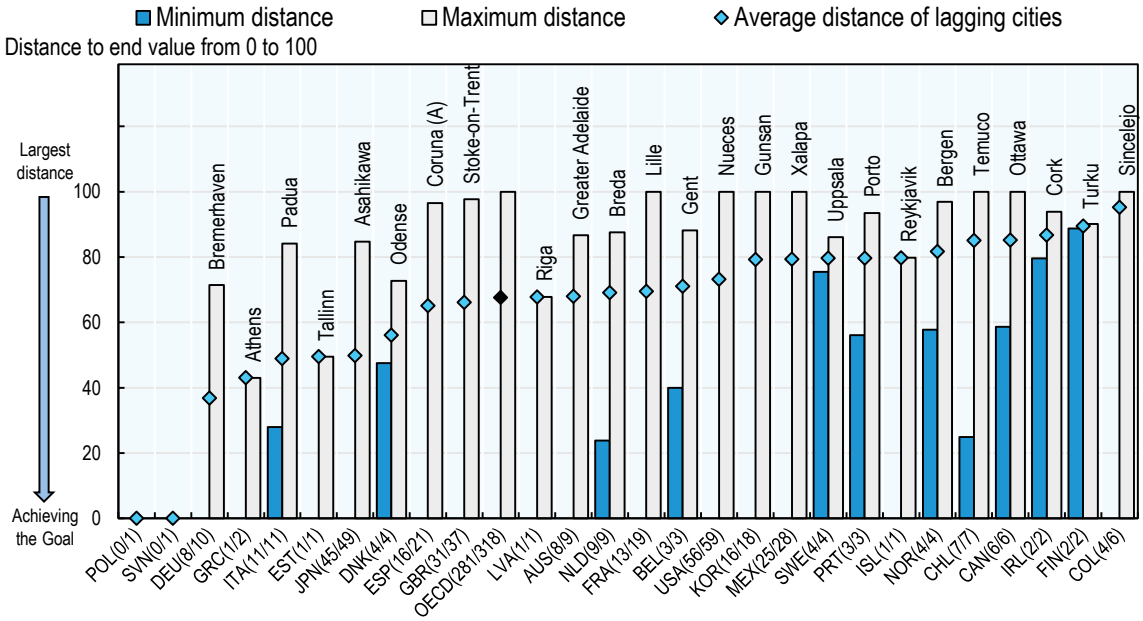
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Source: Elaboration based on IUCN/UNEP-WCMC (2019), *The World Database on Protected Areas (WDPA)*, http://www.protectedplanet.net.

Figure 3.28. Distance to travel for cities in SDG 14 for "Life below water"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: Elaboration based on IUCN/UNEP-WCMC (2019), *The World Database on Protected Areas (WDPA)*, http://www.protectedplanet.net.

SDG 15 for "Life on land"

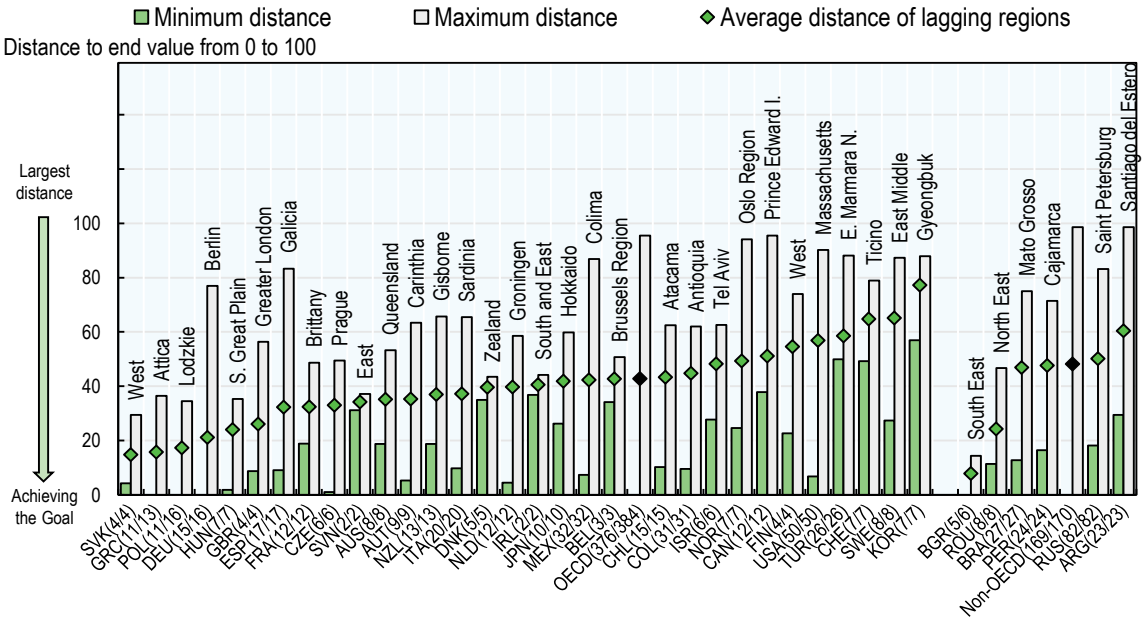
The index for SDG 15 about life on land combines the indicators of tree cover loss (from 1992 to 2015, in percentage points) and terrestrial protected areas as a percentage of total area. Both indicators reflect the main purpose of SDG 15, which is to protect and restore territorial ecosystems, by combatting deforestation and desertification. While the indicator of tree cover loss intends to capture the extent of deforestation (Haščič and Mackie, 2018), the second indicator seizes the efforts to protect biodiversity (see Mackie et al., 2017). These two indicators are available for both regions and cities.

Only eight OECD regions have achieved the end values for 2030 in SDG 15, related to life on land, of having at least 37% of their terrestrial area being protected and an increase in tree cover from 1992 to 2015 of at least 2.4 percentage points. Figure 3.29 shows that while OECD lagging regions are on average 40 percentage points away from the suggested end values for 2030 in SDG 15, all the regions of Korea, Sweden and Switzerland still have to travel around two-thirds of the way or more before reaching the end values for this goal. Regional gaps in the achievement of the end value are the highest within the United States, Mexico and Germany, where the difference between the best performing and the worst-off region of each country exceeds the 77 percentage points. In these countries, the worst-off regions are Massachusetts (United States), Colima (Mexico) and Berlin (Germany), which are close to 80 percentage points away to achieving the intended end values, while Alaska (United States), Campeche (Mexico) and Saarland (Germany) stand at the other extreme of the distribution with an average distance to travel to the end value lower than 7.5 percentage points.

Only ten cities in Poland, Germany, Mexico and France have achieved the suggested end values for SDG 15, which consist of having experienced an increase of at least 3 percentage points in tree cover in the last 2 decades and of protecting more than 38% of their local terrestrial area. The remaining 98% of cities that have not yet reached these end values still have to travel on average 43.5% of the way before 2030 to meet the proposed end values (Figure 3.30). The change in tree cover and the protection of life on land are subject to recurrent within-countries inequalities. The largest gaps in the distances towards SDG 15 are recorded in Spain, Mexico and the United States. For instance, the cities of Córdoba (Mexico), Coruna (Spain) and Worcester (United States) display the lowest outcomes in these indicators, while the cities of Matamoros (Mexico), Las Palmas (Spain) and Merced (United States) are among the best performing cities towards the suggested end values for SDG 15.

Figure 3.29. Distance to travel for regions in SDG 15 for "Life on land"

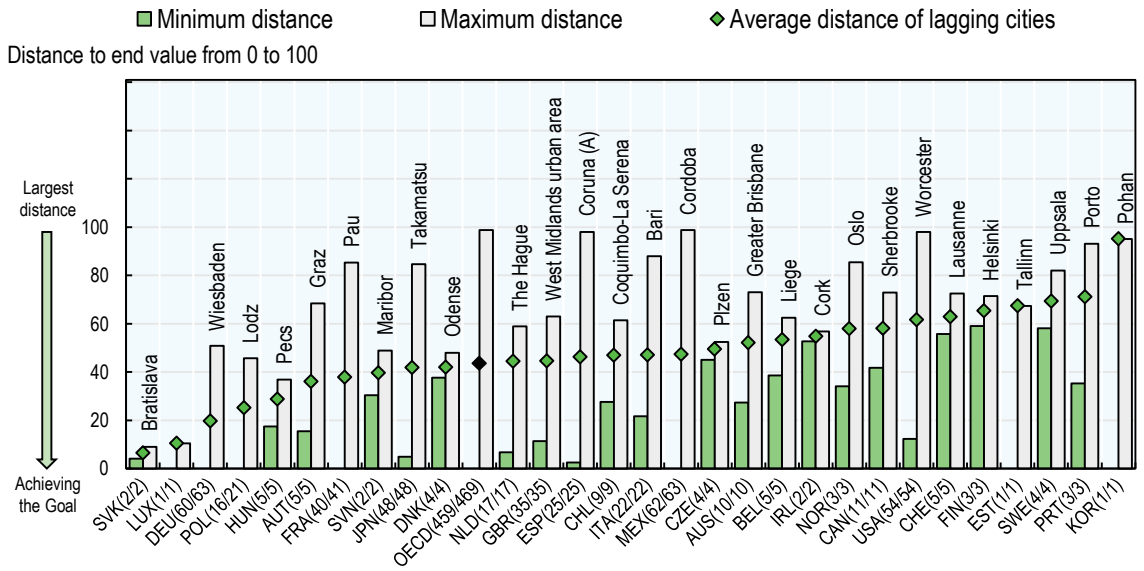
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Sources: Elaboration based on IUCN/UNEP-WCMC (2019), *The World Database on Protected Areas (WDPA)*, http://www.protectedplanet.net/; and OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

Figure 3.30. Distance to travel for cities in SDG 15 for "Life on land"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Sources: Elaboration based on IUCN/UNEP-WCMC (2019), *The World Database on Protected Areas (WDPA)*, http://www.protectedplanet.net/; and OECD (2019b), *OECD Environment Statistics (database)*, https://doi.org/10.1787/env-data-en.

SDG 16 for "Peace and institutions"

The index for SDG 16 on peace, justice and institutions integrates the indicators of homicides per 100 000 persons, the percentage of the population that feel safe walking alone around the area in which they live, the percentage of the population that have confidence in the national government and the percentage of the population that have confidence in the local police force. SDG 16 particularly insists on the necessity to curb violence and promote justice for sustainable development – mainly through institutions. The first two selected indicators focus on the violence dimension, while the latter two capture part of the degree of the rule of law and trust in national and local institutions in OECD regions. While the four aforementioned indicators are available for regions, only the indicator of homicides and violent deaths rate is available for cities.

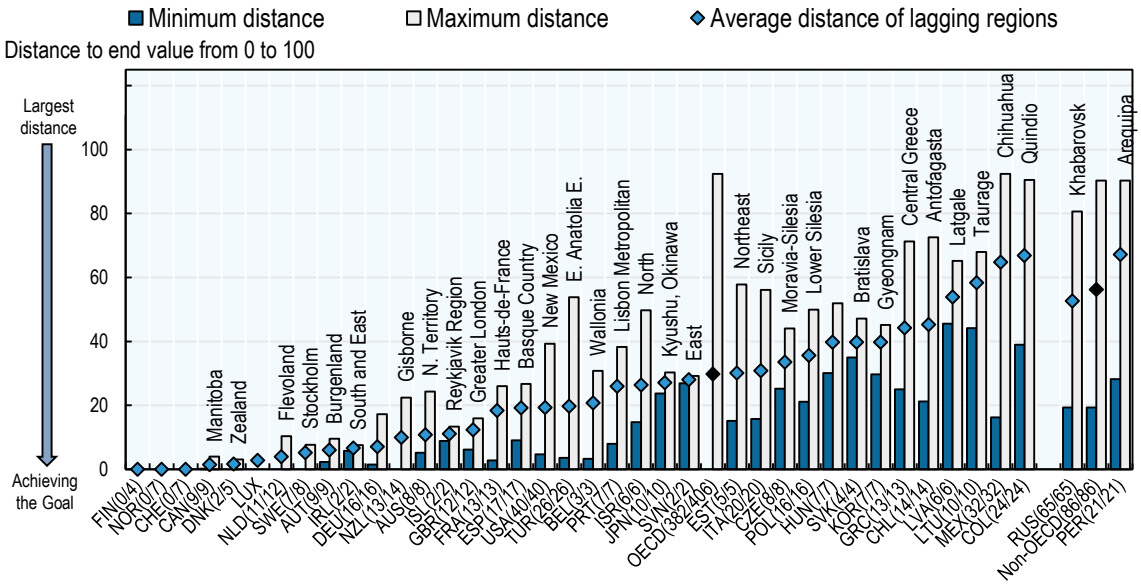
OECD regions must travel only 30% of the way to complete the intended outcomes in SDG 16 about peace and institutions. Figure 3.31 shows that although 94% of OECD regions have not reached the end value for 2030, an average of 30 points separates them from completing the end values suggested for this goal. In the OECD, 18% of the regions – 72 regions of Latvia, Lithuania, Mexico and Colombia – remain, on average, more than 50 percentage points away from the suggested end values for SDG 16. Nevertheless, going beyond the country averages, some regions of these countries perform well and are very close to the end values for this goal. For instance, while the region of Chihuahua (Mexico) still has to catch up 92 points to reach the end values for 2030, the region of Yucatan (Mexico) is only 16 points away from meeting the expected outcomes for SDG 16.

Out of the 268 cities that have not achieved the end value for 2030, 235 (around 88%) are cities from Mexico, Colombia and the United States. Based on the outcomes of the best performing cities, the end value in the homicides rate for OECD cities is set at 1.7 or fewer murders per every 100 000 people. For this indicator, Figure 3.32 shows a very clear divide between American and non-American cities, where out of the 268 lagging cities in this indicator, 88% are cities of the Americas. The largest average distance to travel is registered for the lagging cities of Mexico and Colombia, which still have to travel more than half of the total distance. On the contrary, all the cities (85) of Switzerland, Slovenia, Japan, Hungary, Spain and Portugal have homicide rates below 1.7 deaths per 100 000 inhabitants.

Mexican and Colombian cities present the largest within-country disparities in homicide rates. While the cities of Merida in Mexico and Pasto in Colombia present homicide rates of 2.7 and 12 murders per every 100 000 people respectively, Cali and Palmira in Colombia and 16 Mexican cities display alarming homicides rates of at least 45 murders per every 100 000 people.

Figure 3.31. Distance to travel for regions in SDG 16 for "Peace and institutions"

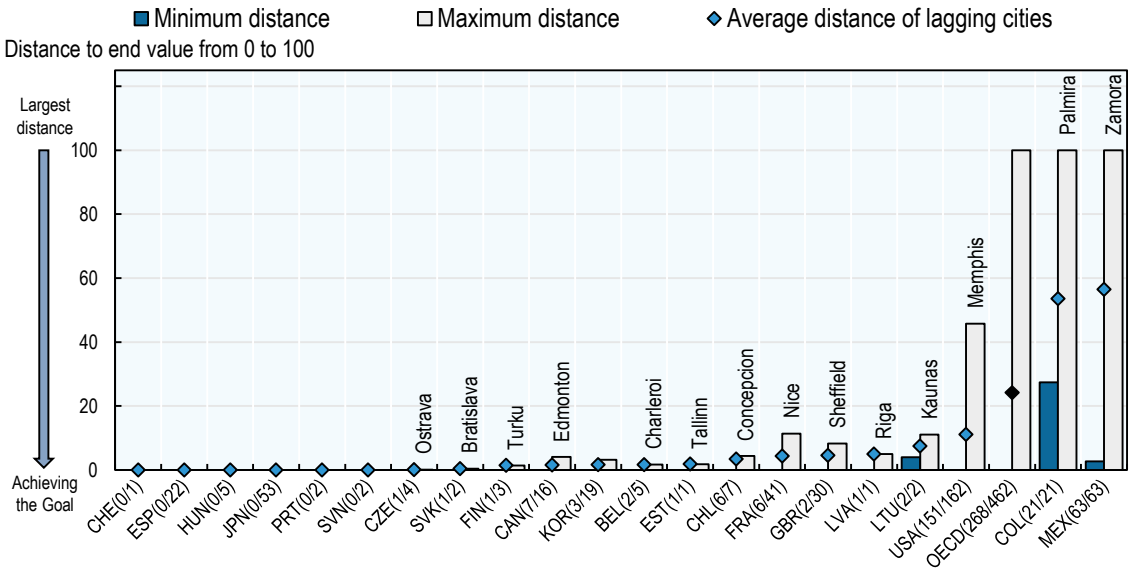
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).
Sources: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en; and Gallup World Poll (2019), *Gallup World Poll (database)*, www.gallup.com/services/170945/world-poll.aspx.

Figure 3.32. Distance to travel for cities in SDG 16 for "Peace and institutions"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en.

SDG 17 for "Partnerships and enablers for SDGs"

The indicators of the share of co-patent applications that are done with foreign regions (in percentage of co-patent applications) and the percentage of households with internet access (broadband for regions and optical fibre for cities) compose the OECD index for SDG 17 about partnerships and enablers for SDGs. While the indicators of international co-patents and broadband internet are available for regions, only the indicator of households with access to internet through optical fibre is available for cities. These indicators relate to how regions and cities can communicate and co-operate to build a partnership for sustainable development. The indicator of international co-patents reflects how knowledge sharing between regions can enhance access to innovation and foster sustainable development. On the other hand, the percentage of households with internet access captures the use of "enabling-technologies" (see Target 17.8) that favours the emergence of new sustainable development models and partnerships between stakeholders and citizens.

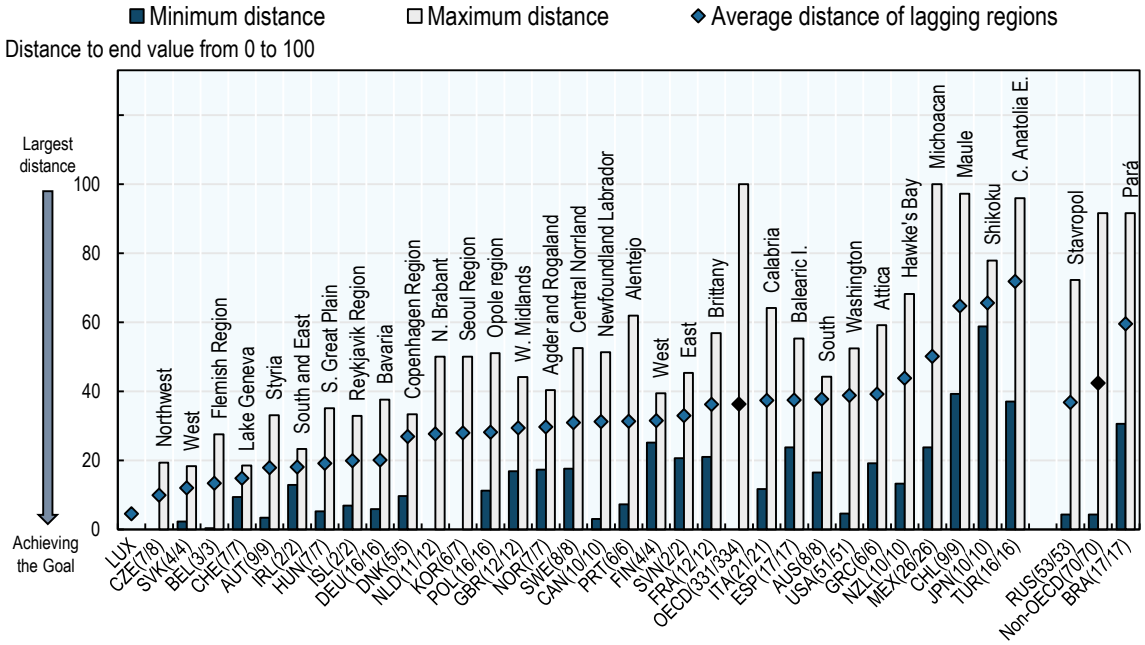
While the aforementioned indicators capture some elements of SDG 17 related to enablers and knowledge sharing for SDGs, they do not capture the components of public capacity (e.g. subnational finance and decentralisation) and development co-operation (e.g. official development assistance [ODA]) of SDG 17. To advance the statistical agenda on these two components, the OECD keeps developing its work on subnational finance statistics (see OECD/UCLG, 2019) – including pilot projects at the regional and municipal levels, as well as on measures of decentralised development co-operation (see OECD, 2019b), such as financial aid between regions and cities. However, this work is still at an initial stage and thus still constitutes part of the statistical agenda for localising the SDGs.

Only 1% of OECD regions have achieved the intended end values suggested for SDG 17 about partnerships and enablers for SDGs. While the average distance to travel for OECD regions in SDG 17 is of 36 points, the regions of Chile, Japan and Turkey are still far from the end values set for 2030 with an average distance that nearly doubles the OECD average. Besides, regions within the same country can display very different states of progress towards SDG 17. For instance, the regions of O'Higgins (Chile) and Western Black Sea W. (Turkey) stand at an average distance of around 38 percentage points from the goal, while their peer regions Maule (Chile) and Central Anatolia E. (Turkey) still require to travel more than 96 points before meeting the 2030 end values for this goal (Figure 3.33).

OECD cities have to travel on average 75% of the way before meeting the end value set for SDG 17 of having at least 59% of their population connected to optical fibre. Only 38 cities out of the 429 cities with available data have achieved this end value, which means that 91% of OECD cities are still lagging behind in this goal. While all four cities of Sweden already complied with the suggested end value, none of the cities of the United Kingdom, Hungary, Germany, and Mexico has met this level of coverage in optical fibre and they stand altogether at 89 index points on average from the end value. The largest within-country gaps in this indicator are recorded in the United States and in Germany – while the cities of Washington (Greater, United States) and Wiesbaden (Germany) have achieved or are close to achieving the end value, the cities of Winnebago (IL, United States) and Wuppertal (Germany) are still facing the largest distance to the end value observed across OECD cities (Figure 3.34).

Figure 3.33. Distance to travel for regions in SDG 17 for "Partnerships and enablers for SDGs"

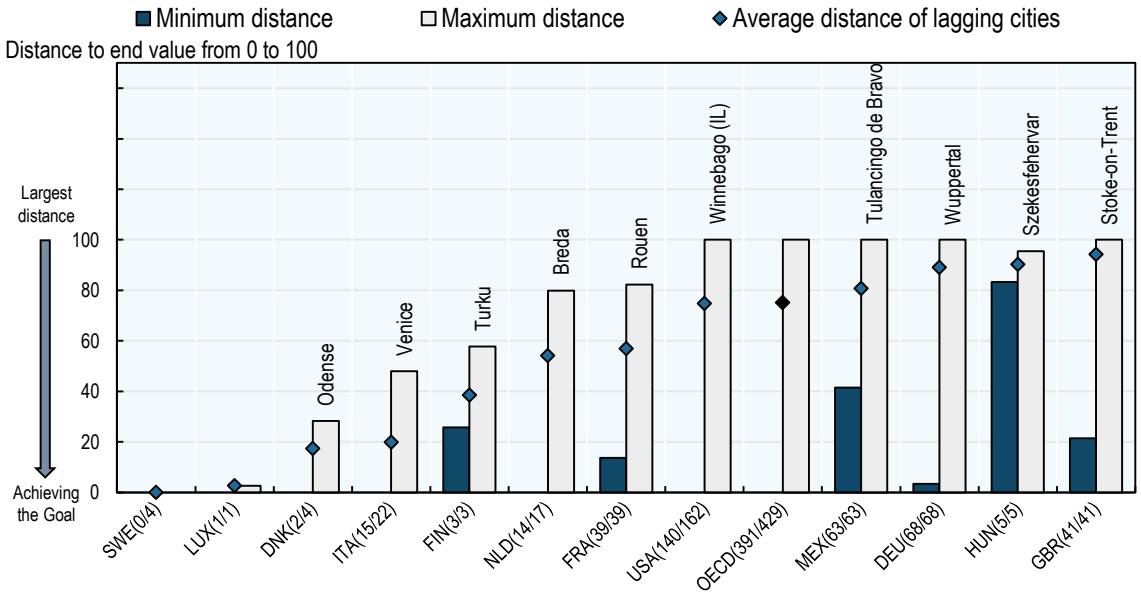
Average distance of the regions that have not achieved the end value set by the OECD for 2030



Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data.
Source: OECD (2019c), *OECD Regional Statistics (database)*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.34. Distance to travel for cities in SDG 17 for "Partnerships and enablers for SDGs"

Average distance of the cities that have not achieved the end value set by the OECD for 2030



Note: Cities refer to FUAs of more than 250 000 inhabitants.
Source: OECD (2019e), "Metropolitan areas", https://doi.org/10.1787/data-00531-en.

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Annex 3.A. Distance to indicators and indexes for OECD regions and cities

Annex Table 3.A.1. Distance to indicators and indexes for OECD regions

Goal	OECD indicator	Desired direction	Start value	End value	Regions that have achieved the end value	Average distance to end value of lagging regions	Average standardised distance to end value of lagging regions	Source
SDG 1. No poverty	Average disposable income per day of the first quintile (equivalised household, in USD PPP, constant prices of 2010)	Positive	3.8823323	30.2025871	112 out of 308 (36.3%)	13.95344639	1.1744566	OECD Regional Database
	Percentage of population with a disposable income below the 60% of national median disposable income	Negative	39.175758	12.2645159	42 out of 322 (13.0%)	9.629532814	1.1122838	OECD Regional Database
	INDEX SDG 1	Positive	0	100	21 out of 308 (6.8%)	34.05683136	1.2271272	
SDG 2. Food security and agriculture	Change in cropland (from 1992 to 2015, percentage points)	Positive	-6.478991	0	147 out of 410 (35.8%)	2.311821699	0.7640017	OECD Environment Database
	Productivity (GVA per worker) in agriculture, forestry and fishing (ISIC rev4) (in constant 2010 USD PPP)	Positive	7 429.457	70 694.0625	36 out of 359 (10.0%)	37 400.83203	1.1147127	OECD Regional Database
	INDEX SDG 2	Positive	0	100	12 out of 336 (3.5%)	39.24370193	1.8124018	

Goal	OECD indicator	Desired direction	Start value	End value	Regions that have achieved the end value	Average distance to end value of lagging regions	Average standardised distance to end value of lagging regions	Source
SDG 3. Good health	Active physicians rate (active physicians per 1 000 people)	Positive	0.5341464	4.79411745	35 out of 412 (8.4%)	2.228865385	1.525575	OECD Regional Database
	Infant mortality rate (number of deaths of children 1-year-old or younger per 1 000 live births)	Negative	18.686905	2.7980001	101 out of 413 (24.4%)	4.3198843	0.7947301	OECD Regional Database
	Life expectancy at birth	Positive	73.799026	81.542572	140 out of 412 (33.9%)	3.565182447	1.1541218	OECD Regional Database
	INDEX SDG 3	Positive	0	100	10 out of 395 (2.5%)	33.01734924	1.2400998	
SDG 4. Quality education	Percentage of early leavers from education and training, for the 18-24 year-old population	Negative	46.245758	7.60212135	65 out of 328 (19.8%)	12.44806862	0.9650331	OECD Regional Database
	Percentage of population 25 to 64 years old with at least tertiary education	Positive	14.156756	45.6848488	46 out of 377 (12.2%)	17.36913872	1.4599019	OECD Regional Database
	INDEX SDG 4	Positive	0	100	12 out of 295 (4.0%)	42.57712555	1.4760963	
SDG 5. Gender equality	Gender gap in employment rate (male-female, percentage points)	Negative	40.10857	0	2 out of 348 (.5%)	15.65433502	1.2684023	OECD Regional Database
	Gender gap in part-time employment incidence (female-male, percentage points)	Negative	44.010525	0	1 out of 371 (.2%)	17.32297325	1.4024652	OECD Regional Database
	INDEX SDG 5	Positive	0	100	0 out of 320 (0%)	40.49022293	2.5118577	
SDG 6. Clean water	Change in water bodies (from 1992 to 2015, percentage points)	Positive	-0.653891	0.29731932	32 out of 410 (7.8%)	0.346553117	0.8409157	OECD Environment Database

Goal	OECD indicator	Desired direction	Start value	End value	Regions that have achieved the end value	Average distance to end value of lagging regions	Average standardised distance to end value of lagging regions	Source
	INDEX SDG 6	Positive	0	100	32 out of 410 (7.8%)	33.26708603	1.8446614	
SDG 7. Clean energy	Percentage of total electricity production that comes from coal	Negative	90.446068	0	198 out of 374 (52.9%)	46.69186783	1.4846089	OECD based on Global Power Plant Database
	Percentage of total electricity production that comes from fossil fuels (natural gas and oil, excluding coal)	Negative	98.629341	0	108 out of 374 (28.8%)	40.79946518	1.206265	OECD based on Global Power Plant Database
	Percentage of total electricity production that comes from renewable sources	Positive	0.0923778	82.3298645	97 out of 374 (25.9%)	62.01938248	1.5889013	OECD based on Global Power Plant Database
	INDEX SDG 7	Positive	0	100	67 out of 374 (17.9%)	44.31105042	1.7034609	
SDG 8. Decent work	Annual growth rate of real GVA per worker (%)	Positive	-3.125481	2.15859485	61 out of 371 (16.4%)	1.968538404	0.8852733	OECD Regional Database
	Unemployment rate (%)	Negative	19.642857	5.03428555	128 out of 345 (37.1%)	4.883225918	0.9726489	OECD Regional Database
	Youth unemployment rate (%)	Negative	42.281578	10.7722225	116 out of 378 (30.6%)	9.883120537	0.9332785	OECD Regional Database
	INDEX SDG 8	Positive	0	100	27 out of 299 (9.0%)	26.13196754	1.1357461	
SDG 9. Industry and innovation	Patent applications (PCT) per 1 000 000 people	Positive	0.7135135	208.372223	43 out of 379 (11.3%)	157.3317413	1.3965865	OECD Regional Database
	Percentage of labour force with at least tertiary education	Positive	14.881579	44.9833336	37 out of 390 (9.4%)	16.32865906	1.4604669	OECD Regional Database
	Productivity (GVA per worker) in manufacture (ISIC rev4) (in constant 2010 USD PPP)	Positive	23 355.088	125 880.516	37 out of 342 (10.8%)	54 310.10156	1.2031463	OECD Regional Database

Goal	OECD indicator	Desired direction	Start value	End value	Regions that have achieved the end value	Average distance to end value of lagging regions	Average standardised distance to end value of lagging regions	Source
	INDEX SDG 9	Positive	0	100	4 out of 303 (1.3%)	52.0333519	2.0374641	
SDG 10. Reduced inequalities	Gini index of disposable income (after taxes and transfers) (from 0 to 1)	Negative	0.459	0.27909678	75 out of 322 (23.2%)	0.076594353	1.1623629	OECD Regional Database
	Ratio between average disposable income of top and bottom quintiles	Negative	21.51857	4.0371151	95 out of 322 (29.5%)	4.336502075	0.5740983	OECD Regional Database
	INDEX SDG 10	Positive	0	100	64 out of 322 (19.8%)	28.7079258	1.1440274	
SDG 11. Sustainable cities	Difference between built-up area growth rate and population growth rate (percentage points)	Negative	2.0742605	0	113 out of 414 (27.2%)	0.824555099	0.9319089	OECD Regional Database
	Exposure to PM2.5 in µg/m³, population weighted (micrograms per cubic metre)	Negative	26.189425	10	142 out of 409 (34.7%)	6.623144627	1.0277284	OECD Regional Database
	INDEX SDG 11	Positive	0	100	46 out of 408 (11.2%)	30.26529694	1.3975222	
SDG 12. Responsible consumption	Municipal waste rate (kilos per capita)	Negative	685.69305	366.480011	111 out of 290 (38.2%)	132.4039612	0.8956321	OECD Regional Database
	Number of motor road vehicles per 100 people	Negative	66.241669	33.796875	121 out of 357 (33.8%)	15.92812538	0.9165215	OECD Regional Database
	INDEX SDG 12	Positive	0	100	48 out of 245 (19.5%)	36.72530746	1.4099884	
SDG 13. Climate action	CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours)	Negative	771.92719	89.9761658	98 out of 346 (28.3%)	376.5461731	1.4444494	OECD based on Global Power Plant Database

Goal	OECD indicator	Desired direction	Start value	End value	Regions that have achieved the end value	Average distance to end value of lagging regions	Average standardised distance to end value of lagging regions	Source
	Change in cooling degree days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970-84 to 2004-18	Negative	161.27661	0	31 out of 383 (8.0%)	38.22297668	0.6324989	OECD based on Historical Global-Gridded Degree-Day Database
	Percentage of population satisfied with efforts to preserve the environment	Positive	28.312666	62.1583977	108 out of 405 (26.6%)	15.43676949	1.197431	OECD based on Gallup World Poll (2019)
	INDEX SDG 13	Positive	0	100	0 out of 305 (0%)	31.59249687	1.3574281	
SDG 14. Life below water	Protected coastal areas as a percentage of total coastal areas	Positive	0.1973077	42.355484	27 out of 269 (10.0%)	26.98746681	1.5757686	OECD based on Natural Earth Database, and World Database on Protected Areas (WDPA)
	INDEX SDG 14	Positive	0	100	27 out of 269 (10.0%)	63.98203659	2.0210621	
SDG 15. Life on land	Change in tree cover (from 1992 to 2015, percentage points)	Positive	-7.19033	2.36917543	35 out of 410 (8.5%)	3.358712912	1.1117022	OECD Environment Database
	Terrestrial protected areas as a percentage of total areas	Positive	0.5795122	36.8752632	52 out of 414 (12.5%)	21.80324745	1.4532138	OECD based on World Database on Protected Areas (WDPA)
	INDEX SDG 15	Positive	0	100	8 out of 384 (2.0%)	42.77057648	2.0819521	
SDG 16. Peace and institutions	Homicides per 100 000 persons	Negative	29.304544	1.06486487	156 out of 433 (36.0%)	7.120694637	0.7397622	OECD Regional Database

Goal	OECD indicator	Desired direction	Start value	End value	Regions that have achieved the end value	Average distance to end value of lagging regions	Average standardised distance to end value of lagging regions	Source
	Percentage of population that feel safe walking alone at night around the area they live	Positive	39.409191	79.0386887	78 out of 405 (19.2%)	16.53838921	1.1975725	OECD based on Gallup World Poll (2019)
	Percentage of population that have confidence in the local police force	Positive	41.269905	80.0202484	110 out of 405 (27.1%)	14.53272152	1.0639734	OECD based on Gallup World Poll (2019)
	Percentage of population that have confidence in the national government	Positive	20.840528	47.8087692	114 out of 406 (28.0%)	14.7484808	1.0910301	OECD based on Gallup World Poll (2019)
	INDEX SDG 16	Positive	0	100	24 out of 406 (5.9%)	29.7227211	1.3114992	
SDG 17. Partnerships and enablers for SDGs	Percentage of households with broadband Internet access	Positive	35.923794	86.3211441	86 out of 396 (21.7%)	17.79781723	1.05485	OECD Regional Database
	Share of PCT co-patent applications that are done with foreign regions (in % of co-patent applications)	Positive	24.115152	78.9295883	37 out of 339 (10.9%)	30.20936966	1.5665367	OECD Regional Database
	INDEX SDG 17	Positive	0	100	3 out of 334 (.8%)	36.3069458	1.910881	

Note: While indexes take values from 0 to 100, individual indicators are expressed in their original units. The standardised distance refers to the distance expressed in terms of standard deviations. This approach is similar to the one used in OECD (2019a). OECD averages include Colombia when data are available.

Annex Table 3.A.2. Distance to indicators and indexes for OECD Cities

Goal	OECD Indicator	Desired direction	Start value	End value	Cities that have achieved the end value	Average distance to end value of lagging cities	Average standardised distance to end value of lagging cities	Source
SDG 1. No poverty	Percentage of population with a disposable income below the 60% of national median disposable income	Negative	26.01178	6.33758259	9 out of 132 (6.8%)	7.87296629	1.2716109	OECD Metropolitan Database
	INDEX SDG 1	Positive	0	100	9 out of 132 (6.8%)	38.80205917	1.4033563	
SDG 2. Food security and agriculture	Percentage of people with access to at least one food shop within 15 minutes' walking distance	Positive	73.671211	87.4569702	78 out of 111 (70.2%)	7.450809956	1.0636492	OECD-ITF Database
	INDEX SDG 2	Positive	0	100	78 out of 111 (70.2%)	49.92434692	1.7355347	
SDG 3. Good health	Infant mortality rate (number of deaths of children 1-year-old or younger per 1 000 live births)	Negative	5.6371183	2.16554165	26 out of 253 (10.2%)	1.313459873	1.1875554	Eurostat
	Transport-related mortality rates (deaths per 100 000 people)	Negative	7.6091809	2.78742909	73 out of 249 (29.3%)	2.025140762	1.1007388	Eurostat
	INDEX SDG 3	Positive	0	100	8 out of 227 (3.5%)	31.88837051	1.5632683	
SDG 4. Quality education	Percentage of people with access to at least one school within 20 minutes' walking distance	Positive	73.102104	92.4402847	56 out of 111 (50.4%)	7.214057922	0.9434224	OECD-ITF Database
	Percentage of population 25 to 64 years old with at least tertiary education	Positive	25.662598	47.8177834	19 out of 99 (19.1%)	10.80493736	1.2321635	Eurostat

Goal	OECD Indicator	Desired direction	Start value	End value	Cities that have achieved the end value	Average distance to end value of lagging cities	Average standardised distance to end value of lagging cities	Source
	INDEX SDG 4	Positive	0	100	6 out of 35 (17.1%)	24.63671112	1.4638203	
SDG 5. Gender equality	Gender gap in employment rate (male-female, percentage points)	Negative	18.384068	0	5 out of 233 (2.1%)	9.148178101	1.9424123	Eurostat
	INDEX SDG 5	Positive	0	100	5 out of 233 (2.1%)	48.68523407	2.1881256	
SDG 6. Clean water	Change in water bodies (from 1992 to 2015, percentage points)	Positive	-0.681528	0.16625172	20 out of 469 (4.2%)	0.255748987	0.8301256	OECD Environment Database
	INDEX SDG 6	Positive	0	100	20 out of 469 (4.2%)	27.52464485	1.462702	
SDG 7. Clean energy	Percentage of total electricity production that comes from coal	Negative	93.712494	0	399 out of 546 (73.0%)	58.29704666	1.8556854	OECD based on Global Power Plant Database
	Percentage of total electricity production that comes from fossil fuels (natural gas and oil, excluding coal)	Negative	99.953568	0	208 out of 546 (38.0%)	57.80285263	1.4357332	OECD based on Global Power Plant Database
	Percentage of total electricity production that comes from renewable sources	Positive	0	80.7869644	194 out of 546 (35.5%)	66.94630432	1.5254177	OECD based on Global Power Plant Database
	INDEX SDG 7	Positive	0	100	166 out of 546 (30.4%)	50.6055336	1.7534773	
SDG 8. Decent work	Annual growth rate of real GDP per worker (%)	Positive	-0.501949	2.08330679	87 out of 437 (19.9%)	1.413845539	1.2827705	OECD Metropolitan Database
	Unemployment rate (%)	Negative	19.065384	6.0965519	346 out of 516 (67.0%)	5.332859993	1.0336785	OECD Metropolitan Database

Goal	OECD Indicator	Desired direction	Start value	End value	Cities that have achieved the end value	Average distance to end value of lagging cities	Average standardised distance to end value of lagging cities	Source
	INDEX SDG 8	Positive	0	100	62 out of 359 (17.2%)	33.52205658	1.3874913	
SDG 9. Industry and innovation	Patent applications (PCT) per 1 000 000 people	Positive	2.4936395	779.006836	46 out of 542 (8.4%)	608.6220703	1.3651475	OECD Metropolitan Database
	INDEX SDG 9	Positive	0	100	46 out of 542 (8.4%)	78.37291718	2.4954638	
SDG 10. Reduced inequalities	Gini index of disposable income (after taxes and transfers) (from 0 to 1)	Negative	0.4208218	0.29299614	20 out of 143 (13.9%)	0.0734175	1.5530428	OECD Metropolitan Database
	INDEX SDG 10	Positive	0	100	20 out of 143 (13.9%)	56.93953323	1.793718	
SDG 11. Sustainable cities	Difference between built-up area growth rate and population growth rate (percentage points)	Negative	1.5626296	0	246 out of 637 (38.6%)	0.672759295	0.8045912	OECD Metropolitan Database
	Exposure to PM2.5 in µg/m³, population weighted (micrograms per cubic metre)	Negative	26.596153	10	247 out of 647 (38.1%)	5.924475193	0.9514342	OECD Metropolitan Database
	INDEX SDG 11	Positive	0	100	110 out of 637 (17.2%)	28.14344788	1.3461416	
SDG 12. Responsible consumption	Number of motor road vehicles per 100 people	Negative	62.420536	36.4717064	15 out of 227 (6.6%)	13.53241825	1.7330692	Eurostat
	INDEX SDG 12	Positive	0	100	15 out of 227 (6.6%)	51.61240768	1.9348471	
SDG 13. Climate action	CO2 emissions per electricity production (in tons of CO2 equivalent per gigawatt hours)	Negative	789.42938	110.859161	177 out of 545 (32.4%)	374.2350159	1.4114239	OECD based on Global Power Plant Database

Goal	OECD Indicator	Desired direction	Start value	End value	Cities that have achieved the end value	Average distance to end value of lagging cities	Average standardised distance to end value of lagging cities	Source
	Change in cooling degree days needed to maintain an average building indoor temperature of 22 degree Celsius, from 1970-84 to 2004-18	Negative	178.83366	0	58 out of 647 (8.9%)	39.5512886	0.6267369	OECD based on Historical Global-Gridded Degree-Day Database
	INDEX SDG 13	Positive	0	100	11 out of 543 (2.0%)	27.89328766	1.2961656	
SDG 14. Life below water	Protected coastal area as a percentage of total coastal area	Positive	0.6235484	36.7244453	37 out of 318 (11.6%)	24.41248894	1.4696912	OECD based on Natural Earth Database, and World Database on Protected Areas (WDPA)
	INDEX SDG 14	Positive	0	100	37 out of 318 (11.6%)	67.54817963	2.1382275	
SDG 15. Life on land	Change in tree cover (from 1992 to 2015, percentage points)	Positive	-9.78926	2.87968159	41 out of 469 (8.7%)	4.316485405	1.0637059	OECD Environment Database
	Terrestrial protected areas as a percentage of total areas	Positive	0.37	38.4152946	82 out of 649 (12.6%)	26.12351418	1.5015384	OECD based on World Database on Protected Areas (WDPA)
	INDEX SDG 15	Positive	0	100	10 out of 469 (2.1%)	43.54377747	2.001163	
SDG 16. Peace and institutions	Homicides per 100 000 persons	Negative	40.275482	1.70632911	194 out of 462 (41.9%)	10.75753689	0.7939526	OECD Metropolitan Database
	INDEX SDG 16	Positive	0	100	194 out of 462 (41.9%)	24.12299347	0.9761741	

Goal	OECD Indicator	Desired direction	Start value	End value	Cities that have achieved the end value	Average distance to end value of lagging cities	Average standardised distance to end value of lagging cities	Source
SDG 17. Partnerships and enablers for SDGs	Percentage of houses and buildings connected to optical fibre	Positive	0.2113058	58.753273	38 out of 429 (8.8%)	43.94309998	1.9816064	OECD Metropolitan Database
	INDEX SDG 17	Positive	0	100	38 out of 429 (8.8%)	75.04679108	2.2818606	

Note: While indexes take values from 0 to 100, individual indicators are expressed in their original units. The standardised distance refers to the distance expressed in terms of standard deviations. This approach is similar to the one used in OECD (2019a). OECD averages include Colombia when data are available.

Chapter 4. The multilevel governance of the Sustainable Development Goals

This chapter discusses challenges, opportunities and emerging mechanisms for multilevel governance of the Sustainable Development Goals (SDGs). The chapter also highlights how local and regional governments are experimenting with new governance models to embrace a whole-of-society approach to the SDGs, involving both the private sector and civil society. The SDGs provide an unprecedented opportunity to align global, national and subnational priorities, however, increased capacity and awareness of the transformative nature of the 2030 Agenda are needed to reach and motivate subnational governments everywhere to use the SDG framework as a tool for the long-term transition towards sustainability. The emergence of Voluntary Local Reviews highlights the willingness among local and regional governments to engage in the global agenda and can be used as a vehicle to strengthen the localisation of the SDGs.

Introduction

Key opportunities provided by the SDGs to strengthen multilevel governance to achieve the 2030 Agenda include:

- Vertical co-ordination of priorities across local, regional and national governments for the implementation of the SDGs, including proper engagement of subnational authorities in the preparation of Voluntary National Reviews (VNRs).
- Horizontal co-ordination across sectoral departments of cities, regions and countries to manage trade-offs across policy domains in the implementation of the SDGs and ensure decisions taken or progress made in one area or SDG do not work against other SDGs.
- Stakeholder engagement to promote a holistic and whole-of-society approach to achieve the SDGs, enhancing partnerships between public and private sectors, and engagement with civil society and citizens at large.

Vertical co-ordination to align local, regional, national and global priorities

The 2030 Agenda explicitly calls for governments and public institutions to collaborate with local and regional governments in the implementation of the SDGs. A number of initiatives have emerged to raise the profile of cities and regions' contributions to the SDGs implementation. For instance:

- In February 2019, a High-level Dialogue convened by the governments of Cabo Verde, Ecuador and Spain led to the Seville Commitment whereby national, regional and local governments, their associations, civil society, academia, private sector and the United Nations underlined the importance of supporting subnational governments in implementing the SDGs (Agenda 2030, 2019).
- United Cities and Local Governments (UCLG) spearheaded the Local and Regional Governments Forum (LRGF) at the 2018 High-level Political Forum (HLPF) as a recurring space for dialogue between local, regional and national governments in the context of the 2030 Agenda.
- The OECD Roundtable on Cities and Regions for the SDGs, launched in 2019 as a biannual policy forum, brings together local, regional and national government representatives, and major stakeholder groups to share knowledge and experience on SDGs localisation.[1]

The SDGs framework offers a common language for multilevel action on all three pillars of sustainable development – environmental quality, economic growth and social inclusion – to end poverty, protect the planet and ensure prosperity. Other agendas where local and regional governments are acknowledged – in addition to the 2030 Agenda – include the Paris Agreement, the New Urban Agenda by UN-Habitat, the UN summit for Refugees and Migrants and the European Consensus on Development (OECD, 2018).

At the national level, local and regional governments are not systematically engaged in the policy debate, monitoring process and implementation levers. For instance, only 34% of countries that reported to the HLPF between 2016 and 2019 have engaged local and regional governments in national co-ordination mechanisms. For all other countries, such an engagement is either very weak (15%) or inexistent (43%) (UCLG, 2019b). The joint OECD-CoR survey highlights that only 23% of subnational authorities collaborate with

national government on SDG projects, while collaboration between subnational levels (e.g. local and regional authorities) is more common for 60% of the 400+ respondents (OECD/CoR, 2019).

Strategic directions from the national level for the implementation of the SDGs can avoid a lock-in. A lock-in situation can be observed when national authorities are reluctant to "impose" agendas on local or regional governments, while those latter may seek further guidance. For example, in the Norwegian context, the national government does not have any overarching strategy for the 2030 Agenda. Instead, ministries are responsible for different SDGs from a sectoral point of view, with the Ministry of Local Government and Modernisation responsible for SDG 11. At the same time, subnational authorities such as the county of Viken look at all the SDGs holistically with a territorial lens. In the Basque Country, Spain, the regional government also developed its integrated and transversal Agenda Euskadi 2030 without any national strategy to align with. In the European context, the lack of an SDGs strategy at European Union (EU) level has been noted as a barrier to define clear objectives and allocate resources while there is willingness among subnational governments to have more overarching EU strategy for the SDGs (European Union, 2019; OECD/CoR, 2019).

In practice, many regional and local governments have not yet embraced the transformative nature of the 2030 Agenda. A recent report by the European Committee of the Regions highlights that rather than an opportunity to achieve a sustainable vision of the future, the 2030 Agenda is often seen as an externally imposed burden detached from local policies, which does not come with adequate financial and other resources. This calls for a strengthened dialogue between different levels of government and greater policy coherence to develop and implement a shared vision for the future (European Union, 2019). Continued support is needed to scale up local action for the SDGs worldwide. A study by the Network of Regional Governments for Sustainable Development (Regions4SD) found that while over 90% of respondents were familiar with the SDGs, capacity constraints remain for addressing the goals, including both financial and human resources (Messias, Grigorovski Vollmer and Sindico, 2018). In Flanders, the Association of Flemish Cities and Municipalities (VVSG) considers reaching well over half (65%) of its members with support to localise the SDGs; yet, a key concern remains how to reach the other local governments (35%) less inclined to deal with sustainable development. In a similar vein, about 50% of surveyed municipalities in a study from Norway see the SDGs as favouring public sector innovation, while many small- and mid-sized municipalities perceive the lack of resources, capabilities and available time to focus on the SDGs as key barriers (Deloitte, 2018).

Moreover, there is an important challenge with regards to the time frame for the achievement of the SDGs vis-à-vis the mandate periods of different government levels. While political commitment can be tied to one legislative period, the SDGs require a longer-term perspective. Changing objectives and targets in each political cycle can be both costly and time-consuming and cause confusion among citizens and public officials (European Union, 2019). That is why some regional governments, for example the province of Córdoba and the region of Flanders, have decided to develop long-term "strategic lines" or "visions" towards 2030, or both 2030 and 2050 in the case of Flanders. In this way, priorities may be updated following elections, however, they are not reformulated from scratch. Integrating the SDGs in other administrative and policy processes, such as for example procurement decision or budgeting processes, are other ways to foster continuity.

Conducive national frameworks to support the localisation of the SDGs

An increasing number of national governments support the localisation of the SDGs in cities and regions, both through technical co-operation and financial support. One example is Germany, where drawing on the previous experiences with Local Agenda 21, the federal government provides technical and financial support to municipalities to implement the SDGs through a multilevel government framework, the Service Agency Communities in One World (SKEW) of Engagement Global and the Federal Ministry for Economic Cooperation and Development (BMZ). Since 2017, SKEW has supported municipalities in eight states (*Länder*) to localise the SDGs through the lighthouse project "Municipalities for Global Sustainability". A key feature of this project is the involvement of all levels of government, from national through state to local level, while connecting with international governance agents like the United Nations (UN). In the city of Bonn, support from the national lighthouse project has translated into a local sustainability strategy with six prioritised fields of municipal action. The strategy will help the city to effectively localise the SDGs and to face a number of key sustainable development challenges like affordable housing, sustainable transport and maintaining the city's green areas. It also helps to promote Bonn's new profile as a UN City. In the state of North Rhine-Westphalia (NRW), the project enabled 15 municipalities and administrative districts to develop local sustainability strategies incorporating the SDGs and align them with federal and state ones.

Japan's expanded SDGs Action Plan 2018 is another example of national commitment to support local efforts. The second pillar of the Action Plan on "regional revitalisation" focuses mainly on the localisation of the SDGs through its Future Cities initiative comprising 29 local governments, 10 of which were selected as SDGs Model Cities and receiving financial support by the government to implement their SDGs strategies. The initiative also promotes the establishment of SDGs governance structures by local governments following the national "SDGs Promotion Headquarters" headed by the Prime Minister within the Cabinet Office. Considered a "model city" within the selection process, Kitakyushu was one of the first cities in Japan to put in place a SDGs Future City Promotion Headquarters, headed by the Mayor. The SDGs Headquarters guides the rest of the city administration in the implementation of the SDGs. Other institutional structures put in place are the SDGs Council and SDGs Club, promoting multi-stakeholder engagement on the SDGs (see further below), and the Public-Private SDGs Platform (chaired by the mayor of Kitakyushu).

In Iceland, the governmental body overseeing and directing the work on the SDGs is the Inter-ministerial Working Group for the SDGs (hereafter the "working group"). The working group is led by the Prime Minister's Office, in close co-operation with the Ministry for Foreign Affairs and includes representatives from all ministries, Statistics Iceland and the Association of Local Authorities. The Youth Council for the Global Goals and the Icelandic UN Association act as observers and the Youth Council further has a special advisory role to the working group. The national government upholds the importance of municipalities in the implementation of the 2030 Agenda, however, there is (as of now) no formal support mechanism at the central level. Beyond that, the Icelandic Association of Local Authorities, which is the official body representing Icelandic municipalities, has established a platform for climate issues and the SDGs at the municipal level to share experiences and build collective knowledge on experiences with the SDGs, involve municipalities and strengthen the co-operation on the SDGs between the local authorities and the national government.

The Italian Alliance for Sustainable Development (ASviS) was established to raise awareness among the Italian society, economic stakeholders and institutions about the importance of the 2030 Agenda and to spread a culture of sustainability. This initiative dates back to February 2016, was spearheaded by the Unipolis Foundation and the University of Rome "Tor Vergata", and currently brings together over 230 members, including the most important institutions and networks of civil society. Over 600 experts from member institutions contribute to the activities of ASviS in different working groups dealing with specific SDGs and cross-cutting issues (Box 4.1).

Box 4.1. Key activities of the Italian Alliance for Sustainable Development

Since its establishment in 2016, the Italian Alliance for Sustainable Development (ASviS) has conducted activities on six key fronts:

- **ASviS report**: Starting in 2016, ASviS presents a report each year that documents Italy's progress in achieving the SDGs. The report shows data and concrete policy recommendations to improve people's quality of life, reduce inequalities and improve environmental quality. The report can be freely accessed online and aims to become a monitoring, reporting and accountability mechanism for policymakers and their commitments towards the SDGs.
- **ASviS SDG indicators database**: ASviS has created an interactive online database, free of access that allows users to consult Italy's national and regional progress towards achieving the SDGs. The platform has made time series available for all indicators among those selected by the UN for the 2030 Agenda, shared by the Italian National Institute of Statistics (Istat), as well as composite indicators calculated by ASviS for each SDG.
- **Institutional dialogue**: ASviS contributed to the definition of the National Strategy for Sustainable Development, and periodically elaborates economic, social and environmental policy proposals addressed to the Italian government. The director of ASviS is a member of the scientific committee of the Steering Committee "Benessere Italia" within the Prime Minister's Office. The Alliance is a member of the 2030 Agenda Working Group in the National Council for Cooperation and Development of the Ministry of Foreign Affairs and of the Observatory on Sustainable Finance of the Ministry of Environment. At the international level, it represented the Italian civil society at the 2017 High-level Political Forum, is a founder of the Europe Ambition 2030 coalition, and a member of SDG Watch Europe and the European Sustainable Development Network.
- **Information and awareness-raising**: ASviS has conducted various awareness-raising activities on sustainability issues at large and on the 2030 Agenda among public sector, businesses, public opinion and citizens. Among others, its website (asvis.it) is dedicated to each of the SDGs and its newsletter and multimedia products offer daily updates on sustainable development. ASviS is also active on social media and launches awareness-raising campaigns through them (e.g. Saturdays for Future).
- **Education for Sustainable Development**: ASviS, together with the Ministry of Education, University and Research, has developed an e-learning course on the 2030 Agenda, available to all teachers and recently translated in English. It also

launched the yearly contest "Let's score 17 Goals" open to all schools in the country. Moreover, the Alliance focuses on higher education and co-operates with a number of master's courses and summer schools. ASviS is also developing projects with the Italian University Network for Sustainable Development and the National School of Administration to include sustainable development education in the adults' learning system.

- **The Sustainable Development Festival**: ASviS organises the annual Sustainable Development Festival which takes place throughout Italy for 17 days, corresponding to the 17 SDGs. In 2019, 1 060 events took place all over Italy, 300 of them promoted by universities involving thousands of students. The festival was one of the three finalists, picked from over 2 000 projects, in the UN SDG Action Awards.

Source: ASviS (n.d.), *Alleanza Italiana per lo Sviluppo Sostenibile* https://asvis.it/ (accessed on December 2019).

In Argentina, the National Council for the Coordination of Social Policies (Consejo Nacional de Coordinación de Políticas Sociales, CNCPS), responsible for co-ordinating the implementation of the 2030 Agenda, is promoting co-operation agreements with the provinces to promote vertical co-ordination of the SDGs. Together with the Cooperation Agreement, the CNCPS provides provinces with an adaptation guide including methodological suggestions on the utilisation of the SDGs as a management and planning tool at the subnational level. The CNCPS also invites provinces to participate in the voluntary Provinces Report (*Informe Provincias*), which seeks to highlight annual progress on the adaptation of the SDGs in each territory, in relation to the SDGs under review by the High-level Political Forum every year. At the time of signature, the province had already adopted the goals and targets of the 2030 Agenda, set up focal points responsible for the local implementation of the SDGs and provided adequate resources. However, the signature was a trigger to use the adaptation guide as a key tool to ensure consistency between the provincial and national SDGs indicator frameworks. The province also committed to reporting to the CNCPS on the localisation process.

In Paraná, Brazil, the Social and Economic Development Council (CEDES) is promoting a state-wide agreement to support the implementation of the SDGs with regional associations and municipalities. In August 2019, 16 out of 19 regional associations and 248 out of 399 local governments had already formalised their commitment to the 2030 Agenda through this mechanism. The council also works to strengthen communication between governments and civil society to better engage citizens in the implementation process of the SDGs.

Other pilot cities and regions have put in place vertical co-ordination mechanisms and enabling national frameworks for the SDGs, although these are institutionally less mature than those mentioned above. Table 4.1 provides a summary of such initiatives:

- In **Belgium**, all governments must pursue sustainable development as a general policy objective, as granted by the Belgian constitution. Each government thus develops its own strategy for sustainable development. While information sharing is common practice, there is limited harmonisation around the substance of the strategies between governments, such as shared goals or activities. In Flanders, state and federal governments support vertical integration with municipalities

through the SDGs pilot project funded by the Flemish Department of Foreign Affairs (DBZ) and the Directorate-General Development Cooperation and Humanitarian Aid, implemented by VVSG in 20 municipalities.

- In **Norway**, there is no national overarching strategy document or action plan for the SDGs. However, they are integrated into key policy processes. Each ministry is assigned with a responsibility for the SDGs matching with their competencies, while the Ministry of Finance is responsible for co-ordinating SDG reporting and to compile the yearly budget proposal presented to the parliament in accordance with the SDGs. To promote the localisation of the SDGs, the Ministry of Local Development and Modernisation has released an "expectation document", where it is stated that the government expects regional and local authorities to include the SDGs in their planning. However, there is no established financial or technical support mechanism to support regions and cities similar to those of Germany or Japan.
- In **Iceland**, the Prime Minister has issued a letter to all municipalities urging them to work on the SDGs. Kópavogur has been a front running city in this regard and has established a relatively close, albeit informal, working relationship with the Inter-ministerial Working Group on the SDGs. The municipality has also aligned its prioritisation exercise of goals and targets with the one previously conducted by the national government.
- In **Denmark**, while regions and municipalities are listed among the key partners in the national government's Action Plan for the SDGs, their role in the 2030 Agenda is not elaborated to a great extent in the document.
- In the **Russian Federation**, the 2008 "Concept of the Long-Term Socio-Economic Development of the Russian Federation for the period up to 2020" and its revision in 2012, are the main guidelines for local and regional action in the field of sustainable development. There is room for better vertical co-ordination through the SDGs to maximise the impact of sustainable development actions at all levels – including the co-production and use of statistics for policymaking. The Voluntary National Review (VNR) expected in July 2020 is an opportunity to engage subnational governments. Moreover, the ongoing development of a City Index by the Ministry of Economic Development provides an opportunity to actively engage cities and regions in the design and testing stages.

Table 4.1. Overview of vertical co-ordination mechanism for the SDGs in pilot cities and regions

OECD Pilot	Level of government	Description of vertical co-ordination for the SDGs
Bonn (Germany)	Local	Technical and financial support from the national government (BMZ) through the "Municipalities for Global Sustainability" lighthouse project. Alignment of federal, state and local government sustainability strategies and to the SDGs is a key feature of the project.
Córdoba (Argentina)	Regional	Formal co-operation agreement between the provinces and the National Council for the Coordination of Social Policies (CNCPS), responsible for co-ordinating the implementation of the 2030 Agenda in Argentina. The CNCPS provides technical support through an adaptation guide. Each province signing the agreement agrees to adapt local policies, monitoring and reporting to the SDGs.

OECD Pilot	Level of government	Description of vertical co-ordination for the SDGs
Flanders (Belgium)	Regional	No separate vertical co-ordination mechanisms for the SDGs exists but all governments have to pursue sustainable development as a key policy objective as per the Belgian constitution. Municipalities enjoy technical support through VVSG's pilot SDGs project, financed by the federal and Flemish government.
Kitakyushu (Japan)	Local	Support by the national government through the SDGs Promotion Headquarters (Cabinet Office) and SDG Action Plan. The Action Plan includes SDGs Future Cities initiative with 29 local authorities, among which 10 SDG Model Cities receive financial support to develop SDGs Future City Plans.
Kópavogur (Iceland)	Local	The Prime Minister has issued a letter to all municipalities in Iceland urging them to work on the SDGs. Kópavogur collaborated with the national level Inter-ministerial Working Group on the SDGs on an informal basis. Kópavogur has based its prioritisation of goals and target based on the exercise conducted previously by the national government.
Moscow (Russian Federation)	Local	National goals set in 2008 in the "Concept of the Long-Term Socio-Economic Development of the Russian Federation for the period up to 2020" and revised by the current administration in 2012.
Paraná (Brazil)	Regional	The state of Paraná delegated to the Social and Economic Development Council (CEDES) the responsibility to co-ordinate the implementation of the SDGs. CEDES is responsible for horizontal and vertical co-ordination, including with the 399 municipalities in the state. The council is also responsible for preparing a plan for the implementation of the SDGs.
Southern Denmark (Denmark)	Regional	Co-operation Agreement between Southern Denmark and Statistics Denmark to develop a coherent indicator framework for national, regional and local levels.
Viken (Norway)	Regional	The Ministry for Local Government and Modernisation has released an official "expectation document" urging local and regional authorities to include the SDGs in regional and local planning and share good practices. Vertical co-ordination largely takes place through the decentralised planning system.

Other good practices for co-ordinating SDGs vertically can be observed in Europe. For instance, in Italy, regional strategies for sustainable development are also expected to align with national objectives defined in the national sustainable development strategy (NSDS), which is organised around the five Ps of the 2030 Agenda: People, Planet, Prosperity, Peace and Partnerships. The Ministry of the Environment supports regional strategies both through capacity building and financial resources. In addition, since March 2018, a biannual roundtable convenes the national government and all the regions (European Union, 2019). In Spain, a High-level Group (HLG) for the 2030 Agenda, chaired by a dedicated 2030 Commissioner, has been created to support the inter-ministerial co-ordination for the SDGs, where all Spanish ministries participate, and which has also convened the regional administrations and local entities.

The alignment potential of Voluntary National Reviews

The 2030 Agenda encourages member states to "conduct regular and inclusive reviews of progress at the national and subnational levels, which are country-led and country-driven". The United Nations High-level Political Forum (HLPF) on Sustainable Development is mandated to follow up and review progress of the 2030 Agenda, including through state-led and thematic reviews. Countries thus present voluntary national reviews (VNRs) to the HLPF each year. The number of countries presenting VNRs has grown since the adoption of the 2030 Agenda. In 2016, 22 countries presented VNRs, 43 in 2017, 46 in 2018 and

47 in 2019 (UN DESA, 2019). However, the involvement of local and regional governments in the VNR process remains anecdotal. An annual survey by United Cities and Local Governments (UCLG) and the Global Taskforce of Local and Regional Governments (GTF) found that only 18 out of 47 countries reviewed (38%) formally engaged local and regional governments (LRGs) in the preparation of VNRs for 2019, although this was a slight improvement compared to previous years (Table 4.2). Over the full four-year reporting cycle so far reviewed by UCLG (2016-19), LRGs have participated in the VNR preparation in 42% of cases (66 out of 143 countries). Participation has been observed to be highest in Europe (61%) followed by Africa and Latin America (50%). At the same time, 72% of the VNRs presented in 2019 mention subnational governments as key institutional actors for the SDGs, delivering policies and services crucial for the achievement of the SDGs. This points to the strong potential for upscaling vertical co-ordination and multilevel governance of the SDGs within forthcoming VNRs, as further highlighted by another independent review of VNRs presented in 2018, which found that only 3 of the 46 VNRs included relatively advanced descriptions of localisation efforts (Benin, Greece and Spain), while many included only piecemeal illustrations (Kindornay, 2019).

Table 4.2. Local and regional governments' participation in the preparation of VNRs, 2016-19

Results of the annual survey by UCLG and the Global Taskforce of Cities and Local Governments

	2016		2017		2018		2019		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Total countries/year	22	100	43	100	46	100	47	100	158	100
LRG consulted	10	45	17	40	21	46	18	38	66	42
Weak consultation	6	27	10	23	7	15	11	23	34	22
Not consulted	6	27	14	33	13	28	9	19	42	27
No local government organisation[1]			2	5	4	9	5	11	11	7
No information[2]					1	2	4	9	5	3

1. No local self-government organisations: Bahrain, Kuwait, Monaco, Nauru, Oman, Qatar, Saudi Arabia, Singapore, Tonga, Turkmenistan, United Arab Emirates.
2. The VNRs that were not published until 28 June 2019: Cameroon, Croatia, Eswatini, Guatemala, Guyana, Lesotho, Nauru, Turkey. But for Cameroon, Croatia, Guatemala and Turkey, UCLG received the answer to the GTF Survey 2019. Those for which there was insufficient information about the LRGs: Bahamas (2018), Lichtenstein.
Note: Includes revised data for previous years based on information available up to 28 June 2019. Explanation of the categories: i) Consulted: LRGs, either through their representative national local government associations (LGAs) or a representative delegation of elected officers, were invited to participate in the consultation at the national and regional level (conferences, surveys, meetings); ii) Weak consultation: only isolated representatives, but no LGAs or representative delegations participated in the meetings, or the LGAs were invited to a presentation of the VNR (when it was finalised); iii) Not consulted: no invitation or involvement in the consultation process was issued, even though the LGAs were informed of the need to prepare VNRs.
Source: Reproduced from UCLG (2019a), "The Localization of the Global Agendas: How local action is transforming territories and communities", https://www.gold.uclg.org/sites/default/files/GOLDV_EN.pdf

Within the pilot cities and regions of the OECD Programme *A Territorial Approach to the SDGs*, national associations for municipalities have been involved in the VNR process in Flanders, Germany and Iceland. The regional government of Flanders directly contributed to the Belgian VNR, while Kópavogur was featured in Iceland's 2019 VNR as a leading example of a municipality working on the SDGs, in addition to the Association of Icelandic Local Authorities being part of the inter-ministerial working group responsible for SDGs implementation and reporting in Iceland. In Córdoba, Argentina, the voluntary provincial report requested by the national CNCPS is aligned with the SDGs under review by the High-level Political Forum every year.

The emergence of Voluntary Local Reviews

In 2018, a few pioneering cities, such as Kitakyushu and New York , presented Voluntary Local Reviews (VLRs) in the special session dedicated to local government engagement at the HLPF (see Chapter 1). The pioneering VLRs were prepared by local governments based on the Secretary General's Voluntary Common Reporting Guidelines for VNRs and have spurred a movement of new cities and regions undertaking VLRs. UCLG finds that a wide array of subnational governments have adopted this "reporting innovation", including regions, departments, as well as cities of all sizes. Kitakyushu, for instance, has produced such a VLR, supported by the Institute for Global Environmental Strategies (IGES) Japan (see Box 4.2).

Helsinki was one of the first European cities presenting a VLR in the 2019 HLPF. The report describes how the Helsinki City Strategy connects with the SDGs, including the monitoring of their implementation. The VLR connects the city's key strategies and operations, as well as key performance indicators, to the SDGs. These include the Helsinki City Strategy 2017-21, Carbon Neutral Helsinki 2035 Action Plan, as well as other projects and operations in relation to the SDGs. In addition, a mapping of the city's strategic documents against the SDGs was carried out. The VLR also includes detailed analyses and reporting for the SDGs under review in the 2019 HLPF edition (e.g. SDGs 4, 8, 10, 13 and 16) (City of Helsinki, 2019).

Bristol, United Kingdom, is another city having carried out a VLR, which unlike many other reviews was produced independently from the city government. The report showcases actions by a range of actors across sectors towards the SDGs and rather than outlining achievements per goal in 2019, Bristol's VLR describes how the city is faring on indicators related to all the SDGs since 2010 (the benchmarking year chosen).[2] The report was funded through the Bristol SDGs Alliance – an informal network of city stakeholders promoting the SDGs. One of the key insights of the report is that the difference between the functional urban area of Bristol and its administrative boundaries creates challenges to both the implementation and monitoring of the SDGs at the subnational level, pointing to the need for disaggregated data and an indicator framework for different urban scales and income contexts. For example, indicators such as CO2 emissions, wage inequality or hunger measured within the administrative boundaries may not necessarily reflect the reality of people living in highly integrated towns that are part of the wider functional area (City of Bristol, 2018).

Buenos Aires, Argentina, also produced its VLR ahead of launching the city localisation plan of the 2030 Agenda for Sustainable Development. Based on a long tradition of results-based management, one part of the localisation of the SDGs described in the VLR consisted in analysing the linkages to the SDGs in relation to over 1 300 initiatives, projects, policies and works of the multiannual investment plan included in the city's comprehensive

management platform. Similar to the province of Córdoba, Buenos Aires benefitted from the national government's (CNCPS) guidance on integrating the SDGs in local policies.

Cities having undergone the experience of a VLR usually find the process helpful in in order to engage departments across policy sectors, overcoming silos and catalysing new partnerships. While favouring a flexible format for the VLRs, some cities concur that key principles for cities would be needed to make VLRs a credible tool, such as for example clarity and transparency of gaps in terms of SDGs achievements (Pipa, 2019).

Box 4.2. Pioneering Voluntary Local Reviews : The cases of Kitakyushu, Japan, and New York, United States

In July 2018, New York City launched the VLR at the HLPF. The report includes a qualitative analysis of the strategic goals and targets of the city's strategy for sustainable development, OneNYC, compared to the SDGs, illustrating direct links between relevant indicators. When the SDGs were adopted by global leaders, the Office for International Affairs created the Global Vision, Urban Action programme to link OneNYC to the SDGs, using the shared language of the 2030 Agenda. Similarly, New York's VLR report uses the common language of the SDGs to translate NYC's local actions to a global audience. In addition to presenting the report, New York City used the occasion of the HLPF in 2018 to demonstrate SDGs action in practice, organising site visits for the UN community to look at projects and facilities linked to urban gardening, recycling and water treatment. The review allowed the city to identify additional opportunities to be further explored with UN agencies, member states, cities and other stakeholders. In 2019, the city presented its second VLR and committed to report on a yearly basis. The 2019 Voluntary Local Review used data from OneNYC 2050, the city's updated comprehensive strategic plan released the same year.

The city of Kitakyushu, Japan, presented its VLR at the HLPF in 2018, developed in collaboration with the Institute for Global Environmental Strategies (IGES). The report outlines progress and challenges in the work towards the city's vision for achieving the SDGs, namely "Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world". The VLR reflects the mayor's drive and strong political commitment to implement the 2030 Agenda and showcase progress at the international scale. At the 2018 HLPF, the Mayor also conveyed his vision on an 18th SDG on "Culture" that should refer to creating a peaceful society by tolerating and respecting different cultures, history and traditions. The report also serves as a communication tool and reference for other cities in Japan and elsewhere that are addressing the SDGs. In Japan, Shimokawa Town and Toyama City also produced VLRs in 2018, with the support of IGES.

Sources: City of Kitakyushu and Institute for Global Environmental Strategies (2018), *Kitakyushu City the Sustainable Development Goals Report 2018 – Fostering a Trusted Green Growth City with True Wealth and Prosperity, Contributing to the World*, https://iges.or.jp/en/publication_documents/pub/policyreport/en/6569/Kitakyushu_SDGreport_EN_201810.pdf; City of New York (2019), *2019 Voluntary Local Review: New York City's Implementation of the 2030 Agenda for Sustainable Development*, https://www1.nyc.gov/assets/international/downloads/pdf/International-Affairs-VLR-2019.pdf.

The role of international organisations and associations of LRGs

City umbrella networks and international institutions increasingly support the development of VLRs. For example, the Joint Research Centre of the European Commission, in

collaboration with DG REGIO, is producing a Handbook for European regional and local authorities to prepare VLRs to be launched at the World Urban Forum in February 2020. The handbook will be structured in two sections, including existing indicators at the local level that can support the monitoring of the SDGs, as well as a methodology section for local and regional governments to mainstream the SDGs in their strategic activities. The indicators draw on data produced by the European Commission or other institutions, while the development of proxy indicators is also underway (see Chapter 2). In addition, drawing on its initial support to Japanese cities, IGES has developed a VLR Lab to support cities undertaking the endeavour, including by offering workshops and technical support.

Local and regional government networks have been vocal and effective in pledging for multilevel governance of the SDGs and raise the profile of cities and regions in global agendas. For example, United Cities and Local Governments (UCLG), C40, the Council of European Municipalities and Regions (CEMR) and PLATFORMA are actively supporting capacity building for localising the SDGs. International and national umbrella organisations are key providers of capacity development for LRGs on the SDGs. For instance, the Association of Flemish Cities and Municipalities (VVSG) has been providing intensive support to municipalities as part of their SDGs pilot project (Box 4.4). UCLG reports that the most common undertaking by local and regional government associations are awareness-raising workshops and campaigns mostly addressed to members and local and regional political leaders. A total of 67% of respondents to the Global Task Force survey in 2019 had adopted policy documents related to the implementation of the SDGs and over 75% had organised workshops to raise awareness and build capacity on the SDGs.

Various UN agencies are also active in localising the SDGs across levels of government. This is the case for UN-Habitat and the United Nations Development Programme (UNDP) for instance, through the online platform "Localizing the SDGs", developed in collaboration with UCLG. The platform gathers a vast range of resources, including guidance on monitoring and evaluation of the SDGs at the local level and examples of practices from across the globe to help local governments find inspirations for their own solutions.

European Union institutions have also been active in promoting the localisation of the SDGs in Europe and beyond. In the reflection paper *Towards a Sustainable Europe 2030*, key strengths and challenges for sustainable development in Europe are captured, and three scenarios are proposed in terms of how the EU could contribute towards achieving the SDGs (European Commission, 2019) (Figure 4.1). Which scenario will guide future action remains to be seen under the new EU governance following the May 2019 elections. Nevertheless, LRGs expect a more prominent role by the EU in the 2030 Agenda as reflected in the OECD-CoR survey which found that more than 90% of respondents are in favour of an EU overarching long-term strategy to mainstream the SDGs within all policies and ensure efficient co-ordination across policy areas (OECD/CoR, 2019).

In 2017, the European Commission (EC) set up a High Level Multi-stakeholder Platform on the SDGs, bringing together 30 members from the EU, global institutions, non-governmental organisations (NGOs) and other public, private and civil society organisations. The Platform contributed to the reflection paper *Towards a Sustainable Europe 2030* and advocates for a multilevel and multi-stakeholder approach to the SDGs, emphasising the involvement of local and regional authorities (European Commission, 2019). The platform further has a subgroup on "Delivering the SDGs at regional and local levels", which has found that vertical and horizontal co-ordination needs to be enhanced in terms of governance of the SDGs (European Union, 2019).

Beyond EU member countries, the EC's Directorate-General for International Cooperation and Development (DG DEVCO) also supports the localisation of the SDGs through Decentralised Development Cooperation (DDC), focusing on partnerships between local authorities for the SDGs achievement. In EU member countries, the EC funds over 1 000 local sustainable development strategies, with mobilised investment estimated to the amount of 35 billion EUR. DG DEVCO is currently supporting 16 partnerships between cities in EU countries and cities in developing countries to promote integrated urban development in the framework of the SDGs. The objectives of the call are to: i) strengthen urban governance; ii) ensure social inclusiveness of cities; iii) improve resilience and greening of cities; and iv) improve prosperity and innovation in cities. DEVCO is also launching a similar call for proposals targeting small municipalities. This programme builds on the findings of the OECD report *Reshaping Decentralised Development Cooperation* (2018), which stressed the importance of partnerships between subnational governments in OECD and developing countries, beyond the traditional financial support (official development assistance, ODA). The report stresses that DDC is increasingly becoming a tool to localise the SDGs for cities both in OECD and in developing countries (Box 4.3).

Box 4.3. Key findings of the OECD work on Decentralised Development Co-operation

Cities and regions are responsible for policies that are central to the 2030 Agenda and people's well-being, from water to housing, transport, infrastructure, land use and climate change. They can also support peer cities and regions around the world, which is what decentralised development co-operation (DDC) is about: when cities and regions from one (often developed) country partner with cities and regions from another (often developing) country.

Promoting coherence between internal territorial approaches to the SDGs and DDC activities should be a key objective. Adapting the internal territorial development initiatives and involving regional actors is therefore a good practice on DDC, observed for example in Tuscany, Italy. DDC can become a tool to address the universal nature of the SDGs and the territorial partnership model allows for best practices exchanges and peer-to-peer learning among subnational governments in developed and developing countries on the implementation of the SDGs.

The 2018 OECD Decentralised Development Co-operation report provided a set of key recommendations to national and subnational governments to improve the effectiveness of DDC activities. These included:

- Use DDC to improve local and regional policies in partner and donor countries and ultimately contribute to the SDGs.
- Recognise the diversity of DDC concepts, characteristics, modalities and actors.
- Promote a territorial approach to DDC by fostering place-based and demand-driven initiatives for mutual benefits over time.
- Encourage better co-ordination across levels of governments in promoter and partner countries for greater DDC effectiveness and impact.
- Set incentives to improve reporting on DDC financial flows, priorities and practices and better communicate on outcomes and results.

- Promote results-oriented monitoring and evaluation frameworks for informed decision-making and better transparency.

The 2019 edition of the OECD DDC Report has identified three key steps to make the most of DDC as a driver for implementing the SDGs:

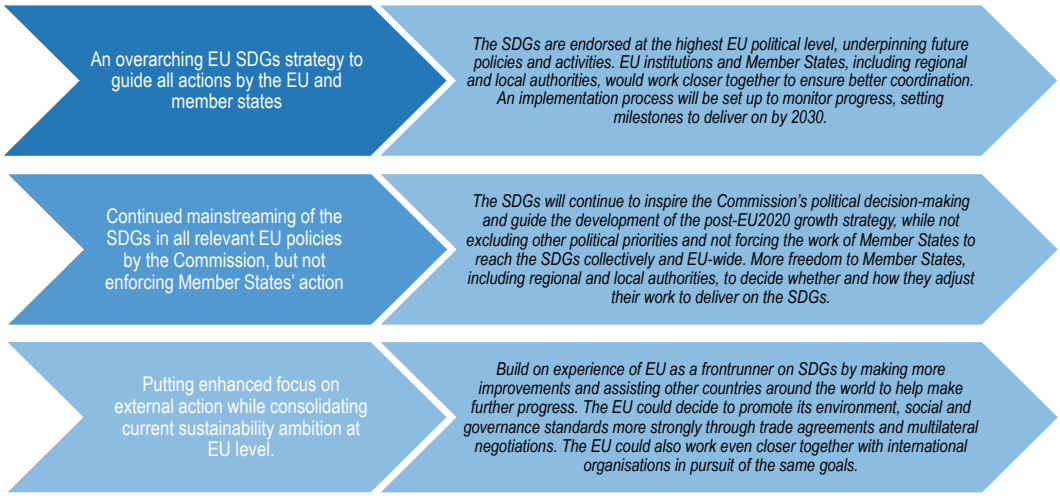
1. **Address the data challenge**. With fewer than half of the OECD Development Assistance Committee (DAC) members reporting on aid provided by cities and regions, a serious knowledge gap persists. To address this and raise awareness on official development assistance (ODA) reporting among subnational governments, OECD DAC members such as Belgium, France, Germany and Spain are building efforts to share best practices and strategies. Several members have begun incorporating subnational reporting in OECD DAC statistical peer reviews.
2. **Promote better adapted subnational capacity and resource exchange**. Subnational partnerships are often co-financed by the national government, yet they are not always aligned with local needs. How can national governments help to promote demand-driven and mutually beneficial partnerships? One solution, hosted by the EU Committee of the Regions, is a "stock exchange" initiative that acts as a matchmaker, pooling and exporting subnational resources, where needs are greatest. This includes south-south and triangular co-operation. A structured assessment of the kinds of technical assistance exchanged and the incentives for engaging in partnerships could build on findings from city networks such as United Cities and Local Governments (UCLG), PLATFORMA, C40 or the Council of European Municipalities and Regions (CEMR) that have long sought to improve the co-ordination of technical assistance exchange at the subnational level.
3. **Co-ordinate across levels of government**. To ensure that subnational action does not reverse national progress or vice versa, multilevel and multi-stakeholder engagement is necessary. The Voluntary National Review (VNR) process serves as an important tool to engage subnational governments in the reporting of DDC activities contributing to the SDGs. To improve the effectiveness of ODA, national and subnational governments should work together on SDG progress reviews.

Sources: OECD (2019), "Decentralised development co-operation: Unlocking the potential of cities and regions", https://doi.org/10.1787/e9703003-en; OECD (2018), *Reshaping Decentralised Development Cooperation: The Key Role of Cities and Regions for the 2030 Agenda*, https://doi.org/10.1787/9789264302914-en.

The OECD launched the programme *A Territorial Approach to SDGs* in the context of its Action Plan on SDGs. In 2016, the OECD adopted an action plan to support the implementation of the SDGs, which was welcomed by all member states at the 2016 Meeting of the Council at the Ministerial Level (OECD, 2016a). The Action Plan stresses that data on progress at the subnational level also presents opportunities to support policies tailored to regional circumstances and one of the actions of the Plan refers to the important role of LRGs in the implementation of the SDGs. In this context, the OECD launched the programme *A Territorial Approach to the SDGs*, which aims to support cities and regions to use the SDGs to improve local development plans, policies and outcomes.

Figure 4.1. Three scenarios for an EU contribution to the SDGs implementation

As outlined in the *Towards a Sustainable Europe 2030* reflection paper



Source: Reproduced from European Commission (2019), Reflection paper: Towards a Sustainable Europe by 2030, https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf

Box 4.4. VVSG's support to multilevel governance of the SDGs in Flanders, Belgium

From 2017 to 2019, VVSG worked in a SDGs pilot project with the aim to integrate the SDGs in local policies and promote coherence for sustainable development. Throughout the project, VVSG provided intensive support to a first group of 20 pioneering municipalities selected based on criteria related to geography (the municipalities are spread across the provinces), size and level or experience with the SDGs.

The project had three main tracks designed to move towards a coherent, integrated and broad-based policy on sustainable development:

1. Communication and awareness-raising.
2. Politics (advocacy and awareness-raising for elected council members).
3. Policy planning.

Together with the 20 pilot municipalities, VVSG developed practical tools and guidelines to integrate the SDGs into local policy, which were then promoted and disseminated to all Flemish municipalities. Due to different local contexts, priorities and levels of ambition, there is no one-size-fits-all approach or common roadmap for all municipalities. Instead, they developed different scenarios for localising the SDGs through the mandatory local context analyses. Such scenarios range from a basic *ex post* "SDGs check" to using the 17 SDGs through five pillars of sustainable development as the structure of the context analysis. VVSG also promotes the carrying out of an SDG check when developing a new action or project, including analysing the positive and negative impact and potential spill-over effects across goals. Finally, VVSG is working to support municipalities in monitoring progress towards the SDGs, amongst others by developing a catalogue of indicators.

The project also contributed to multilevel and multi-stakeholder governance for the SDGs through its advisory board. The board met twice a year to provide feedback to the pilot

project and consisted of external experts from organisations such as VOKA (Flanders' Chamber of Commerce and Industry that issued a Charter on Sustainable Entrepreneurship), the province of Antwerp, VNG International (experts in strengthening democratic local governments) and the Flemish government, as well as VVSG experts.

Source: VVSG (2018), Integrating the SDGs into your context analysis: How to start?, https://www.vvsg.be/kennisitem/vvsg/sdg-documents-in-foreign-languages

Distinctive role of regions in the implementation of the SDGs

Regions have a distinctive role in the implementation of the SDGs, in particular as an intermediary actor between the national and local levels. The competencies and resources of regions depend on the decentralisation degree of countries; however, a set of three key functions in the implementation of the SDGs can be identified: i) aligning national and local priorities and ensuring consistency across measurement frameworks; ii) channelling investment towards sustainability; and iii) setting incentives to enhance multilevel governance.

Regions are privileged interlocutors between city and national governments, in particular to align policy priorities across levels of government. Administrative fragmentation (i.e. a large number of municipalities) can result in a lack of involvement of local governments in national sustainability policies and planning processes. Regions have therefore a role to play in bringing national targets to a regional context and setting up co-ordination and dialogue mechanisms to ensure municipalities localise the SDGs. For instance, during the preparation of the first Belgian Voluntary National Review, co-ordinated through the Inter-ministerial Conference for Sustainable Development, federal and regional governments participated actively, while municipalities could have been more directly involved. It is in this context that regions can scale up issues and concerns at the local level and also localise national priorities.

Regions can contribute to ensuring consistent measurements on SDGs across levels of government. Norway has rich databases to measure progress on the SDGs at the subnational level, for example KOSTRA that gathers municipal-level data on public health. However, regions are better placed to identify data gaps at the regional and local levels. Viken has developed a Knowledge Base, which analyses existing trends, challenges and opportunities and can set quantified targets related to the SDGs for its regional development strategy. This can help to identify data gaps for monitoring the SDGs at the subnational level in Norway, in collaboration with Statistics Norway. In Argentina, the province of Córdoba is using an adaptation guide, with methodological suggestions on the use of the SDGs as a management and planning tool at the subnational level, developed by the national government to ensure consistency between the provincial and national indicator framework to monitor the implementation of the SDGs.

Regions can gear key monetary resources in the form of public investment towards implementing the SDGs. For instance, in Southern Denmark, sectoral priorities for the new regional development strategy, including associated financing and investment mechanisms, are decided by the Regional Council. In February 2019, all regional committees started to incorporate the SDGs in their respective areas of competency, with an overall focus on SDGs 3-7 and SDGs 9-13 for the region (Region of Southern Denmark, 2019). In Viken, Norway, one of the ways forward considered by the county is aligning smart specialisation and funding for clusters with the SDGs.

Regions also play a key role in setting incentives for multilevel co-ordination on the implementation of the SDGs. Contracts across levels of government in key sectoral priorities are a tool used by regions to advance the implementation of the SDGs. In Denmark, regions own and operate public hospitals, while municipalities are responsible for preventative care and health promotion, as well as other types of care that are not related to inpatient care, such as rehabilitation and social psychiatry. Social services handled by the municipalities further include elders care, disabled people's care and support to chronically and mentally ill people. To promote co-ordination across health and social services in municipalities and regional hospitals, regions and municipalities sign mandatory healthcare agreements (Frølich, Jacobsen, and Knai, 2015). In Norway, to commit all levels of government to strategic regional planning, urban growth agreements and "city packages" for transport infrastructure investment are being promoted by the government. Examples of city packages in Viken include the Oslo Package 3 (*Oslopakke 3*), which was formed to co-fund transport and roads in the Oslo-Akershus area and the Buskerud Package 2 (*Buskerudbypakke 2*), which is a collaboration between nine municipalities, the county and regional state authorities in Buskerud to improve the public transport network, aiming for zero growth in car use in the county.

Softer mechanisms, such as co-operation agreements or multilevel dialogue platforms, are also a common tool at the regional level to implement the SDGs. The Flemish and federal government of Belgium are together supporting municipalities to implement the SDGs through the SDGs pilot project funded by the Flemish Department of Foreign Affairs (DBZ) and the Directorate-General Development Cooperation and Humanitarian Aid, implemented by VVSG in 20 pilot municipalities (see "The key role of Flemish cities and municipalities" in the 2030 Agenda). In Argentina, the province of Córdoba is promoting the signature of voluntary co-operation agreements to support municipalities with the implementation of the SDGs. In particular, the agreement promotes technical and research activities as well as awareness-raising campaigns. In Norway, regional planning fora, such as those existing in Viken, have been explicitly mentioned in the Ministry of Local Government and Modernisation (KMD)'s Expectation Document as a tool to be used to strengthen multilevel dialogue and exchanging experiences around the SDGs.

Horizontal co-ordination to achieve the SDGs: Enhancing policy complementarities, synergies and trade-offs management

The 17 SDGs are comprehensive in scope and cover all policy domains that are critical for sustainable growth and development. They are also strongly interconnected, meaning that progress in one area is likely to generate positive spill-overs in other domains, but can also trigger negative externalities and a race to the bottom. The SDGs, therefore, require both coherence in policy design and implementation, and multi-stakeholder engagement. Their implementation should be systemic and rely on a whole-of-society approach for citizens to fully reap expected benefits. Several pilot cities and regions are fostering such a holistic approach both in terms of the institutional frameworks to overcome policy silos and regarding multi-stakeholder dialogues (see Table 4.3).

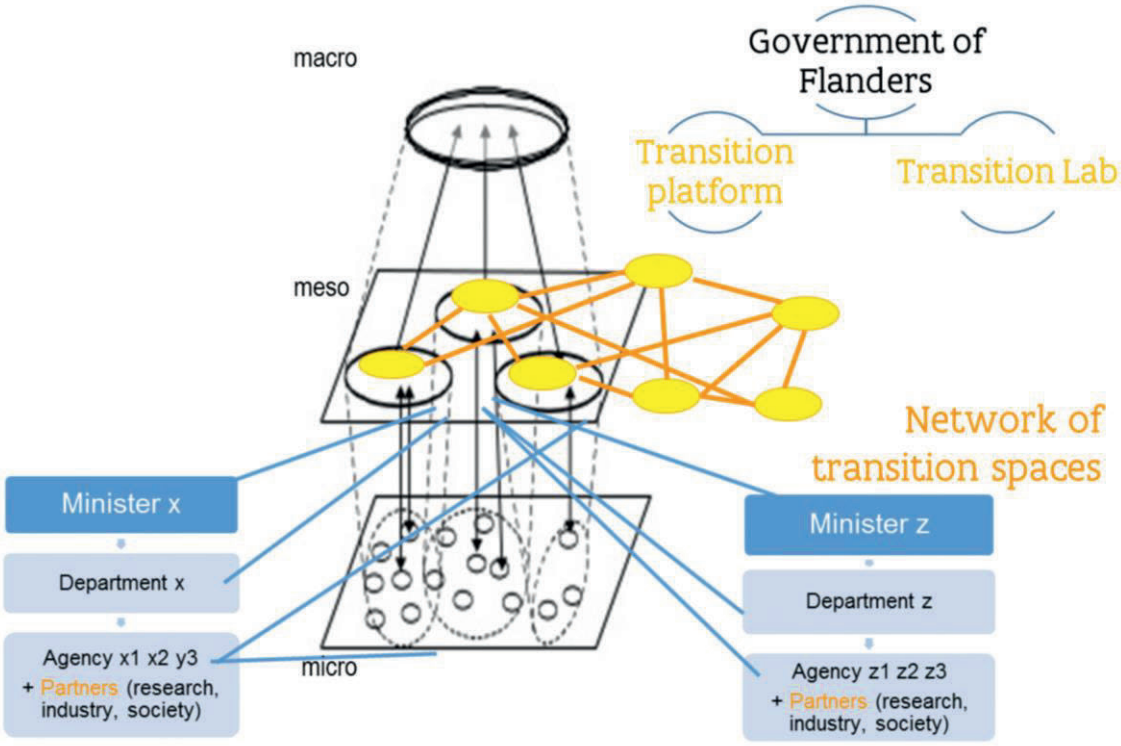
Institutional frameworks for cities and regions to address the SDGs holistically

Innovative governance mechanisms to implement the SDGs holistically have started to emerge at the subnational level. One example is the new governance model put in place by the Flemish government in Belgium, based on transition management principles, namely: system innovation, taking a long-term perspective, involving stakeholders through

partnerships, engaging in co-creation and learning from experiments (Figure 4.2). The model is moving away from the pyramidal, top-down and hierarchical structure of the public administration towards "transition spaces", which are managed by teams composed of transition managers from the public administration, responsible ministers and external stakeholders, including experts, private-sector representatives and civil society. Together, the transition spaces form a network that connects the micro-level (multi-stakeholder partners) with the macro-level (the Flemish government). In March 2016, the Government of Flanders presented its new strategic outlook for the future: "Vision 2050: a long-term strategy for Flanders'. Vision 2050 sets out a vision for an inclusive, open, resilient and internationally connected region that creates prosperity and well-being for its citizens in a smart, innovative and sustainable manner. This long-term strategy provides a strategic response to the new opportunities and challenges Flanders is facing. Through the transition spaces, stakeholders from civil society, academia and the private sector collaborate with the regional government around its transition priorities. One example is Circular Flanders, where around 50 facilitators help to connect procurers with over 100 projects that provide circular economy products and services. The seven transition priorities are: i) circular economy; ii) smart living; iii) industry 4.0; iv) lifelong learning and a dynamic professional career; v) caring and living together in 2050; vi) transport and mobility; and vii) energy.

Figure 4.2. Flanders' new governance model, Belgium

Promoting the government's Vision 2050 priority transitions



Source: Contribution by the local team of the OECD SDGs pilot of Flanders (Belgium).

In Norway, Viken uses the SDGs as the basis to build the new county organisation and public administration. In practice, this entails working on different levels to make the SDGs part of the everyday work of the county, while strengthening the county's role as

"community developer". This implies a holistic process comprising elements such as developing relevant competencies among staff, updating administrative systems and decision-making processes that support the SDGs to ensure that Viken becomes a community developer "leading the way". The SDGs will be included as a distinct managerial responsibility and training will be provided to managers, employees and elected politicians alike, as well as reflected in communication efforts, templates and routines.

Kitakyushu's SDGs Promotion Headquarters in Japan guides the overall city administration in the implementation of the SDGs. The aim of the initiative is to promote effective actions to achieve the SDGs and to co-ordinate all government institutions relevant to the 2030 Agenda under the leadership of the Mayor. These efforts are further supported by two other governance structures, which are the Kitakyushu City SDG Council (advisory board) and the Kitakyushu SDGs Club, open to anyone in the city, with 800+ members registered.

In Bonn, Germany, the SDGs provide a tool for inter-departmental and broader stakeholder dialogue around the sustainability strategy development. A key issue for the city of Bonn will be to ensure that the cross-sectoral perspective is institutionalised in the implementation of the strategy. This is why a project and steering group was set up for the whole process of developing the strategy, including 12 members from all the departments of the city administration, which ensured an integrated analysis and drafting of the strategy contents. The project group also convenes external stakeholders like businesses, non-governmental organisations (NGOs) and academia, with the purpose of providing input and reviewing the content of the strategy.

In Córdoba, Argentina, the SDGs have shaped the regional development strategic lines of action for 2030. The province has established an Inter-ministerial Roundtable to raise awareness and foster the implementation of the SDGs, which is co-ordinating all the provincial departments (ministries, secretariats and agencies) working on the prioritisation and alignment of their activities to the SDGs targets and goals. One of the key motivations to adopt the 2030 Agenda was the search for incentives to collaborate, both internally, across departments of the provincial government, and externally with other levels of government, the private sector, civil society, universities and citizens. The province is also sensitising all departments on SDGs through awareness-raising events and workshops. This work should allow to reflect and mainstream the SDGs into the sectoral policies and strategies of the province in the coming years.

In Southern Denmark, Denmark, the region is also using the SDGs for formulating its new Regional Development Strategy. The SDGs are seen as a natural step for linking the region's current Regional Development and Growth Strategy "The Good Life" (*Det Gode Liv*) 2016-19 to the new strategy for 2020-23. The decision to base the next regional development strategy to the SDGs was taken in 2018. The new strategy is structured around six pillars that are considered levers to achieve the SDGs, in particular: mobility for all; green transition, climate and resources; clean water and soil; skills for the future; healthy living conditions; and an attractive region, rich in experiences.

In Kópavogur, Iceland, adopting a holistic approach to the implementation of the local strategy and its 36 prioritised SDG targets has been rather challenging. There is a long tradition of sector-based planning is the city, hence policy silos were hard to overcome in the early stages of the strategy development. Nonetheless, the municipality has set up a Steering Group with all heads of department and the project manager leading the strategy. The Steering Committee set up a Project Group that consists of two staff members from each department and the project manager of strategy. The group has succeeded in building

internal awareness within the administration and is working towards the design of strategic action plans to implement the strategy.

In Moscow, Russian Federation, the SDGs are seen as a systemic framework that can help to promote an integrated approach to urban planning. Moscow is striving to find a balance between access to green areas, efficient transportation and quality housing. The city has to deal with difficult trade-offs when addressing key challenges such as the adaptation to climate change (SDG 13), since reducing greenhouse gas (GHG) emissions will imply maintaining and developing green spaces (SDG 11 or 15), reducing private transportation in favour of public transport (while at the same time catering for a growing population with the need for affordable housing) or promoting sustainable production (SDG 12), among others. The SDGs can help think, plan and act in a systemic manner and allow identify/manage synergies across different policy areas. The SDGs can offer an opportunity to broaden this perspective and look at interlinkages between socioeconomic and environmental goals. The key idea of the city is to disassociate sectors from individual SDGs.

Paraná, Brazil, has assigned the State Council of Economic and Social Development of the state of Paraná – CEDES – the role to co-ordinate the implementation of the SDGs. CEDES is chaired by the governor and is composed of all state secretaries and three independent recognised professionals in the area of sustainable development (appointed by the Governor). The Council's main functions are:

1. To advise the government on strategies, instruments and projects that contribute to economic growth, social development and environmental protection.
2. To design, approve and monitor the Sustainable Development Plan of the state of Paraná.
3. To strengthen communication and co-ordination between governmental and non-governmental entities on the implementation of public policies.

The Basque Country, Spain, has developed an integrated and transversal strategy for the SDGs. The 2030 Agenda is seen as an indivisible whole and including multiple stakeholders in both its development and implementation. The Basque Internationalisation Council was set up to foster debate around the localisation of the SDGs, while the Basque parliament has created a Working Group to strengthen SDG collaboration with other organisations, regions and networks. Finally, the Udalsarea network links 183 Basque municipalities and provincial councils, as well as agencies for water and energy to promote shared responsibility for integrating sustainability into municipal action (European Union, 2019).

Table 4.3. Approaches to horizontal co-ordination in the pilot cities and regions

OECD Pilot	Horizontal co-ordination approach
Bonn (Germany)	Project and steering groups set up with representatives from all city departments to provide input for the design of the local sustainability strategy, which aims to implement the prioritised SDGs. In the city council, it was decided to adopt the Sustainability Strategy and continue with the established structures.
Córdoba (Argentina)	Inter-ministerial Roundtable to raise awareness and foster the implementation of the SDGs, which is co-ordinating all the provincial departments (ministries, secretariats and agencies) that are working on prioritisation and alignment of their activities to the SDG targets and goals. The province has also worked with actors from the private, not-for-profit, and academic sector to provide a reality check on the priorities selected by the government and to assess the interconnectedness across social, economic and environmental SDGs in the province.
Flanders (Belgium)	New governance model based on transition principles: system innovation, taking a long-term perspective, involving stakeholders through partnerships, engaging in co-creation and learning from experiments. The model is organised around "transition spaces" managed by teams composed of transition managers from the public administration, responsible ministers and external stakeholders.
Kitakyushu (Japan)	Kitakyushu SDGs Headquarters, SDG Council and SDG Club to ensure both horizontal co-ordination and multi-stakeholder engagement in the implementation of the SDGs Future City Plan.
Kópavogur (Iceland)	Steering group set up for the development of the local strategy with all heads of department, while the strategy's Project Group co-ordinates the contents and strategic action plans by all departments to implement the strategy.
Moscow (Russian Federation)	Local departments co-ordinate through the implementation of specific programmes, such as for the urban regeneration programme, the Moscow Electronic School or the Magistral Route Network.
Paraná (Brazil)	The Social and Economic Development Council in Paraná is responsible for co-ordinating the implementation of the SDGs in the state and for the development of a plan to implement SDGs. All state secretaries and other stakeholders are part of the council and participate in the discussions and in the decision-making process.
Southern Denmark (Denmark)	An interdisciplinary working group has been set up to identify how the SDGs can be integrated into regional development.
Viken (Norway)	New county organisation built on the SDGs, where the goals become a new management responsibility and part of everyone's daily tasks and routines.

Assessing SDGs synergies and trade-offs at the local and regional levels

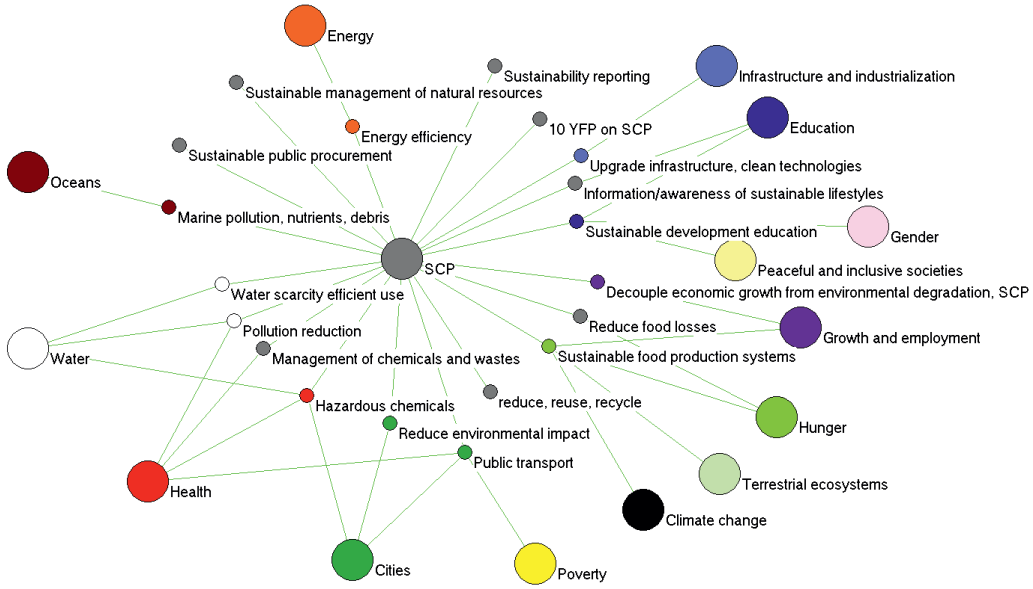
Analysing the detailed relationship between the goals and targets is essential in order to avoid progress on one goal preventing or even worsening performance on another. Some typical examples of interconnected goals include synergies between promoting economic growth (SDG 8), ending poverty (SDG 1) and promoting equality (SDG 10). Trade-offs can include higher levels of CO2 emissions resulting from economic activity, hence working against combating climate change (SDG 13) or unsustainable use of natural resources threatening life on land (SDG 15) and in the sea (SDG 14), unless measures are taken to counter these. Access to clean water and sanitation (SDG 6) is another example of a highly interconnected goal. While it is critical to lift people out of poverty (SDG 1) and foster gender equality (SDG 5), the largest water consumers are farmers, which holds implications for SDG 2 (no hunger). While energy subsidies to farmers contribute to energy

affordability, as called for in SDG 7, they undermine water use efficiency (SDG 6) because they incentivise over-abstraction from rivers and aquifers. Co-ordination across water, energy and agriculture policies is essential to manage trade-offs.

In many policy domains, the local scale can often be more appropriate to unpack the complexity of trade-off management through tailoring concrete solutions to specific places. For instance, cities and regions can help to accelerate the transition to the circular economy, helping to keep the value of resources at its highest level, while decreasing pollution and increasing the share of recyclable materials. This supports the transition to more sustainable and responsible consumption and production (SDG 12), while contributing to economic growth and job creation (SDG 8), and reducing negative environmental impacts (e.g. SDG 13, 14 and 15).

Several institutions have applied network analyses to understand the interlinkages between SDGs goals and targets and existing policies, helping to break "silo" thinking. By showing how the goals are interconnected, some with more frequent connections – "stronger ties" – than others, network analyses can help to promote policy integration in areas that may be traditionally sectoral. The UN Department of Economic and Social Affairs (DESA) carried out network analyses for SDG 3, SDG 10 and SDG 12 against the other SDGs by using the wording of the targets to detect interlinkages. For example, the interlinkages between the targets of SDG 12 and other SDGs were counted with reference to how many of the other SDGs targets explicitly refer to sustainable consumption and production (Le Blanc, 2015). From this perspective, the "core" targets represent those directly part of SDG 12, while the "extended targets" are those covered in other SDGs but nevertheless relevant to the achievement of SDG 12. In this way, network analyses can enable cross-sector dialogues and thus help to address the "silo" approach, as experienced in the Millennium Development Goals (MDGs). Figure 4.3 illustrates the network analysis of SDG 12 (Sustainable Consumption and Production) and the rest of the SDGs.

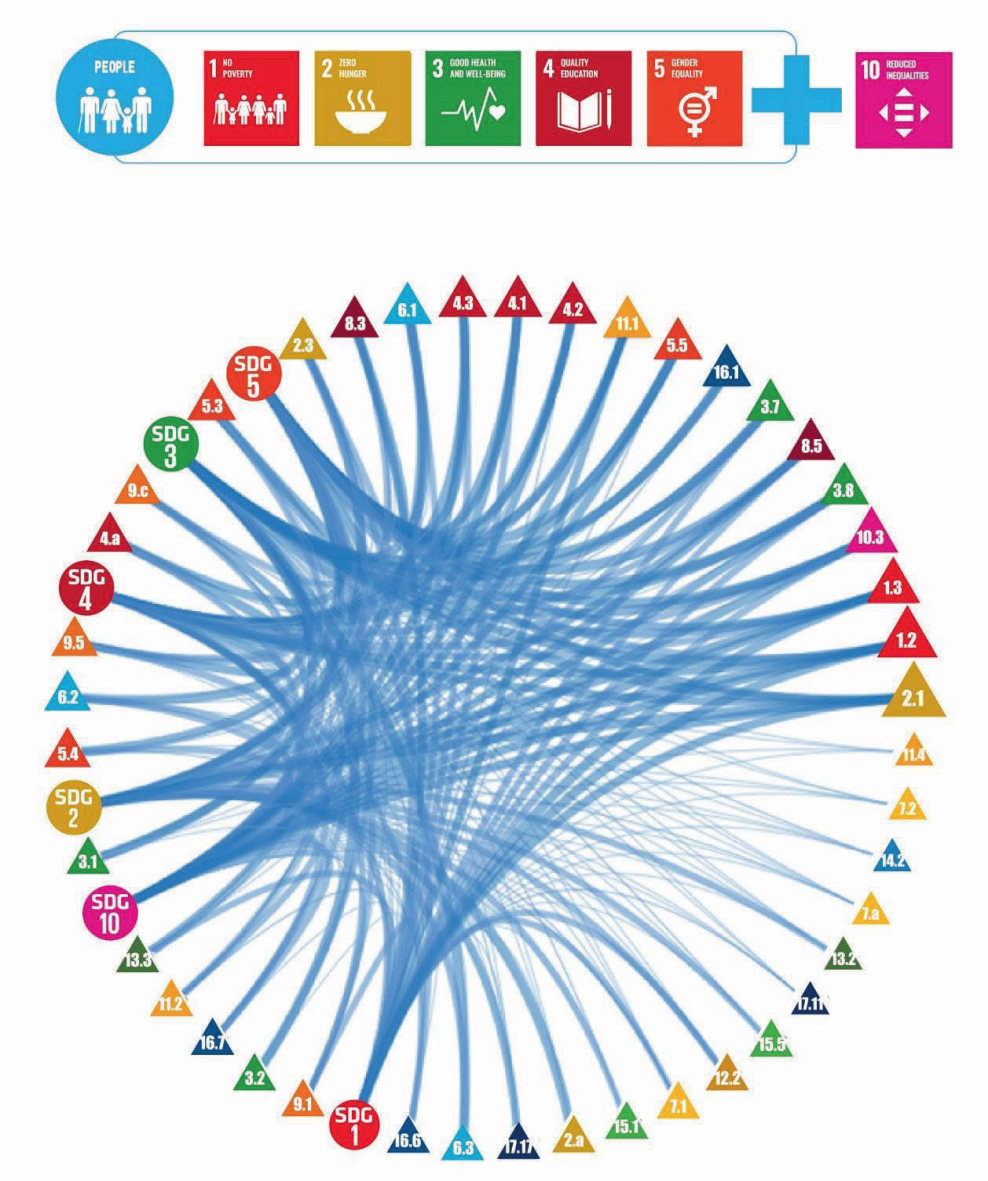
Figure 4.3. Network analysis of SDG 12 vis-à-vis other SDGs and targets



Note: SDG 12 is denoted by SCP: Sustainable Consumption and Production.
Source: Le Blanc, D. (2015), "Towards integration at last? The sustainable development goals as a network of targets", No. 141.

Some cities and regions have pioneered different methods and approaches to analyse the interactions between the SDGs, both in terms of synergies and trade-offs. Matrix approaches combining scientific evidence, expert opinions and participative policymaking processes provide useful tools to understand and address SDGs interactions. For example, the province of Córdoba, Argentina, is developing a matrix to identify "key drivers" of social inclusion in the province by analysing the synergies between SDGs 1 to 5 and SDG 10 on the one hand, and all SDGs related to environmental and economic outcomes on the other hand (Figure 4.4). The Matrix is inspired by the International Council for Science's *Guide to SDG Interactions: From Science to Implementation* (ICSU, 2017), which entails scoring SDGs and targets according to the positive, negative or neutral relationship between each other. In the framework, a seven-point scale is developed based on scientific evidence and expert judgement of causal and functional relations between the SDGs and their targets. When goals and targets can be expected to contribute to each other's achievement, they are scored either +1 (enabling), +2 (reinforcing) or +3 (indivisible). Goals and targets that involve trade-offs are scored -1 (constraining), -2 (counteracting) or -3 (cancelling).Neutral relations are scored 0. While acknowledging that many of the scores will be partly subjective, the authors highlight that the approach can be useful to identify essential knowledge gaps regarding interactions between the goals.

Figure 4.4. Matrix to identify "key drivers" of social inclusion in the province of Córdoba, Argentina



Source: Secretaría General de la Gobernación (2019), *Córdoba hacia el 2030 - Tercer taller, Los Objetivos de Desarrollo Sostenible en el contexto local*.

The "planetary boundaries" approach is another lens through which synergies and trade-offs across SDGs can be assessed. The "planetary boundaries" discourse implies focusing on long-term Earth-system stability while accounting for human development needs, acknowledging that some of the goals can be incompatible, unless set within planetary boundaries. For example, addressing climate change while promoting increased gross domestic product (GDP) growth can be incompatible unless significant decarbonisation of the economy takes place concurrently. Figure 4.5 shows a diagram developed by the Stockholm Resilience Centre called the "wedding cake", whereby the environmental SDGs are considered foundational to all other goals. This model has inspired the county of Viken,

Norway, to reflect on the relation between socioeconomic development and planetary boundaries. This has proven to be a challenging endeavour that needs further exploration. The complex relation between different SDGs will be shown by qualitative descriptions rather than quantitatively through the indicator set developed by the county.

Figure 4.5. The Stockholm Resilience Centre's SDGs "wedding cake"

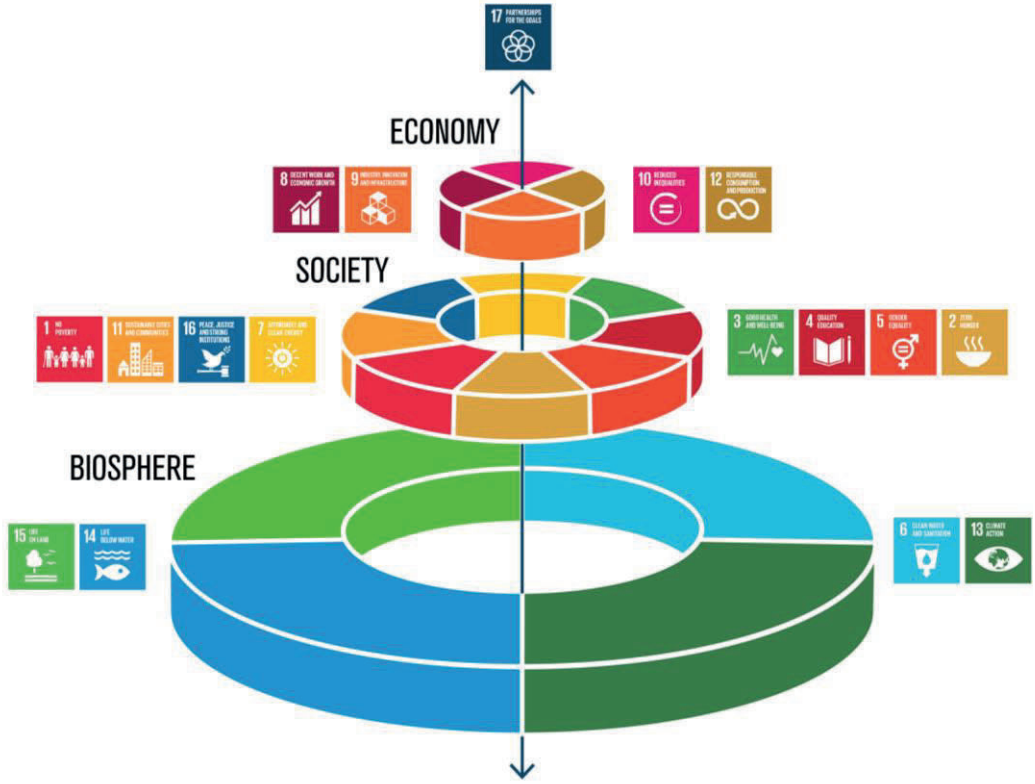


Photo credit: Azote Images for Stockholm Resilience Centre, Stockholm University.
Source: Stockholm Resilience Centre (2016), Contributions to Agenda 2030 – How Stockholm Resilience Centre (SRC) contributed to the 2016 Swedish Agenda 2030 HLPF report, https://www.stockholmresilience.org/SDG2016.

Data-driven policymaking can also help to build integrated solutions for the goals. In Kópavogur, Iceland, the local administration is pioneering data-driven solutions for linking the SDGs goals and targets across municipal services and projects through an information and management system and software called MÆLKÓ (Measuring Kópavogur). The MÆLKÓ data warehouse incorporates around 50 different data systems, including service data from schools and kindergartens, building inspections data and human resources indicators, among others. The system will help to calculate performance indicators and indexes and support automatic updates to keep track of objectives and goals. The ultimate aim is to support the efficiency of the local administration in its work towards its 36 prioritised SDGs targets.

Geographical mismatches can be witnessed in the case of Norway, where counties and municipalities operate in a complex territorial governance system with many overlapping structures and collaboration agreements. In addition to its 51 municipalities, Viken alone is involved in 51 different regional state authorities and at least three significant regional

collaboration networks. To address this complexity, the OECD promotes a functional approach to urban policies, using the definition of cities as functional urban areas (FUAs). For the county of Viken, this approach will be particularly relevant in order to understand the interplay with the Metropolitan FUA of Oslo, which is at the geographic core of the county and includes many municipalities that administratively belong to Viken. Yet, the urban core of Oslo has its own status as both municipality and county. Close collaboration between Oslo and Viken and its municipalities will thus be key to the sustainable development of Viken while promoting balanced urban development in the region.

An opportunity for the city of Moscow is to leverage the potential of its metropolitan area to promote sustainable urban development. For instance, despite recent progress and the remarkable actions of the local administration, transport still represents one of the main challenges for the city of Moscow. Transport (car and auto transport) is the main source of air pollution (80% of pollutants). Moreover, the local population is still mainly using private cars despite the availability of public transport options. Although the government of Moscow is trying to reduce the use of private transport through car sharing, bike sharing and costly parking rates, traffic congestion in peak hours represents a current and future challenge for the city. It is claimed that the Moscow metropolitan area (delineated using an economic-boundaries approach) encompasses around 20 million inhabitants. It is, therefore, crucial to co-ordinate closely with other municipalities issues related to housing space and transport, which are better managed at the metropolitan scale.

The SDGs can help to bridge geographical/administrative mismatches by providing shared objectives and a common language to deal with issues at the most effective scale. In Viken, the new county is developing a common Knowledge Base, where indicators at the county and municipal levels based on the SDGs framework will help to analyse key trends vis-à-vis the SDGs, using functional analyses to inform regional planning. Another example is Kópavogur, Iceland, that is collaborating with bordering municipalities (including Reykjavik) around the creation of a Bus Rapid Transit system to improve public transport in the capital area. The OECD localised indicator framework for the SDGs will provide a tool for policymakers to make use of functional data to complement administrative city data.

Promoting public-private collaborations in cities and regions through the SDGs

Successfully engaging the private sector in the delivery of the SDGs, which have a broader impact and sustainability in areas such as building social value and equity, requires a better understanding of the many actors involved in this sector. The latter include banks, fund managers, sovereign wealth funds, pension funds, insurers, philanthropic organisations, social enterprises, individual businesses and business groups, and SMEs, among others. This section identifies a few of these actors, providing examples of their programmes, initiatives, tools and other efforts to accelerate investment in sustainable development. Likewise, this section reinforces the importance of a multi-sectoral approach to the SDGs insofar as the variety of actors and industries operating across the private-sector landscape offers different opportunities at different stages of cities' and regions' development to set joined-up priorities and identify investment opportunities that will deliver the greatest impacts across different sectors of the economy.

The key role of the private sector: Beyond Corporate Social Responsibility

The SDGs provide a tool to bring together various stakeholders, including local governments, the private sector and civil society. Businesses in many OECD countries are

starting to use the SDGs in their core strategies, going beyond Corporate Social Responsibility (CSR). The perception among frontrunners is that failing to incorporate the SDGs in the core business may leave the company out of business in the long run. In some cases, chambers of commerce and business confederations are encouraging their members to incorporate the SDGs in their business strategies. This is the case of VOKA, the umbrella organisation for eight chambers of commerce in Flanders, Belgium, whose charter on sustainable entrepreneurship stimulates business to develop action plans based on the SDGs. In Denmark, a multi-stakeholder platform launched by the Danish Confederation of Businesses supports pioneering business models based on the SDGs (Box 4.5), while the regional chamber of commerce in North Rhine-Westphalia in Germany supports networking among social entrepreneurs in and around the city of Bonn.

It is widely recognised that current levels of investment will not be sufficient to achieve the goals established in the 2030 Agenda. Global infrastructure investment alone needs to amount to USD 6 trillion each year for the next 15 years, while the current annual investment is estimated at around USD 2.5 trillion to USD 3 trillion (Bielenberg et al., 2016). Annual investment needs to increase to nearly USD 7 trillion when costs of ensuring that infrastructure is compatible with low-carbon, climate-resilient development pathways are taken into consideration (OECD/The World Bank/UN Environment, 2018).

Investments in infrastructure will have to account for long-term impacts and be resilient to changing circumstances to achieve the SDGs. Delivering the "right" kind of infrastructure will require to understand what we need today to close existing infrastructure gaps and to anticipate what these might be in the future. Infrastructure projects must maximise both their mitigation and adaptation capacity. Sustainable infrastructure not only enables sound economic development, job creation and the purchase of local goods and services, it also enhances the quality of life for citizens, increases positive impacts and benefits, helps to protect our vital natural resources and environment, and promotes more effective and efficient use of financial resources. Sustainable infrastructure often integrates hard infrastructure, sustainable materials, technology that reduces risk and creates efficiencies, nature-based solutions and/or circular economy solutions.

Private-sector investment is needed to bridge the financing gap to achieve the SDGs. The United Nations Environment Program Financial Initiative (UNEP FI) *Rethinking Impact* report (2018) estimated that non-traditional sources of development funding (e.g. microfinance, crowdfunding and foundations) account for just 1.4% of the SDGs overall financing needs (UNEP FI, 2018). Banks and financial institutions have started to include the SDGs in their corporate strategies, including at the subnational level. For instance, 161 banks are members of the UN Global Compact, as well as 10 real estate investment trusts and 24 life insurance companies (UN Global Compact, 2019). The Icelandic bank Islandsbankí is a leading player in areas like gender equality (SDG 5) and is planning to expand its portfolio of green energy investments, while the provincial bank of Córdoba, Banco de Córdoba, focuses on SDG 8, supporting the implementation of the policies and programmes of the provincial government, as well as financial education. SDG 16 is key for the bank to prevent corruption and money laundering. John Wood Group PLC, a multinational energy services company, supported by the Rockefeller Foundation, is leading a consortium to develop a "resilient infrastructure investment screen" that can be applied to infrastructure projects to identify and shape projects and increase their resilience, connect solutions and evaluate assets for potential funding from an investor-backed Urban Resilience Fund. The fund, set up by the Rockefeller Foundation and Meridiam, aims to provide a pipeline of projects that are resilient and provide resilience value through measurable key performance indicator (KPI) outputs. The Urban Resilience Fund aims to

raise USD 500 million primarily from institutional investors, including pension funds, sovereign wealth funds, insurance companies, among others.

Small- and medium-sized enterprises (SMEs) also use the SDGs to support their business models and can contribute to their achievement. SMEs are key to generate income and employment and can contribute to finding innovative solutions to achieve the SDGs, for example spearheading biotechnology and nanotechnology developments and providing opportunities for organic farming, renewable energy and greening of products and services. As such, SMEs have a leading role to play in meeting SDGs 8 and 9, for example, as well as more "environmental" SDGs. In Southern Denmark, Naturmælk, a small dairy company from Southern Jutland, produces organic and biodynamic milk products. It engages 33 farmers and has developed the RISE method for assessing the sustainability of agricultural production at the farm level. The company is already addressing many SDGs through their core business (e.g. SDGs 2, 4, 6, 7, 9, 11, 12 and 13) while witnessing that consumers are so far more sensitive to the circular economy topic.

Social enterprises by definition also pursue social or environmental goals as part of their business models.[3] One example of a social enterprise using the SDGs is Kompass & Co in Norway. The company sees the SDGs as a means to motivate long-term unemployed and disadvantaged youth throughout their labour market integration journey. Moreover, it uses expiring food products to reduce food waste. Local businesses tend to consider Bonn as a favourable location for social entrepreneurship, both due to its highly educated population and its role as a global sustainability hub. One example of a bottom-up network of social entrepreneurs that has formed is the super-food plant Moringa. A number of fair trade companies collaborate towards the creation of a Moringa institute to invest jointly in research and development (R&D) in the sector.

Lastly, many start-ups that do not make an explicit reference to sustainability in their business strategies are, however, promoting sustainable approaches to traditional businesses. This includes (small) profit activities, such as upcycling used clothes, repair cafes, cargo bicycle rentals, among others. Entrepreneurs promoting these activities are often found in "creative" cities with a vibrant cultural life for young people and with the availability of low-budget spaces, such as abandoned factories, warehouses, co-working spaces, etc. A clear example of such a start-up dynamic in Germany is the city of Berlin. The city has established specific targeted policies to create an enabling environment for creative entrepreneurs, including slowing down the gentrification process, establishing start-up incubators, strengthening the link between universities, government and private sector, etc.

While the above trends are positive, some level of caution must be applied when looking at private-sector initiatives, to avoid the risk of "greenwashing", "social washing" and the more recently coined term "rainbow washing", referring to the use of the SDGs for window dressing and marketing purposes. To ensure accountability, the UN Global Compact is a key actor encouraging businesses to adopt the SDGs in their core business and to systematically report on progress. Companies participating in the UN Global Compact commit to reporting on its ten principles for sustainable business conduct on a yearly basis. As a result, in the province of Córdoba, Argentina, many locally based companies, part of the UN Global Compact, have started using the SDGs in their business strategies.

Other corporate reporting initiatives are also starting to join forces in using the SDGs framework. For example, the SDG Compass offers an inventory of widely acknowledged business indicators to report on SDGs (e.g. the Global Reporting Initiative (GRI)). Although principally developed for large multinational enterprises, it encourages small-

and medium-sized enterprises and other organisations to use it for inspiration (GRI, UN Global Compact, and WBCSD, 2019). The Impact Management Project (IMP) is another example of a global network of standard-setting organisations that have turned their attention to the SDGs. The IMP is a forum for building global consensus on how to measure and manage impact, in particular around three areas: i) Practice - processes for managing impact; ii) Performance - frameworks and indicators for measuring and reporting impact (performance); iii) Benchmarking - rating and valuation for comparing impact . Several of its members have ongoing initiatives to measure progress towards the SDGs. For instance, the MetODD-SDG, developed by Cerise – an association focused on promoting ethical finance, is an assessment tool that lets mission-driven businesses measure their contribution to the SDGs. IMP Structured Network includes the Global Impact Investing Network (GIIN), the GRI, the Global Steering Group for Impact Investment (GSG), the International Finance Corporation (IFC), the OECD, the Principles for Responsible Investment (PRI), Social Value International (SVI), the United Nations Development Programme (UNDP) and the World Benchmarking Alliance (WBA). Although not SDGs-specific, for over two decades the Carbon Disclosure Project (CDP) has supported thousands of companies, cities, states and regions each year to measure and manage their risks and opportunities related to climate change, water security and deforestation. The goal of the CDP is to foster a thriving economy that works for people and the planet in the long term.

Box 4.5. Private-sector participation in the SDGs: Danish experience

In 2017, the Confederation of Danish Industry launched the project The UN Sustainable Development Goals – From Philanthropy to Business (*FN's verdensmål – fra filantropi til forretning*). The project, which ran from October 2017 to March 2020, aims to provide insights, inspiration and tools for companies to use the SDGs to generate new business and job opportunities. Project financing (DKK 5.25 million) comes from the Danish Industry Foundation (*Industriens Fond*), while the other project partners are Global Compact Network Denmark and Copenhagen Business School (CBS). The project also involves a co-operation with UNDP, the public-private (non-for profit) partnership State of Green, the Danish food industry cluster "Food Nation" and the multimedia platform "The Best News in the World" (*Verdens Bedste Nyheder*), which reports on SDG-related news.

The project involves 21 companies that seek to operationalise the SDGs in their core business, selected based on their level of vision and ambition. Their stories will provide inspiration to the rest of the Danish business community. The project consists of three pillars, namely: i) building business models based on sustainability; ii) communication; and iii) networking activities. The project website works as a platform providing an entry point for other companies that want to start working with the SDGs. In addition, dedicated social media pages have been set up to connect companies and allow members to find expertise and inspirational news, events and debates.

One of the key challenges for many companies is the vast amount of information available about the SDGs. The project thus aims to help companies filter information and find the right tools. To the end, the experiences of the 21 companies participating in the project are contributing to a guide on how to integrate the SDGs into their core business (currently under development). The different steps that will be described in the guide are "*understand, match, set goals, achieve and tell*". There are also inspirational case studies from all 21 companies available on the website.

As part of the project, each of the companies carried out a materiality analysis to assess where their business could have the highest impact (environment, society, economy, etc.). Their business models will be assessed by CBS as part of the project.

Another important feature of the project is the high-level advisory board established in 2018. Its role is to facilitate a close dialogue between a group of leading companies and people who work with the sustainability agenda in Denmark and to guide the evolution of the project. The board meets twice a year and acts as an expert panel for the project specifically, as well as for the confederation's activities within the area of sustainable business development overall. Her Royal Highness Crown Princess Mary sits on the advisory board.

Source: Confederation of Danish Industry (2020), FN's verdensmål – fra filantropi til forretning (The UN Sustainable Development Goals – From Philanthropy to Business), https://www.danskindustri.dk/sdg/

How can the public sector leverage private engagement with SDGs?

LRGs have a crucial role in creating an enabling environment for the private sector to contribute to the SDGs. Policy instruments such as public procurement and others that can overcome barriers to investment and support the deployment of innovative solutions at-scale are often under the portfolio of LRGs. Moreover, cities are key locations for SMEs, who provide a large chunk of employment and income for local populations. Cities and surrounding regions further offer ecosystems, cluster linkages and agglomeration effects that support the development and scaling up of innovative solutions by SMEs, as well as the start-up of new businesses.

Yet, communication between local governments, businesses and investors remains challenging. The OECD and UN Global Compact have identified that, when it comes to investment in SDGs at the city level, one key gap is the communication between local governments, the businesses and investor communities, making the entry points for investors unclear. To address this gap, the World Council on City Data (WCCD) has designed an Investable Cities Index to foster investments in sustainable cities by showcasing environmental and social key performance indicators. It draws on the 104 indicators of the ISO 37120 certification for sustainable development of communities that cities can use to attract businesses while progressing their sustainability agendas (WCCD, 2018). In addition, the OECD and UN Global Compact, together with several businesses and other organisations across the public and private sectors, established an Expert Group on Investing in the SDGs in Cities in July 2018. The main objectives and functions of the expert group are to: i) provide a better understanding of what it takes to close the capacities and finance gaps to shift from short-term, small-scale projects to long-term, impactful and scalable investments; ii) identify the key ingredients of, and opportunities for, delivering a "shared-value" model of public-private collaboration; and iii) serve as a reference point for city network partners by providing early-stage strategic and technical guidance to support sustainable urban development solutions that contribute towards the implementation of the SDGs.

Cities and regions use a range of tools to leverage private-sector contribution toward the SDGs. They include: i) raising awareness about the SDGs among local businesses; ii) providing space for networking and co-ordination; iii) helping to de-risk investment in new innovations; and iv) using public procurement strategically to achieve social and environmental outcomes. Some cities, such as Copenhagen and Roskilde, Denmark, and Oslo, Norway, have also started to disinvest from fossil fuels as part of their plans to make

the cities carbon neutral (Climate Action, 2016). In Paraná, Brazil, large companies and SMEs are building partnerships to adopt the 2030 Agenda and to implement the SDGs. Private companies are aligning their business plans and strategies with the SDGs pursuing the end objective to reduce environmental impacts and promote social justice. For instance, companies such as TCP (second largest terminal in Latin America) and COPEL (Paraná's Energy Company), a mixed capital publicly-held company with operations in ten Brazilian states and legal entity under private law whose major stakeholder is the state of Paraná (with operations in ten Brazilian states), are involved in international benchmarks on sustainability. Another example is Sanepar (Paraná Sanitation Company), a joint-stock, publicly traded, quasi-public entity, also controlled by the government of the state of Paraná, responsible for water supply and sanitation services in 346 municipalities, which has integrated the SDGs into its National Sanitation Quality Award certification processes.

Table 4.4 summarises initiatives in pilot cities and regions to engage with the private sector in the work towards the SDGs.

Table 4.4. Non-exhaustive overview of tools and initiatives by pilot cities and regions to engage with the private sector on the SDGs

OECD Pilot	Key tools and initiatives by the local/regional government
Bonn (Germany)	Platform to facilitate networking among local purpose-driven businesses created in collaboration with the regional chamber of commerce.
Córdoba (Argentina)	Provide support to private companies to mainstream the SDGs in their business strategy namely through dialogue, best practices exchanges and co-creation of new ideas.
Flanders (Belgium)	Transition spaces where private sector representatives are involved in the policy process. Financial support to R&D clusters also around sustainability topics. Public procurement taking social and environmental considerations into account. Helpdesk for local authorities to develop framework contracts and bidding templates. It is operated by VVSG.
Kitakyushu (Japan)	SDGs Council and SDGs Club to stimulate public-private partnership. Flagship purchasing power parity (PPP): Ecotown project involving the local government, businesses, academia and civil society.
Kópavogur (Iceland)	Informational sessions for local businesses organised with the local marketing agency and the national umbrella organisation for CSR and sustainability.
Moscow (Russian Federation)	The "Investment Strategy 2025" aims to create a favourable investment climate and stable economic basis for doing business to promote sustainable urban development.
Paraná (Brazil)	The Social and Economic Development Council supports partnerships with the private sector. There is also a partnership with Federation of Industries of the State of Paraná (FIEP) to implement the SDGs.
Southern Denmark (Denmark)	Previously promoted through growth centres, while business development support has been transferred to the central government as of 2019.
Viken (Norway)	Tailoring public procurement and public investment in e.g. funding for clusters focused on SDGs (work in progress).

Raising awareness about the SDGs among local businesses

Inspiring examples can help raise awareness among businesses about the opportunities provided by the SDGs to align business targets with long-term sustainability. The municipality of Kópavogur, Iceland, is joining forces with the local marketing organisation MK and the national NGO Festa (promoting CSR and sustainability among Icelandic businesses and other actors) to organise information sessions around the SDGs for local businesses and inviting frontrunners from the national stage to share their experiences. One key challenge identified by Festa is moving from inspiration to action. While many companies have been introduced to the SDGs, several struggle with identifying actions to address the goals. In the municipality of Asker in Viken, Norway, local businesses have been proactive in sharing good practices, producing a magazine showcasing how the business community contribute to the SDGs.

Some cities have launched awards for the most sustainable local businesses. The city of Kitakyushu has provided a certification towards eco-friendly products in order to help SMEs expand their market (there are currently 200 registered products). The city also launched the Kitakyushu SDGs Award and guarantees the debt of award-winning companies. In Bristol, United Kingdom, an annual award for the top 25 most socially responsible businesses in the city is to be launched in 2021 as part of the city's roadmap towards 2050, Bristol One City. By 2024, the city aims to encourage all local businesses with over 500 employees to commit to the SDGs and to publish data (City of Bristol, 2018). In Utrecht, the Netherlands, the HeelUtrechtU campaign nominates and rewards sustainable initiatives in the city, including local businesses, to make them more visible. Another initiative is the city's partnership with the "VIPbus" that brings together citizens and entrepreneurs to discuss the SDGs. In the state of Paraná, Brazil, the Paraná Federation of Industries (FIEP) organises the annual SESI SDGs Award contest, which has had an increasing number of applications since its first edition in 2016. In 2019, 386 public and private-sector organisations registered for the contest. Another initiative is to award an SDG stamp for one year to a local business as a recognition of their efforts in implementing the SDGs.

Providing space for networking, co-ordination and sharing of good practices

In many cities and regions, platforms for local businesses to connect are being set up in response to identified gaps in their local strategies to address the SDGs. For instance, the city of Bonn, Germany, has started to collaborate with the chamber of commerce to create a platform to stimulate networking for purpose-driven businesses working on similar SDG-related challenges.

Paraná, Brazil, is promoting agreements at different levels of government and among the private sector and civil society to leverage different efforts on the implementation of the SDGs. The state of Paraná is using the "*Paraná de Olho nos ODS*" (Paraná Keeping an Eye on the SDGs) pledge to gain public support to the SDGs from a wide variety of institutions (including state, private sector and civil society actors). The pledge encourages institutions to mainstream the 2030 Agenda in their internal routines and to engage with other partners. In particular, the pledge calls for implementing actions that promote peaceful and inclusive societies, provide access to justice, build effective institutions, promote accountable and inclusive entities at all levels and strengthen global partnership for sustainable development. The state is developing a proposal for a capacity-building programme on planning, monitoring and evaluation of public policies and to create an enabling environment for the implementation of the SDGs at the local level. Some of the

issues that the capacity-building programme will address are: the use of planning and financial instruments to strengthen urban planning; the role of local governments in the implementation of the 2030 Agenda; the use of business intelligence (BI) as a tool for local development; the link between actions in the Annual Budget Law and the SDGs; and a plan to engage partners to raise funds for the implementation of the SDGs.

The city of Kitakyushu, Japan, has created an SDG Club that has 800+ members (200+ are private companies) to foster public-private partnerships to contribute towards the SDGs Future City vision. In the city's ecotown, partnerships between academia, the city government and businesses are showcased and contribute to exporting technological solutions for issues such as wastewater treatment (Box 4.6).

Box 4.6. Kitakyushu Eco-town project, Japan

Bringing the city's industrial past into the future.

The Kitakyushu Eco-town project demonstrates the city's unique policy approach in place since the late 1990s, combining environmental conservation and industry promotion policies to construct a "resource-recycling-based" society and promote an "environmental industry". As such, the Eco-city project draws on both the city's longstanding manufacturing tradition (steel, chemicals, cement, etc.) and associated industrial infrastructure and technologies, as well as human resources, technologies and know-how built when overcoming problems linked to sea and air pollution in the past. Starting in the Hibiki area in the northern part of the city in 2004, the city of Kitakyushu expanded the scope of the project to cover the whole city in its work to become more eco-friendly.

The three pillars of Kitakyushu's Environmental Industry Promotion Strategy, which have their own dedicated areas in the ecotown project, consist of:

1. **Education and basic research**. The Kitakyushu Science and Research Park is a base for industry-academia co-operation. The site brings together national, local and private universities and graduate schools working on reuse, recycling and energy initiatives (among others).
2. **Technology and practical research**. The dedicated Practical Research Area brings together businesses, government and academia to develop cutting-edge environmental technologies, with a focus on waste disposal and recycling. The area also hosts the Eco-town Centre, established in 2001 as a learning and support centre for the project. The recently re-opened Next Generation Energy Park (in 2013) is another centre where visitors can observe energy-related initiatives.
3. **Commercialisation**. This is promoted through the Comprehensive Environment Industrial Complex and Hibiki Recycling Industrial Park, which clusters recycling plants in the Hibikinada East Area. In the latter, local SMEs and venture enterprises deal with substances like cooking oil, organic solvents, paper and cans.

There is a number of financial support instruments provided by the city for enterprises and universities part of the ecotown project and located in Kitakyushu, for instance Environmental Future Technology Aid, which includes research and development (R&D) subsidies of up to JPY 30 million for a maximum of three years.

To further expand the project and promote environmental industries in Kitakyushu, the city has launched the Kitakyushu Environmental Industries Promotion Conference, which

forms an industry-academia-government network. The city also grants the Kitakyushu Eco Prize to industrial businesses in the city and help SMEs obtain ECO ACTION 21 certification for eco-friendly businesses.

Some of the key features of the Kitakyushu Eco-town project include its supervision through an industry-academia-government coalition and the intensive collaboration between industry and research actors in the ecotown. Aiming to be near greenhouse gas-neutral, waste materials are traded between the sites and organisations in a close-knit web to reuse and recycle as much as possible. The project makes a lot of effort to communicate with the public and raise awareness of the issues dealt with at the various sites. It also aims to facilitate business processes in the ecotown, by streamlining bureaucratic procedures for example. Finally, the project has benefitted from the availability of vast areas of reclaimed land at low cost.

Source: City of Kitakyushu (2017), "Kitakyushu Eco-Town Project". Office for Environmental Industry Promotion, informational brochure. Future City Promotion Department, Environment Bureau, City of Kitakyushu.

De-risking investment in innovative products and markets

Funding the implementation of the SDGs constitutes a challenge for all levels of government and calls for additional investment in the range of trillions of USD. At the local level, there is a risk that SDGs follow a project-based approach, without sufficient funds for the implementation of strategies. In Germany, for instance, funding the implementation of local strategies developed with the support of national government will depend on resources at the local level. In this context, there is a risk that the SDGs become an "add-on" rather than being used as a basis for budget decisions. The funding gap will thus partly depend on how well rooted the SDGs are in existing budget processes and policy tools (European Union, 2019).

Yet, the power of subnational investment in the SDGs is promising, as they account for almost 60% of all public investment in OECD countries. Public investment can be used to de-risk private sector finance for the SDGs. In Viken, Norway, one of the ways forward could be through exploring the possibility to align, for example, smart specialisation and funding for clusters with the SDGs. Although no plan has been developed at this stage, a circular economy has been highlighted as a win-win solution both for saving costs and stimulating environmental outcomes.

De-risking investment in sustainable development in emerging economies has been considered essential to help progress towards the SDGs. For example, the EU's External Investment Plan is a multi-pronged approach to improve economic and social development in Africa and in European neighbouring countries by de-risking investment. As such, it aims at providing local authorities with missing financial instruments and to support opportunities to invest in domains such as energy and waste management. The initial investment in 2018 was EUR 3.7 billion and is set to leverage over EUR 37.1 billion of extra public and private investment. A first loan guarantee is being implemented by the World Bank and IECD (*Institut Européen de Coopération et de Développement*) to lower risks in public-private partnerships.

The OECD has highlighted the importance of blended finance to bridge the finance gap for the achievement of the SDGs in developing counties, where local authorities tend to struggle with access to financing. As an example, to tackle the lack of access to capital to

fund infrastructure projects among municipalities in the South Indian state of Tamil Nadu, the government created the joint asset management company, Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL), owned by the government and private financial institutions. TNUIFSL, in turn, managed a special purpose vehicle designed to distribute funds to local authorities. Combining a concessional loan by the German development bank *Kreditanstalt für Wiederaufbau* (KfW) and cash collateral by the Indian government thus permitted lending funds to municipalities to undertake infrastructure investment.

Given the universal scope and outreach of the 2030 Agenda, significant public support is also needed in OECD and advanced economies to catalyse private-sector investment and contribution to the SDGs. In the county of Viken, Norway, the regional government is for instance supporting investment in strategic clusters around technological innovation. The cluster around the municipality of Kongsberg is one example, where collaboration between companies active in the maritime, subsea, car parts, aerospace and defence industries helps to stimulate innovation. The cluster is supported by the partnership Innovation Kongsberg in collaboration with the national agency Innovation Norway (Kongsberg Innovasjon, n.d.). Moving forward, tailoring cluster policies to support innovations will be essential to drive progress towards the SDGs.

Private investment also needs to be leveraged along with public sector funds. The Expert Group on Investing in the SDGs in Cities created by the OECD and UN Global Compact Cities Programme highlights the lack of clear "entry points" for investing in the SDGs. The city of Moscow is very successful in working with the private sector as a supplier of goods and services through its Investment Strategy 2025. In this sense, the private sector represents around 70% of capital investments in the city of Moscow (for each rouble of public investment, three additional roubles are invested by the private sector). Going a step further would imply making the private sector part of the policymaking process from the very beginning, to better align investment priorities to the achievement of the SDGs. In Paraná, several municipalities face challenges in funding projects that contribute to the implementation of the SDGs. Administrative red tape is the key challenge to access available funding by the state.

The Flemish Department of Economy, Science and Innovation (EWI) has designed new funding tools to support research and private sector collaboration to address societal challenges. These instruments are called spearhead clusters and innovative business networks and constitute collaborative initiatives formed by private companies and innovation partners working in the same field to address societal challenges. Together, they can apply for public funding using either of these instruments. Spearhead clusters are supported by up to EUR 500 000 of funding available per year for up to 10 years and 50% of matched funding must be provided by private actors. Innovative business networks are funded for a maximum of three years with up to EUR 150 000 per year (50% matched private funding). Both structures determine common research agendas for industry and build collaborative innovation projects. Spearhead clusters have evolved into large cross-sectoral network organisations and address SDGs specifically in their planning, as do CATALISTI (for sustainable chemistry), Flux50 (on energy transition), Flanders' Food (for the agro-industrial sector), or the Blue Cluster for Maritime Economy. Some smaller business networks contribute to these developments as well, such as Flanders Bike Valley, Air Cargo Belgium, Smart Digital Farming, Power to X (for hydrogen applications), Groen Licht Vlaanderen (lighting technologies) and offshore energy.

The city of Bristol has created a mixed funding mechanism to support projects that will help its transformation. The Bristol City Funds thus provide loans and grants (and a mixture of the two) as a source of investment and grant funding to support projects that support key priorities in the city's One City Plan, aligned with the SDGs (City of Bristol, 2018).

Public procurement to achieve social and environmental outcomes

Sustainable procurement is sometimes referred to as the "sleeping giant" of sustainable development due to its powerful potential to leverage public funds for social and environmental outcomes. The OECD estimates that public procurement represents around 12% of GDP on average in OECD countries, almost 30% of total government expenditures, and up to 25%-30% of GDP in developing countries. Considering that subnational governments make up around 63% of public procurement in OECD countries, their role in shifting towards sustainable procurement is undeniable. Sustainable public procurement (SPP) implies that, in addition to the value-for-money criteria, social and environmental considerations are integrated into a multi-criteria approach to procurement specifications. In the EU, directives for member countries to implement environmental and social criteria in public procurement legislation help to encourage companies to develop socially responsible products and services. Most OECD countries have adopted procurement policies that include broader policy objectives, such as green procurement or procurement favouring SMEs (OECD, 2019).

LRGs also start to lead the way in sustainable procurement practices, which can be used to drive progress towards the SDGs. One example is the Flemish government, Belgium, whose agency for facility management includes the SDGs in their agency strategy and action plan that guide the government's procurement decisions. The regional government also supports municipalities taking into account environmental and social criteria in their procurement, including by making framework contracts available and through a helpdesk for municipalities operated by VVSG. Another example is Bonn, Germany, where a fair trade city only procures fair trade products for public meetings while the work wear for the municipal staff is procured according to fair trade principles and criteria such as: health, environment and safety standards; compliance with regular working hours; respect for freedom of association; socially responsible production; and credible evidence. In Ghent, Belgium, the procurement office is also experimenting with "sustainable chain management" in the procurement of work wear, which means that not only the end-product but the entire supply chain is looked at through a sustainability lens (Box 4.7). In Barcelona, Spain, sustainable procurement has been made mandatory by the Municipal Decree for Sustainable Procurement since 2017, while other cities such as Haarlem and Rotterdam, the Netherlands, have achieved 100% sustainable procurement in 2015 and 2016 respectively.

City networks are also driving the knowledge and experience exchange around SPP to scale its impact. For example, the Procura+ network of European public authorities and regions that promote peer learning and exchange of experiences around SPP published comprehensive guides on how to introduce SPP in public organisations. Another example is the Global Lead City Network (GLCN) on Sustainable Procurement co-ordinated by the International Council for Local Environmental Initiatives (ICLEI), which consists of 14 cities committed to SPP, in addition to ICLEI's public procurement centre. ICLEI assists cities, regions and public authorities to embed sustainable, circular and innovation criteria into public tenders directly and through collaboration projects. Co-ordinated policies among networks of cities have further been proposed by city leaders as a way to aggregate purchasing power to scale the impact of cities' procurement (Pipa, 2019).

Yet, much remains to be done for governments at all levels to mainstream the SDGs into public procurement processes. Some common challenges include the lack of understanding about the potential benefits of SPP and a persisting "lowest price only" or value-for-money driven mind-set, as well as lack of clear definitions of expected social and environmental outcomes and missing market intelligence. Local companies such as Naturmælk, Southern Denmark, consider SPP policy key to incentivising the uptake of SDGs in private companies while helping the economic viability of new production standards. However, such cases remain rather anecdotal and place-based for the time being.

Box 4.7. A toolbox for sustainable procurement by VVSG and the city of Ghent, Belgium

The "Promoting Socially Responsible Work Wear" project

The toolbox for sustainable procurement was developed through a collaboration between VVSG and the city of Ghent, as well as The Global Picture, with support from the EU Platforma project and the Flemish government. The aim is to help institutional buyers, including governments, hospitals, inter-municipal associations and municipalities, to apply sustainable procurement practices. The toolbox promotes practices that go beyond looking only at product specifications (e.g. organic cotton) and instead target "socially responsible supply chain management", meaning that the supplier must at least respect international conventions of the International Labour Organization (ILO), national employment conditions and human rights in their production, and pay living wages to workers. The toolbox guides its users through principles of socially responsible chain management and the different means of verification and proof available for purchasers and suppliers, both in the specification of the tender and during the execution of the contract.

The development of the toolbox included analyses of existing good practices in Flanders and federal government institutions, as well as of existing market instruments (labels) and practices. It further explains how EU procurement legislation can be interpreted to allow for the integration of socially responsible chain management in public procurement. The study found that sustainable chain management is a fairly new and evolving field, thus the toolbox takes a learning-by-doing approach. In practice, this means that the key goal is to urge suppliers to gradually improve their chain management, rather than providing proof upfront in the tender proposal. Accordingly, the tenderer does not need to provide evidence of practices before the start of the contract, however, they must commit to do so and then report within a set time period after starting the contract.

The toolbox guide also describes how the city of Ghent used the toolbox in its framework agreement for purchasing work wear, linen, work shoes, gloves and other protective equipment, seeking to ensure that all purchased products are produced in a socially responsible manner. Since the products have very different supply chains, they were divided into five different lots. In the lot for sustainable work wear, the city applied additional sustainability criteria including end-of-life and CO2 efficiency in delivery.

The guide constitutes a good practice example of how public purchasing power can influence market behaviours and engage with private sector actors in the 2030 Agenda. At the same time, this endeavour allows the city of Ghent to address several SDGs simultaneously: SDG 8, SDG 12 and SDG 17. It is, however, too early to evaluate the results of the efforts.

Source: VVSG and the City of Ghent (2018). Toolbox Socially Responsible Workwear – A guide for public purchasers, http://platforma-dev.eu/wp-content/uploads/2018/06/Toolbox-VVSG-EN.pdf.

The role of cities and regions as catalysts for civil society engagement with SDGs

How civil society can embrace the transformative element of the 2030 Agenda

Civil society plays a key role in both supporting progress towards the SDGs and holding governments at all levels accountable for their commitments towards local citizens. For example, the city of Kitakyushu, Japan, has a strong tradition of civil society engagement in local policies and actions. In the 1960s, a group of women's associations came together to demand stricter regulations for pollution coming from the city's heavy industries. Partnerships between the local government, civil society and the industries eventually helped to clean up the skies and sea surrounding the city. To build on this tradition, the city has currently set up an SDG Club, where anyone in the city can participate. The club quickly gained over 800 members (as of September 2019). In Paraná, Brazil, civil society organisations are engaged in the implementation of the SDGs and promote different initiatives. For instance, the movement Paraná We Can has been working since 2006 in building partnerships with local leaders, non-state institutions and citizens to achieve the former Millennium Development Goals – MDGs – and now the SDGs. The Youth Action Hub, created for the United Nations Conference on Trade and Development – UNCTAD, is another initiative promoted by civil society that focuses on research related to the SDGs, and also leads initiatives like the Youth Action Day, the SDG Challenge and the Youth Share. In addition, the state has set up an SDG portal to disseminate best practices to the general public (*Boas Práticas ODS*), developed by the State Company for IT and Communication (Celepar). The website is an inventory of actions carried out by various types of actors in the state of Paraná. In addition, there is an art project called ODS Arte, involving painters and poets, now being promoted in schools (e.g. through poetry contests, digital drawing). The key objective is to promote knowledge sharing and inspire people to contribute to the implementation of the 2030 Agenda.

Collaboration with civil society can help better address social issues, such as the integration of migrants, long-term unemployed or food waste. In Southern Denmark, for instance, the Growing Impact Project (GIP) is a partnership between the foundation Chora 2030, Vejle Municipality, the Red Cross refugee centre in Jelling and Human Habitat, that aims to support the integration of asylum seekers and long-term unemployed. Specifically targeting women, the project uses innovative urban farming in a disadvantaged area of Vejle and the Jelling refugee centre to create a common framework for providing education and training, increasing quality of life and fostering local involvement and inclusion, while showcasing its contribution towards the 17 SDGs on a local scale. In Kitakyushu, Japan, the Kodomo Shokudo (Community restaurant for children) shows how the city works with civil society to tackle social, economic and environmental issues simultaneously. Kodomo Shokudo provides children with working parents who would otherwise be alone after school with home-cooked meals, as well as a comfortable and safe place to stay until the parents come home. The programme brings together non-profit organisations, senior volunteers who cook meals and university students to help with homework. Local supermarkets support the initiative by providing food that is close to expiration date. Similarly, in Bonn, Germany, Bonner Tafel e.V. collects food surpluses from supermarkets and distributes them to low-income families, thus reducing food waste and reducing poverty at the same time.

Civil society organisations can also help to scrutinise policies and push for transparency and accountability. One way to do so in the province of Córdoba, Argentina, is through the Open Government Roundtable (*Mesa de Gobierno Abierto*), which is composed of civil society organisations, including representatives of several universities, responding to the

Open Government ambition in the province. The province is further working on the Open Government Portal, which provides "data with sense" on governmental actions on the SDGs to the general public. This portal, as well as the intensive work carried out by the province on well-being data and SDG indicator respond to one of the key challenges identified in the OECD Territorial Review of Córdoba (OECD, 2016b), namely the lack of availability of, and access to, reliable data and statistics as well as governance issues around transparency and accountability.

In Flanders, Belgium, there is a long history of civil society engagement in policymaking through so-called strategic advisory councils. There are currently nine strategic advisory councils that provide independent advice to governments on policy issues under different thematic policy areas. Their members are from academia, the private sector and NGOs. Their advice is provided either at the request of the Flemish government or on their own initiative. When developing their long-term vision, Vision 2050, many of the councils scrutinised the government's level of ambition, related to climate action and targets for example. In addition, the campaign Perspective 2030 was launched co-ordinated by 11.11.11 and CNCD-11.11.11 (*Centre national de coopération au développement*), with the main goal of ensuring that politicians at all levels (local, regional, national) live up to their commitment to implement the SDGs, including the goals in all of their policies. The campaign calls for a clear change of status quo, for example ceasing government support to energy provision using fossil fuels and levying taxes on flight tickets and carbon emissions (Platform 2030, 2017).

Many regional and local governments further involve civil society in traditional policy processes, including formal consultations. This was the case in the development of Bonn's sustainability strategy, where civil society organisations (CSOs) were part of the project working group. As such, they participated in designing contents of the strategy and were involved in developing the action programme for its implementation. To ensure sustained engagement, specific criteria were applied when involving external stakeholders, such as availability to participate for the whole project duration and having enough human resources to dedicate to the process. In Viken, Norway, a plan for public and civil society participation in the development of the Regional Planning Strategy is being created as a central feature of the planning process. In Kópavogur, Iceland, the municipality is going through a revision of the municipal plan in accordance with the municipality's new strategy and building on 36 SDGs targets. The process includes engagement and participation of civil society and local residents through dedicated workshops. Kópavogur has also opened two online participation portals to involve residents in participatory budgeting and to seek feedback on the prioritised SDG targets.

Table 4.5. Involvement of civil society in SDGs strategies and actions in the pilot cities and regions

OECD Pilot	How is civil society involved in the city or region's work on SDGs?
Bonn (Germany)	Participation by CSOs in the project working group for the sustainability strategy to input and feedback on the strategy contents.
Córdoba (Argentina)	Open Government Roundtable as a forum to engage civil society. Need for better co-ordination of CSOs' actions towards the SDGs.
Flanders (Belgium)	Transition spaces and strategic advisory councils provide formal spaces and mechanisms for consultation and collaboration between stakeholders, including CSOs. Civil society platform Perspective 2030 lobbying for strong accountability by all governments.
Kitakyushu (Japan)	SDG Council and SDG Club open to CSOs and local citizens. Long tradition of civil society as proactive change agents in the city.
Kópavogur (Iceland)	Involvement of civil society in the strategy development was limited at the initial stages, but now there is an online initiative to seek feedback on the prioritised targets. Participatory budgeting initiative (OKKAR) will be linked to the SDGs and new online tools for participation are being developed. Civil society is also involved in the revision of the municipal plan.
Paraná (Brazil)	SDG portal to disseminate best practices to the general public.
Southern Denmark (Denmark)	Collaboration between civil society and municipalities to foster the integration of asylum seekers and long-term unemployed.
Viken (Norway)	Involvement of CSOs and local citizens as formal requirements of the regional planning strategy process.

Ad hoc structures that are independent from the local government may also be set up. In Utrecht, the Netherlands, the city has created a freestanding foundation responsible for the day-to-day management of the SDGs, including awareness-raising activities and concluding agreements with local stakeholders such as NGOs and businesses. This helps to co-ordinate various initiatives in the city (European Union, 2019).

Civil society organisations as catalysts for engaging local citizens

One remaining challenge to address the transformative element of the 2030 Agenda in cities and regions is the lack of awareness about the SDGs among local citizens (European Union, 2019). This is particularly important for localising the SDGs and for creating a civil spirit for action. For example, in the Basque Country, Spain, the United Nations Children's Fund (UNICEF) played a key role in raising awareness about the SDGs, while national UN associations in Nordic countries (e.g. Iceland and Norway) have also been highly active in this regard (see further below).

Many cities have launched activities to raise awareness of the SDGs among their local populations, in collaboration with civil society. Some examples include the SDG Days organised by the city of Bonn, Germany (Box 4.8) and the Week of the Sustainable Municipality held by VVSG in Flanders, Belgium. The aim of the week, organised in 2018 and 2019, was to give a "human face" to the SDGs by showcasing local heroes contributing to them (e.g. citizens, schools, companies, associations). A total of 117 municipalities participated in the campaign, appointing over 1350 local heroes. The week also provided a great opportunity to connect with national and global level campaigns, including

Act4SDGs by the United Nations. The initiative gained a lot of attention in both traditional and social media. Based on its awareness-raising experiences, VVSG has published a catalogue with 50 practical awareness-raising examples related to the SDGs for cities and municipalities.

Box 4.8. Bonn SDG Days – 17 Days for 17 Goals, Germany

The city of Bonn initiated this campaign to engage partners such as UN organisations, NGOs and other local initiatives. It was successfully launched in 2018 around the theme "17 Days for 17 Goals", with at least one event on SDGs taking place every day for 17 days (from 27 May to 13 June 2018). In 2019, the motto changed to "17 Events for the 17 Goals". The core objectives are to make the SDGs and the work done in Bonn more visible to citizens and to advocate for wider support in the implementation process by showcasing individual actions that can be moved forward by different stakeholders or citizens.

Activities include bike tours to sustainable projects in Bonn, an evening walk to urban gardening projects on municipal land, SDG poetry slams and pub quizzes as well as special events on topics such as biodiversity conservation or migration. Bolivia and Ghana are key partners in the city's international co-operation activities. As a result, in 2018, a Ghanaian dance theatre conducted a performance and several workshops and in 2019 an artist from Bolivia was invited to join the special event "One World Construction Site". In co-operation with an artist from Bonn, the Bolivian artist designed an SDG mural to further anchor the SDGs in the city's landscape and in the minds and actions of Bonn's citizens. The premise was located next to a mosque. Information stands were also set up at large city events such as the annual Museum Mile Festival where visitors were invited to spin the popular SDG "wheel of fortune" and received key information about the different SDGs. The city estimated that in 2018 about 1 000 people visited the SDG stand in the course of one day, thus thousands over the course of the campaign. The Bonn SDG-Day activities also allow for a lively exchange between citizens, to inform them about initiatives such as urban gardening and to attract large media coverage.

Sources: City of Bonn (2020), Die SDGs in Bonn. [The SDGs in Bonn.], https://www.bonn.de/themen-entdecken/uno-internationales/sdgs-bonn.php ; City of Bonn (2018), Bonner SDG-Tage. 17 Tage für die 17 Ziele. [Bonn's SDG days. 17 days for the 17 goals], https://www.local2030.org/events/243/Flyer.pdf.compressed.pdf.

The role of youth as key agents of change for sustainability

Youth have gained a strong voice in sustainable development at the global stage, especially with regard to climate action, as partly triggered by the vast media attention around hundreds of thousands of students engaging in School Strikes for Climate in over 100 cities around the world. During the high-level political meeting in Spain in February 2019, leading to the Seville Commitment, a youth panel was organised, where young people's commitment to equality, access to services and decent work as well as their call for a more open government were shared. Similarly, during the G20 in 2018, the Y20 event was an opportunity for youth to offer a different perspective on the topic of the conference selected by the Presidency of Argentina "Building consensus for fair and sustainable development" and the three key levers to achieve it: the future of work, infrastructure for development and a sustainable food future. Such global attention creates momentum for involving youth in the 2030 Agenda and achieving the SDGs.

Youth engagement in the 2030 Agenda is sometimes formalised through youth councils. This has been the case in Belgium (Flanders), Iceland and Norway (Viken), where youth councils have been active in the 2030 Agenda and the SDGs. In the Norwegian context, one key strength of the youth councils is the direct access to policymakers to which they can present their own proposals without any intermediary. The new youth council in Viken is proactively proposing solutions to help the county administration reach out to youth and inform them about the SDGs, including through social media platforms and by holding information sessions in schools. The Flemish Youth Council has also been an active voice in the SDGs. In 2018, members of the youth council participated in a Belgian youth delegation (together with the Wallonia youth council) to the HLPF in New York, where they spoke about the involvement of the youth council in the VNR process, for example, delivering the message to policymakers to: "stop thinking of us as the future and start thinking of us as actors of today" (Van Hoyweghen, 2018). In Iceland, a youth council specifically for the SDGs was set up by the Prime Minister's Office as a channel to engage youth in the Inter-Ministerial Working Group's work on the SDGs. Their statement to the government was published in the 2019 VNR of Iceland, highlighting the importance of increased attention to mental health among youth and to issues like waste management, wetland restoration and limiting the development of heavy industries (Government of Iceland, 2019). Other cities and regions are engaging youth in the public policy cycle through the SDGs. The state of Paraná is working closely with young people and youth representatives through the Social and Development Council (CEDES). The council invites youth associations to the discussions and to promote the debate.

Schools are also starting to introduce the SDGs in school curricula. For instance, in Southern Denmark, a network of secondary schools – Global High Schools – is taking a proactive approach to spreading awareness, knowledge and fostering action for the 2030 Agenda and the SDGs. Shaping well-informed and responsible future citizens is at the core of such initiatives, inspiring the students to believe and act to change the world for the better. National UN Associations have been actively supporting curriculum revision to incorporate the SDGs in both Iceland and Norway. In Kópavogur, Iceland, the local scout club has developed educational materials to teach the SDGs to its members, and the municipality considers pre-schools and elementary schools an important channel to reach and involve youth and their parents. In fact, one elementary school has already rewritten its curriculum to mainstream the SDGs. Kópavogur is also implementing the UN Convention on the Rights of the Child (UNCRC) with profound involvement of youth.

Notes

[1] For more information, see https://www.oecd.org/cfe/regional-policy/sdgs-cities-regions-roundtable.htm.

[2] Much of the data was drawn from the Office for National Statistics or Public Health England.

[3] OECD (1999) defines social enterprises as "any private activity conducted in the public interest, organised with an entrepreneurial strategy, but whose main purpose is not the maximisation of profit but the attainment of certain economic and social goals, and which has the capacity for bringing innovative solutions to the problems of social exclusion and unemployment".

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Chapter 5. A checklist for implementing a territorial approach to the SDGs

This chapter proposes an OECD checklist for Public Action to guide policy makers at all levels of government to implement a territorial approach to the SDGs. The checklist provides action-oriented recommendations on planning, policies and strategies; multi-level governance; financing and budgeting; data and information; and stakeholder engagement. Concrete examples and good practices from leading cities, regions and national governments complement the recommendations and aim to inspire other governments in their efforts to localise the SDGs.

The SDGs represent a comprehensive framework to promote synergies and manage trade-offs across sectoral policies in an integrated manner, to engage all actors in the policymaking process, both internally from the local, regional or national administrations and from the non-governmental sphere. They also provide a framework to monitor progress and set more ambitious targets as well as create accountability with the local population.

The first four chapters of the report have showcased how cities and regions are increasingly using the SDGs to design, shape and implement their development strategies, policies and plans. This final chapter presents a Checklist for Public Action directed to governments at all levels to facilitate the implementation of a territorial approach to the SDGs. The checklist provides action-oriented recommendations around five main categories that emerged as key pillars for a territorial approach to the SDGs, namely: i) planning, policies and strategies; ii) multi-level governance; iii) financing and budgeting; iv) data and information; and v) engagement. The checklist also presents some examples and good practices on how to implement the recommendations, both from the pilots of the OECD programme and other cities and regions.

Planning, policies and strategies

- Define and shape local and regional development visions, strategies, plans and re-orient existing ones using the SDGs as a guiding framework, taking into account pressing and emerging challenges posed by megatrends such as climate and demographic change, urbanisation, digitalisation and globalisation.
- Use the SDGs to promote synergies and manage trade-offs among sectoral policies and across levels of government in order to overcome silos and fragmentation, linking social, economic and environmental dimensions either at the goal or target level.
- Use the SDGs to address concrete local challenges that require a holistic approach to fit for the future, such as clean forms of urban mobility, affordable housing, gender equality, access to green spaces, balanced urban development, clean water and sanitation, air quality, solid waste management, territorial inequalities or service delivery.
- Identify place-based priorities through a participatory and multi-stakeholder process. Cities, regions and national governments should prioritise issues based on the SDGs and relevant to their territorial specificities. When identifying place-based priorities, the indivisibility and interconnectedness of the SDGs should always be considered.
- When implementing the SDGs, combine stakeholder engagement with scientific tools and evidence-based analysis to prioritise actions, manage trade-offs and guide decisions. The development of a matrix that shows the interconnectedness of the SDGs and impacts of decisions in one area on the others, is a key tool to that effect.
- Mainstream the SDGs in the design and implementation of international co-operation activities, where they exist. For instance, decentralised development co-operation programmes could be shaped around the SDGs where the city/region has a comparative advantage and strongest potential for knowledge sharing and peer-to-peer exchange, building on existing networks.

Box 5.1. Selected examples from cities and regions on the "Planning, policies and strategies" pillar

The **city of Bonn**, **Germany**, has gone through a comprehensive process to localise the SDGs through its new Sustainability Strategy. The 2030 Agenda is seen as an opportunity to bring together the city's global responsibility agenda with actions promoting sustainable development within the city itself. As such, the Sustainability Strategy was designed to respond to key challenges and strengths of the city, for which some SDGs were identified as particularly relevant. For instance, promoting clean air and reducing CO2 emissions are high on the political agenda in Bonn. As several other German cities, Bonn is struggling to reduce NO2 levels to comply with European norms. This is particularly challenging in light of Bonn's growing population and persistently high rates of individual motorised vehicle traffic in the city, due to – among other things – high commuting flows. Mobility is thus a hot topic in the public debate. Increasing rents and housing prices, with implications on housing affordability, are other challenges dealt with by the city within the confined city limits and the desire to keep green spaces intact (50% of the city's surface are protected green areas).

The **region of Southern Denmark** has been incorporating the SDGs in the new Regional Development Strategy (2020-23). The overall concept of well-being and quality of life, the six strategy tracks, the specific regional goals and as well as the action of the region are linked to specific SDGs and are designed to contribute to their achievement. In particular, the region has decided to focus on 11 goals that are mostly relevant in their context: SDG 3 on health, SDG 4 on education, SDG 5 on gender, SDG 6 on water, SDG 7 on clean energy, SDG 9 on industry and infrastructure, SDG 10 on inequalities, SDG 11 on SDGs, SDG 12 on sustainable consumption, SDG 13 on climate and SDG 14 on life below water. The regional government has followed a thorough participatory process to engage local stakeholders in the development of this new Regional Development Strategy. This includes a public consultation process with local municipalities, education institutions, museums and other interested parties, a dedicated "Consultation Conference" opened to the public and a dedicated consultation with partners on the German side of the Danish-German border.

The **province of Córdoba, Argentina**, is using the 2030 Agenda to improve the effectiveness and impact of its governmental action. The provincial government considers sustainability a key principle guiding provincial policies, which aim to build a "sustainable state" enabling all the inhabitants of the province to enjoy a better quality of life. The government has aligned the three axes of governmental action – social justice, sustainable economic growth and institutional strengthening – with the SDGs and will continue to push its strong social inclusion agenda. In particular, the province has prioritised SDGs 1, 2, 3, 4, 5 and 10 relating to poverty, food security, education, health, gender and inequalities. At the same time, to make the most of the interconnected and holistic framework of the 2030 Agenda, the province has developed a matrix to identify and measure the synergies and the trade-offs among those SDGs driving social inclusion and others.

The **Basque Country, Spain**, has developed the Agenda Euskadi Basque Country 2030 to align this administration's governmental programme and related sectoral policies to the SDGs. This document localises the SDGs to the territorial characteristics of the Basque Country. It also aims to provide a common language to enhance co-ordination in public action among sectoral departments in the Basque government. In this sense, the General

Secretariat of the President's Office is responsible for co-ordinating the implementation of the agenda in the Basque Country and the General Secretariat of Foreign Affairs to foster partnerships and exchange on ways forward for its implementation with other regions, countries and international organisations. An annual monitoring report is expected to document the achievements and distance to the SDGs targets, with discussions in regional parliament.

Multi-level governance

- Use the SDGs as a framework to align policy priorities, incentives, objectives across national, regional and local governments.
- Develop capacity-building programmes across government levels – including for public officials in the administration – in cities and regions of all sizes. National enabling frameworks and knowledge-sharing platforms can help to spread frontrunners' models that can be replicated at sub-national level.
- Consider the relevance and transformative nature of SDGs to assess and improve existing governance frameworks and test new governance models towards more holistic and bottom-up policymaking. The concept of "planetary boundaries" can help to identify more sustainable solutions.
- Engage regions and cities in the process of Voluntary National Reviews to strengthen vertical co-ordination, facilitate multi-level dialogue around success stories and persistent challenges, and encourage the SDG monitoring at the subnational level to unpack regional disparities and go beyond national average. Where they exist, use Voluntary Local Reviews as an opportunity to drive better multi-level governance of the SDGs by shedding light on local initiatives, developing indicator frameworks that allow for national and subnational measurement and increasing international visibility.
- In countries where national territorial reforms are planned or in place, consider the relevance of the SDGs to build a common vision and identity in implementing the reform and to promote co-operation across administrative borders to address critical issues at the most appropriate scale.

Box 5.2. Selected examples from cities and regions on the "Multi-level governance" pillar

Japan has expanded its SDGs Action Plan 2018 to increase national support to local governments. The second pillar of the Action Plan on "regional revitalisation" focuses mainly on the localisation of the SDGs through its Future Cities initiative comprising 29 local governments, 10 of which have been selected as SDG Model Cities and are receiving financial support by the national government to implement their SDG strategies. The initiative also promotes the establishment of SDG local governance structures following the national "SDGs Promotion Headquarters" headed by the Prime Minister within the Cabinet Office. The national Action Plan also includes the Public-Private SDGs Platform, chaired by the mayor of Kitakyushu. Considered a "model city" within the selection process, Kitakyushu was one of the first cities in Japan to put in place an SDG Future City Promotion Headquarters, headed by the Mayor. The SDGs Headquarters guides

the rest of the city administration in the implementation of the SDGs. Other institutional structures put in place are the SDG Council and SDGs Club, and promoting multi-stakeholder engagement on the SDGs (see further below).

Germany is drawing on previous experiences with Local Agenda 21 to provide technical and financial support to municipalities to implement the SDGs through a multi-level government framework, including the Service Agency Communities in One World (SKEW) of Engagement Global and the Federal Ministry for Economic Cooperation and Development (BMZ). Since 2017, SKEW has supported municipalities in eight states (*Länder*) to localise the SDGs through the lighthouse project Municipalities for Global Sustainability. A key feature of this project is the involvement of all levels of government, from the national to state and local levels, while connecting with international governance agencies such as the United Nations. In the city of Bonn, support from the national lighthouse project has translated into a local sustainability strategy with six prioritised fields of municipal action. The strategy will help the city to effectively localise the SDGs and to face a number of key sustainable development challenges such as affordable housing, sustainable transport and maintaining the city's green areas. It also helps to promote Bonn's new profile as a UN City. In the state of North Rhine-Westphalia (NRW), the project enabled 15 municipalities and administrative districts to develop local sustainability strategies incorporating the SDGs and aligned with federal and state ones.

Flanders, Belgium, has set up innovative governance models to implement the SDGs holistically. This new governance structure is based on transition management principles, namely: system innovation, taking a long-term perspective, involving stakeholders through partnerships, engaging in co-creation and learning from experiments. The model is moving away from the pyramidal, top-down and hierarchical structure of the public administration towards "transition spaces", which are managed by teams composed of transition managers from the public administration, responsible ministers and external stakeholders, including experts, private sector representatives and civil society. Together, the transition spaces form a network that connects the micro level (multi-stakeholder partners) with the macro level (the Flemish government). By experimenting through innovation systems, the Flemish government aims to identify state-of-the-art practices. One example is Circular Flanders, where around 50 facilitators help to connect procurers with over 100 projects that provide circular economy products and services.

Paraná, Brazil, is establishing partnership agreements to implement the SDGs with the 399 municipalities. Since the beginning of the Social and Economic Development Council of Paraná's (CEDES) mandate in 2016, mayors have mobilised to ensure the involvement of municipalities. By November 2019, 16 out of 19 regional associations and 315 municipalities had engaged with the state to join a municipal capacity-building strategy. In parallel, Paraná is also strengthening its financial support to municipalities to help them advance the implementation of the SDGs. For instance, cities can access specific funding for institutional strengthening programmes and investments in urban infrastructure. The state is also working on the identification of local, national and international partners that can expand the funding base to support municipalities in their localisation efforts.

Financing and budgeting

- Mainstream the SDGs in budgeting processes to ensure adequate resources are allocated for the implementation of the 2030 Agenda and to foster policy continuity across political cycles. Governments should allocate financial resources based on the identified place-based policy priorities and key local challenges, and use the SDGs framework as a means to foster integrated multi-sectoral programmes and priorities.
- Use the SDGs to attract new investors by including their perspective early on in the local economic development process. This can contribute to strengthen the role of the private sector as a solution provider and to align priorities between public and private actors.
- Mainstream sustainability criteria in public procurement to achieve economic, social and environmental outcomes aligned with the SDGs. To maximise this potential, public procurement offices need to be aware of the potential benefits of sustainable public procurement (SPP) and the mindset and rules/regulations of "lowest price only" needs to change. Clear criteria to promote sustainability should be formulated and applied in SPP.
- Put in place and expand support structures to enable and promote SPP at the local level. Supranational- and national-level organisations and governments should act as positive examples and directly promote and support local SPP practices, as well as work towards coherence in the multi-level efforts towards SPP.

Box 5.3. Selected examples from cities and regions for the "Financing and budget" pillar

In the **United Kingdom, Bristol** has established a new mechanism to harness the resources needed locally to implement the SDGs. The Bristol City Funds is a mixed funding mechanism that provides loans and grants to deliver key priorities under the One City Plan. The funds operate as a source of investment and grant funding to support projects that will help transform Bristol and achieve the SDGs. Bristol City Council is also considering how to leverage the potential of its procurement policy to advance the implementation of the SDGs. The Social Value Act in 2012 required cities to embed social value into its procurement policy. Today, the city has mapped the targets, outcomes and measures against the SDGs to demonstrate how it can contribute towards the city's SDG commitments.

In the **city of Mannheim, Germany**, the 2030 Mission Statement describes how the city is implementing the SDGs at the local level and progress expected by 2030. Building on the city's vision to leave no one behind, Mannheim has actively involved its population in framing the vision statement through a participatory approach. More than 2 500 citizens were directly involved in one of the 50 workshops carried out while a further 10 000 contributing via opinion polls. This vision subsequently served as the foundation for Mannheim's budget planning in March 2019. The new budget planning is currently being discussed and will be based on the new city strategy Mannheim 2030, including its 126 impact goals and 412 local indicators developed throughout the process.

Data and information

- Use data and qualitative information (e.g. storytelling, community of practices) to showcase the performance and positive stories of cities and regions on the SDGs. User-friendly open data portals can help increase the transparency of the actions towards the SDGs, where contributions by different actors can be showcased.
- Leverage SDGs data and localised indicator systems to guide policies and actions for better people's lives. In particular, for more comprehensive assessment and policy responses, cities and regions should combine data and indicators at different scales, from those related to administrative boundaries (the unit for political and administrative action) to those related to functional approaches (the economic geography of where people live and work).
- Strengthen the indicators systems to monitor progress across levels of government on SDGs, and to guide future policies and actions. The SDGs offer an integrated framework to improve monitoring and evaluation culture at all levels of government. Ensuring that data sources are consistent, and therefore indicators comparable, is an important way to strengthen the measurement and accountability.
- Constantly strive to document better local and regional performance to unpack regional disparities and go beyond national average. This implies pushing forward the statistical frontier to allow cities and regions to measure progress for all SDGs where they have core competencies or prerogatives as well as to use the indicators to start a policy dialogue with their stakeholders and peers.

Box 5.4. Selected examples from cities and regions on the "Data and information" pillar

In **Kópavogur, Iceland**, the municipality follows a data-driven approach to localising the SDGs and is developing indices to monitor the implementation process. The SDGs were formally adopted in 2018 as part of the municipality´s comprehensive strategy where 15 SDGs and 36 targets have been prioritised. The aim of the strategy is to ensure residents' quality of life, improve efficiency and participate in the global effort towards sustainability. The implementation of the strategy is systemic, as it will be realised through strategic action plans tied to the annual budget that will be revisited yearly. Following the certification of the ISO 9001 quality management standard, the municipality developed a data warehouse with around 50 local databases. This was the first investment in data-driven infrastructure to improve policymaking. To further strengthen the municipality data developments, the information technology (IT) office has developed an innovative management and information system: Mælkó. The main functions of Mælkó are to link performance indicators to tasks and goals to follow-up on the progress of plans and projects and to create composite SDGs indices. The municipality has created a databank of around 250 performance indicators to choose from to monitor progress towards the SDGs, including the ISO 37120, the Social Progress Index scorecard and the newly developed Child-friendly City Index. However, the municipality will also draw on its local context-specific indicators, other comparable Icelandic indicators and the results of the OECD pilot to complement its indicator framework.

In **Viken, Norway**, the new county administration, taking office as of 1 January 2020, was tasked to develop a comprehensive baseline study of regional trends – the "Knowledge Base" – using the SDGs as an overarching framework. The Knowledge Base includes

indicators showing social development trends that relate to all the SDGs and help the county to prioritise actions and targets while monitoring progress towards the SDGs. While county and municipal level data is rather well developed in Norway, the Knowledge Base may incorporate indicators that are currently not available at the regional and municipal levels. These include for example waste management in other sectors than private households (SDG 12), such as the construction sector, which is estimated to make up 25% of total waste in the county. The knowledge base is also seen as an instrument to inform strategic planning. For example, the political Joint County Board for Viken prescribed some specific uses of the Knowledge Base, including informing the formation of new inter-municipal political boards based on functional and socioeconomic regions, as well as opportunities for smart specialisation. Such analyses are essential in the context of Viken, where geographic "mismatches" between the national and subnational levels lead to a complex system of territorial governance with overlapping functions and administrative borders.

The **city of Moscow, Russian Federation**, is localising the UN indicator framework for SDGs to define the set of targets and indicators that are the most relevant at the local level, to enhance co-ordination with the federal government and to benchmark Moscow vis-à-vis other peer cities of OECD countries. Some of the SDG indicators are now being used in city programmes and the local government is planning to use them to define concrete values to achieve by 2030. Moreover, the process for the development of the City Index by the Ministry of Economic Development, Rosstat (Russian federal statistical office) and VEB.RF (Russian state development corporation) represents an opportunity to measure the SDGs using place-based indicators as well as to actively engage cities and regions in the development of the index. Currently VEB.RF is also working with Moscow to promote its data-driven approach to implement the SDGs in other Russian cities.

Engagement

- Use the SDGs as a vehicle to enhance accountability and transparency through engaging all territorial stakeholders, including civil society, citizens, youth, academia and private companies, in the policy-making process. Co-design and implement visions and strategies with territorial stakeholders, in a bottom-up and participatory way to enhance accountability and transparency in the policymaking process.
- Use a combination of various tools to engage territorial stakeholders, such as raising awareness about the SDGs, providing networking opportunities, de-risking investments in SDG solutions through grants or loans, or fiscal incentive for innovative solutions towards sustainability.
- Use the SDGs as a tool for "public service motivation" by linking the daily work of the staff in the administration to the achievement of global goals. This can also help to attract new staff in key services such as pre-school education and social services.
- Support private sector contribution to the SDGs through incentivising public-private partnerships as well as the engagement of private companies in the definition and implementation of local and regional strategies and actions towards sustainability.

- Identify and put in place appropriate frameworks and knowledge-sharing opportunities to support and scale up initiatives that involve stakeholders such as schools, civil society, the private sector and academia in the implementation of the SDGs in a more systemic way.

Box 5.5. Selected examples from cities and regions on the "Engagement" pillar

Youth engagement in the 2030 Agenda is sometimes formalised through youth councils. This has been the case in **Belgium (Flanders), Iceland and Norway (Viken)**, where youth councils have been active in the 2030 Agenda and the SDGs. In the Norwegian context, one key strength of the youth councils is their direct access to policymakers, to whom they can present their own proposals without any intermediary. The new youth council in Viken is proactively proposing solutions to help the county administration reach out to youth and inform them about the SDGs, including through social media platforms and by holding information sessions in schools. The Flemish Youth Council has also been an active voice in the SDGs. In 2018, members of the youth council participated in a Belgian youth delegation (together with the Wallonia youth council) to the High-level Political Forum (HLPF) in New York, where they spoke about the involvement of the youth council in the Voluntary National Review (VNR) process for example, delivering the message to policymakers to: "stop thinking of us as the future and start thinking of us as actors of today" (Van Hoyweghen, 2018[1]). In Iceland, a youth council specifically for the SDGs was set up by the Prime Minister's Office as a channel to engage youth in the Inter-Ministerial Working Group's work on the SDGs. Their statement to the government was published in the 2019 VNR of Iceland, highlighting the importance of increased attention to mental health among youth and to issues such as waste management, wetland restoration and limiting the development of heavy industries.

Paraná, Brazil, is promoting agreements with the private sector and civil society to implement the SDGs. The state is using the "*Paraná de Olho nos ODS*" (Paraná keeping an eye in the SDGs) pledge to gain public support from a wide variety of institutions including state, private sector and civil society actors. The pledge encourages institutions to mainstream the 2030 Agenda in their internal functioning and to engage with other partners. Paraná also works to strengthen communication between governments and civil society to better engage citizens in the implementation of the SDGs. For instance, the SDGs art project uses artistic and cultural manifestations to stimulate dialogue on the 2030 Agenda.

The **city of Bonn, Germany**, initiated the campaign "SDG Days – 17 Days for 17 Goals" to engage partners such as UN organisations, non-governmental organisations (NGOs) and other local initiatives. It was successfully launched in 2018, with at least one event on SDGs taking place every day for 17 days. In 2019, the motto changed to "17 Events for the 17 Goals". The core objectives are to make the SDGs and the work done in Bonn more visible to citizens and to advocate for wider support in the implementation process. Some of the events taking place during the 17 days include bike tours around sustainable projects in Bonn, an evening walk to urban gardening projects, SDG poetry slams and pub quizzes as well as special events on topics such as biodiversity conservation or migration. Moreover, Bolivia and Ghana are key partners in the city's international co-operation activities and, as a result, they are also involved in these events. In 2018, a Ghanaian dance

theatre conducted a performance and several workshops and in 2019, an artist from Bolivia was invited to join the special event "One World Construction Site".

The **city of Kitakyushu, Japan**, is building on its strong tradition of civil society engagement in local policies and actions to move forward the implementation of the SDGs. In the 1960s, a group of women's associations came together to demand stricter regulation for pollution coming from the city's heavy industries. Partnerships between the local government, civil society and the industries eventually helped to clean up the skies and sea surrounding the city. To build on this tradition, the city has currently set up a Kitakyushu City SDGs Council, which is expected to provide advice on the actions and directions regarding the implementation of the SDGs through the engagement of various stakeholders from civil society, private sector, finance and academia. The council consists of eight experts from environmental, economic and social fields. The city also created the Kitakyushu SDG Club, where anyone in the city can participate, and quickly gaining over 800 members.

The **province of Córdoba, Argentina**, has co-produced a matrix together with territorial stakeholders to identify and measure the synergies and the trade-offs among social and other SDGs. The political priority of the province of Córdoba on SDGs is to provide continuity to the social inclusion agenda and to the work on well-being. For this reason, the province of Córdoba has prioritised social SDGs (i.e. SDGs 1 to 5 and 10) and co-produced a matrix to identify the drivers of social inclusions and measure the links between environmental/economic SDGs and social SDGs. Over 200 stakeholders from the public, private, not-for-profit and academic sectors have worked on identifying the links between targets and ranking the intensity of the links. The matrix now allows for identifying the key sectors that can drive the social inclusion agenda in the province, to prioritise them, promote synergies and manage trade-offs.

Reference

Van Hoyweghen, N. (2018), "Zouden meer jongeren op een VN-top geen goede zaak zijn voor iedereen?", https://vlaamsejeugdraad.be/blog/zouden-meer-jongeren-op-een-vn-top-geen-goede-zaak-zijn-voor-iedereen (accessed on 14 January 2019).

Annex A. List of stakeholders

The following list of 238 stakeholders includes participants of the *OECD Roundtables on Cities and Regions for the SDGs*, 1st meeting on 7 March 2019, Paris and 2nd meeting on 9 December 2019, Bonn. It also includes stakeholders that sent written comments to previous versions of the report. Although not included in this list, other 800+ local stakeholders were consulted during the OECD missions to the 9 pilot regions and cities.

Table A.1. List of stakeholders consulted in the Roundtables and for the Synthesis Report

Institution	Name and surname
2022 Initiative Foundation	Helena Lindemark
2030hub	David Connor
	Stephen Sykes
Agence du Monde Commun, France	Yannick Lechevallier
Agency For Housing Mortgage Lending (DOM.RF), Russia	Kristina Ishkhanova
	Sofya Lebedeva
	Denis Philippov
Andalusia, Spain	Alberto Santiesteban Álvarez
	Jorge Antonio Tellez Carrasco
Andalusian Agency for International Development Cooperation, Spain	Carmen Vélez
Aqua Publica Europea	Milo Fiasconaro
Association of Flemish Cities and Municipalities (VVSG), Belgium	Elke de Taeye
	Wim Dries
	Bert Janssens
Association of Local Authorities, Lithuania	Gabriela Kuštan
Association of World Citizens	Bernard J. Henry
	Addad Noura
Austrian Association of Cities and Towns	Thomas Weninger
Autonomous Community of Catalonia, Spain	Marc Darder Solé
AXA	Kristian Mangold
	Roslyn Stein
Barcelona, Spain	Olivia Patón
Basque Country, Spain	Ignacio De La Puerta
	Andoni Hidalgo
	Estibaliz Urcelay
Bertelsmann Stiftung	Henrik Riedel
	Marc Wolinda
BiWiNa e.V.	Ignacio Campino
Bonn, Germany	René El Saman
	Markus Goell

Institution	Name and surname
	Lukas Hoette
	Christiane Overmans
	Birgit Rücker
	Edeltraud Schmidt
	Christine Pflueger
	Verena Schwarte
Bratislava, Slovak Republic	Eduard Donauer
	Viliam Záhumenský
C40 Cities	Charlotte Breen
	Kate Godding
Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement (CEREMA)	Florence Bordere
Cities Unies France	Constance Koukoui
Civitta	Ioana Ivanov
CK Advisory	Charalampos Koutalakis
Collège de l'Académie Africaine des Collectivités Territoriales (ALGA)	Zarrouk Najat
Council of European Municipalities and Regions (CEMR)	Angelika Poth-Moegele
	Sarah Bentz
Council of the Baltic Sea States	Olga Zuin
Decentralisation & Local Governance Secretariat/GIZ	Christian Luy
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Joana Klug
	Nora Löhr
	Gunter Meinert
	Barbara Scholz
	Daniel Schroeder
	Fatina Toukan
Deutsche Telekom	Dandan Wang
Development and Peace Foundation (sef)	Mischa Hansel
	Michèle Roth
Earth5R	Nicholas Anthony
	Saurabh Gupta
Efficacity	Philippe Maillard
Engagement Global	Livia Pichorner
	Annette Turmann
	Stefan Wilhelmy
	Sebastian Duerselen
Eschweiler, Germany	Jan Schuster
EUROCITIES	Aleksandra Olejnik
	Pietro Reviglio
European Association for Local Democracy	Sofia Caiolo
European Commission (EC DG DEVCO)	Aïssatou N'Diaye-Sydnei
	Anna Lixi
	Carla Montesi

Institution	Name and surname
European Commission (EC DG REGIO)	Laura Liger
	Eleftherios Stavropoulos
European Commission-Joint Research Centre (EC JRC)	Alice Siragusa
	Claudia Baranzelli
European Committee of the Regions (CoR)	Audrey Parizel
	Arnoldas Abramavicius
	Marine Siva
European Forest Institute (EFI)	Dominic Baron
	Dennis Roitsch
	Maria Schlossmacher
Federal Agency for Nature Conservation (BfN), Germany	Simone Krüger
Federal Ministry for Economic Cooperation and Development (BMZ), Germany	Doris Witteler-Stiepelmann
	Caroline Kern
Federal Statistical Office (Destatis), Germany	Simon Felgendreher
Fédération - Open Space Makers	Justyna Swat
Friuli-Venezia Giulia, Italy	Maria Fabiola Ranzato
Fundacion Galicia Europa, Spain	Carolina Gonzalez
German Development Institute (DIE)	Imme Scholz
	Tim Stoffel
	Christian von Haldenwang
Global Policy Forum	Hanna Kieschnick
	Jens Martens
Government of Iceland	Fanney Karlsdottir
Government of Italy	Sergio Mercuri
Hawaii Green Growth, United States	Kiara Kealoha
Helsinki, Finland	Jani Moliis
Hochschule Bonn-Rhein-Sieg, Germany	Khaoula Roktachi
	Wiltrud Terlau
Institute for Global Environmental Studies (IGES). Japan	Junko Ota
International Council for Local Environmental Initiatives (ICLEI)	Stefan Kuhn
	Gino Van Begin
International Institute for Educational Planning-UNESCO (IIEP-UNESCO)	Chloé Chimier
	Candy Lugaz
International Science Council	Charles Ebikeme
International Sustainable Chemistry Collaborative Center (ISC3)	Paola Bustillos
	Leonor Thompson
International Water Association	Ulrike Kelm
Italian Alliance for Sustainable Development (ASviS)	Federico Olivieri
Karlsruhe, Germany	Regina Hartig
Kitakyushu, Japan	Michinori Masutani
	Yoshifumi Ogawa
Knowledge Intelligence Applications GmbH	Simon Striegel

Institution	Name and surname
Kópavogur, Iceland	Jakob Sindri Þórsson
	Audur Finnbogadottir
	Pall Magnusson
	Armann Kr. Olafsson
Madrid, Spain	Nicolas Gharbi
Mannheim, Germany	Christian W. Huebel
	Rainer Kern
Ministry for Climate Protection, Environment, Agriculture, Nature Conservation and Consumer Protection of North-Rhine Westphalia (MULNV), Germany	Marc-Oliver Pahl
Ministry of Economic Affairs and Energy (BMWi), Germany	Margitta Wuelker-Mirbach
Ministry of Local Government and Modernisation, Norway	Jan Edøy
Moscow, Russian Federation	Denis Fomchenko
	Polina Kriuchkova
	Vladimir Laikam
	Igor Zakharchenkov
	Anastasiya Larionova
	Alexander Prokhorov
National and Kapodistrian University of Athens	Lena Tsipouri
NDC Partnership	Estefania Ardila
Newcastle University	Emily Clough
Nordic Council of Ministers	Trine Schmidt
Nordregio	Elin Slätmo
Norwegian Association of Local and Regional Authorities (KS)	Knut Hjorth-Johansen
	Anne Romsaas
Oppland County, Norway	Erik Lagethon
Orkestra Basque Insitute of Competitiveness, Spain	Susana Franco
Oslo Commune, Norway	Kristine Holmbakken
Oslo Region, Norway	Ingvild Jacobsen
	Solveig Skåravik
	Oliver Reiersen
	Sjur Rynningen Bie-Lorentzen
	Solveig Standal Skåravik
Permanent Delegation of Belgium to the OECD	Dries Willems
Permanent Delegation of Japan to the OECD	Hiroshi Oe
Permanent Delegation of the Kingdom of the Netherlands to the OECD	Isabelle Schulz
Permanent Representation of Iceland to the OECD	Jónas Haraldsson
PLATFORMA	Marlene Simeon
Presidency of Brazil	Natasha Torres Gil Nunes
Presidency of Italy's Council of Ministers	Flavia Terribile
PricewaterhouseCoopers	Roman Mendle
Province of Córdoba, Argentina	Juan Ferreiro
	Silvina Rivero
	Mariano Ignacio Plencovich

Institution	Name and surname
Radboud University, Netherlands	Rick Aalbers
RCE Middle Albania	Kalterina Shulla
Region of Basilicata, Italy	Elio Manti
Region of Emilia Romagna, Italy	Mirella Orlandi
Region of Flanders, Belgium	Ine Baetens
	Gunter De Schepper
	Mathias Vanden Borre
Region of Puglia, Italy	Paolo Casalino
Region of Southern Denmark, Denmark	Bo H. Eriksen
	Thomas Dyhr Vestergaard
	Lene Paik Hesselvig
	Johanna Lundström
	Soeren Rasmussen
Regional Hub for Sustainability Strategies West, Germany	Ana Stevanović
Regione Veneto, Italy	Michele Pelloso
Russia-OECD Center	Ivan Ermokhin
	Antonina Levashenko
Saudi Fund for Development	Ali Alarjani
	Eid Bin Eid
Sciences Po Paris, France	Coline Chevrin
	Edward Hainsworth
	Naelle Verniest
Shell	Alexis Licha
Social Impact Strategies Group	Jeffrey Rowland
Social Progress Imperative	Michael Green
Stanford University, United States	Perrine Hamel
State of Paraná, Brazil	Adriana Domingos
	Luis Paulo Gomes Mascarenhas
Strasbourg, France	Julien Chiappone-Lucchesi
	Agnes Rivet
	Yves Zimmermann
Stuttgart, Germany	Bettina Bunk
Sustainability Network NRW (LAG 21 NRW), Germany	Johannes Pagel
Sustainable Development Solutions Network	Guillaume Lafortune
Tallinn, Estonia	Krista Kampus
Technopolis Group	Apolline Terrier
The Brookings Institution	Tony Pipa
UN Association of Norway	Rune Arctander
UN Global Compact / Investing in the SDGs in Cities	Patricia Purcell
UN SDG Action Campaign	Xavier Longan
UN-Habitat	Diana Lopez Caramazana
United Cities and Local Governments (UCLG)	Luc Aldon
	Jean-Baptiste Buffet

Institution	Name and surname
	Pablo Fernandez
	Emilia Saiz
United Nations Convention to Combat Desertification (UNCCD)	Morgane Chiocchia
United Nations Framework Convention on Climate Change (UNFCCC)	Nishchay Mehrotra
United Nations Research Institute for Social Development (UNRISD)	Dunja Krause
Universidad de los Andes, Colombia	Liliana Morales
University of Aveiro, Portugal	Sara Moreno Pires
University of Bergamo, Italy	Alberto Brugnoli
University of Bonn, Germany	Norbert Ammann
University of Kitakyushu, Japan	Tomonori Kawano
	Yoshiaki Ushifusa
University of Pennsylvania, United States	Eugenie Birch
URBACT	Clementine Gravier
	Evgenia Koutsomarkou
Urban Innovative Actions	Iraklis Stamos
Utrecht, Netherlands	Hans Sakkers
	Desiree v.d. Ven
Värmland, Sweden	Eva Hallström
	Ulla Högglund
VEB.RF, Russian Federation	Vyacheslav Shulenin
Veolia	Dominique Gâtel
Viken County, Norway	Espen Karstensen
	Trond Myrland
	Thomas Hansen
	Gørill Elisabeth Brohdahl
	Linda Duffy
	Charlott Sandor Johansen
	Espen Nedland Hansen
	Gunn Nygard
	Øyvind Solum
	Knut Thiblin
	Hilde Reine
Wallonia, Belgium	Valentine van Gameren
Women's Economic Imperative	Margo Thomas
Wood Plc	Peter Hall
World Bank	Paul Kriss
World Council on City Data	Nico Tillie
World Water Council	Camille Giscard d'Estaing