

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”

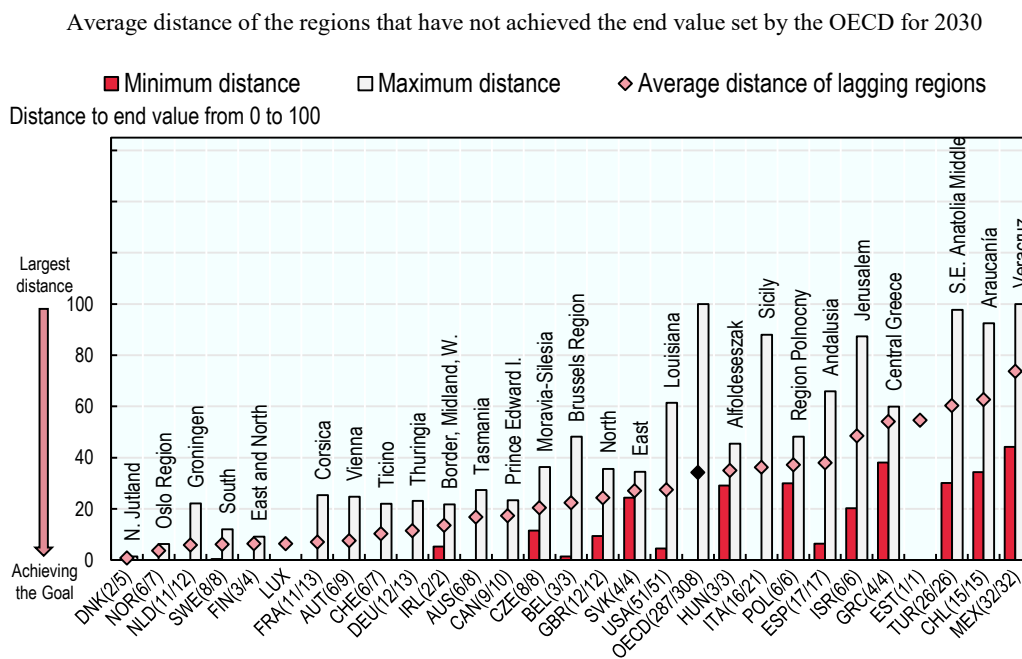
The index for SDG 1 on poverty eradication combines the indicators of the relative poverty rate and the average disposable income per day of the first quintile. These indicators cover an essential aspect of SDG 1, which is the monetary dimension of poverty. Relative poverty rates contribute to capturing 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.

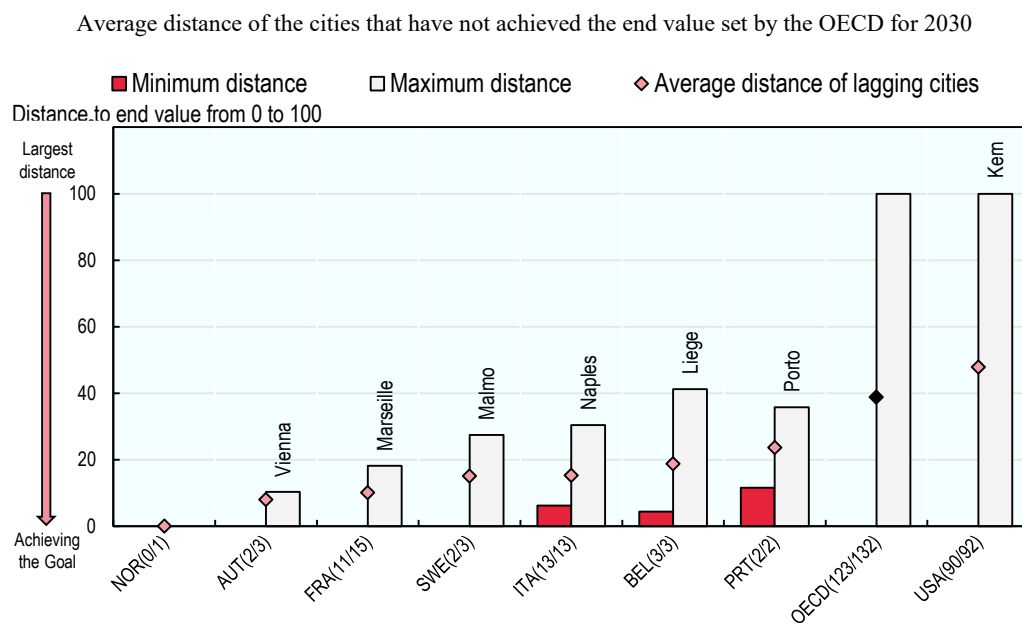
Out of the 123 cities that have not achieved the end value of a relative poverty rate lower than 6.3%, around 75% are cities in the United States, while the remaining 25% are cities in Portugal, Belgium, Italy, Sweden, France and Austria. The average distance to travel for the lagging cities of the United 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”



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”



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”

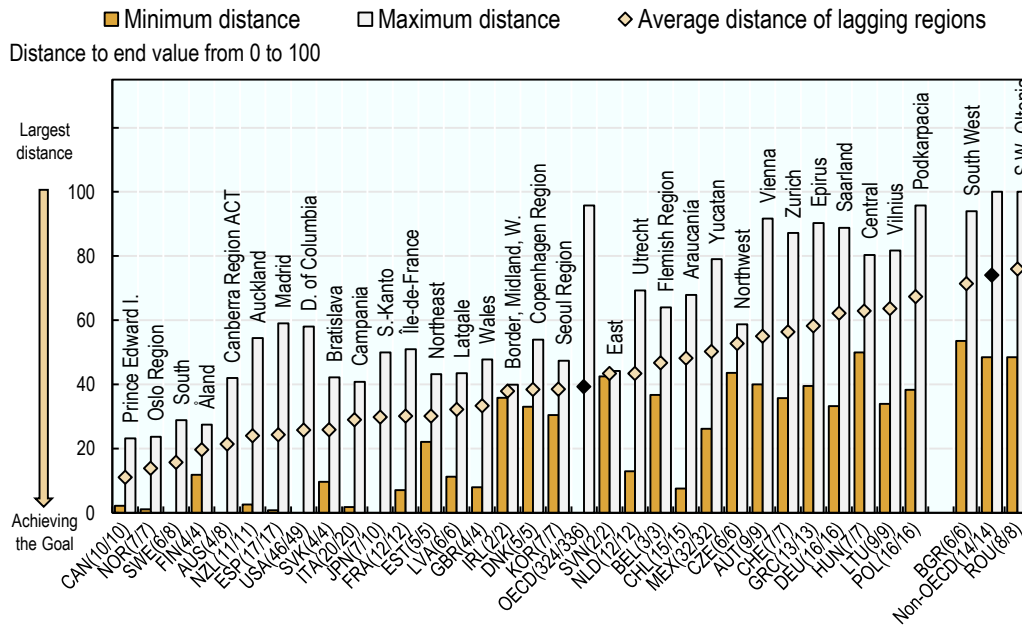
While for regions the indicators of productivity in agriculture and change in cropland compose the index for SDG 2 on food security and agriculture, for cities the index uses only the indicator of percentage of people having access to at least one food shop within 15 minutes’ walking distance. SDG 2 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”

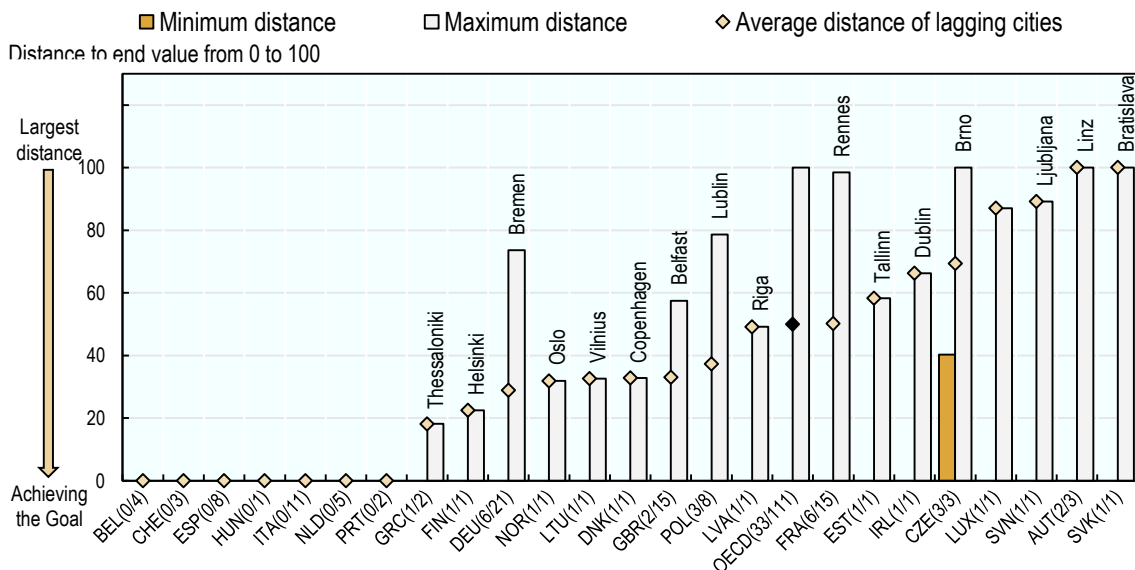
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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.

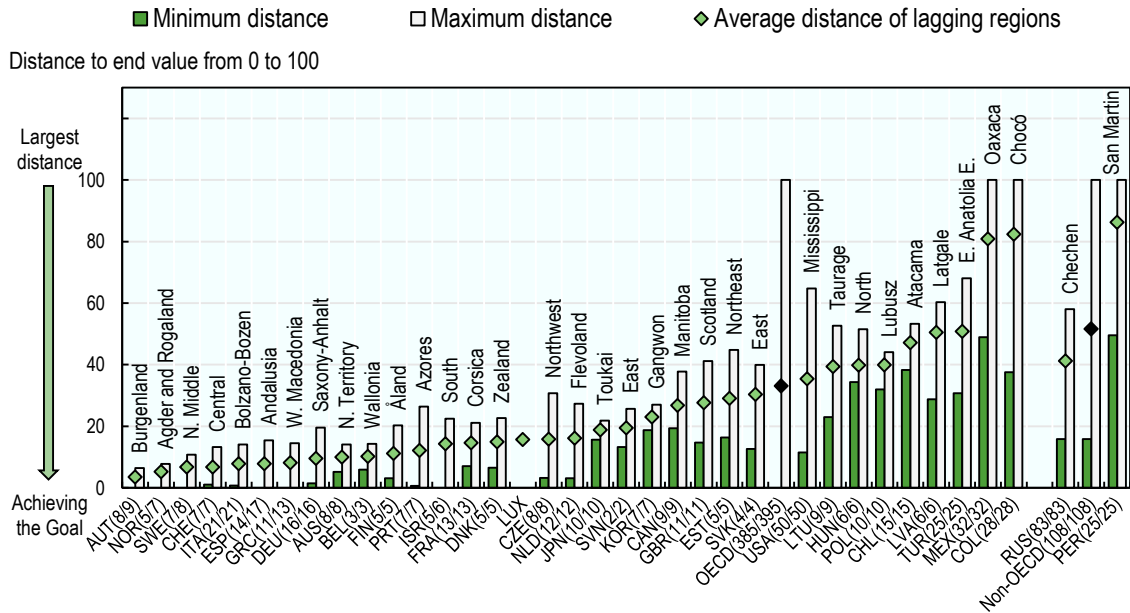
OECD regions are, on average, one-third of the way from achieving SDG 3 on good health and well-being. Achieving the end values for SDG 3 implies recording infant mortality rates lower than 2.8 infant deaths per 1 000 live births, having a life expectancy of 81.5 years or more, and counting with at least 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

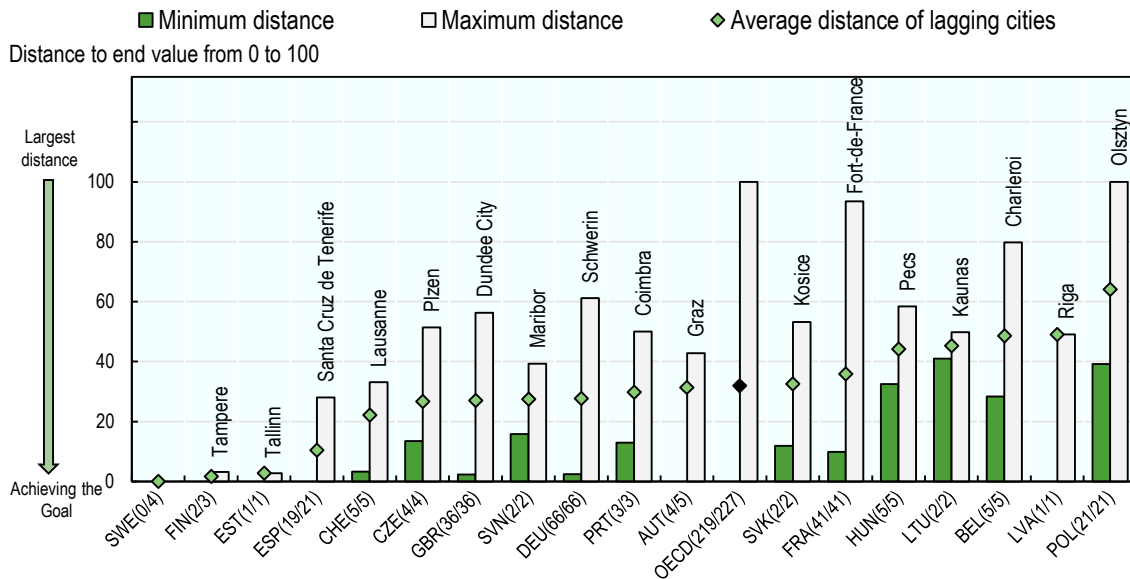


Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).

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.

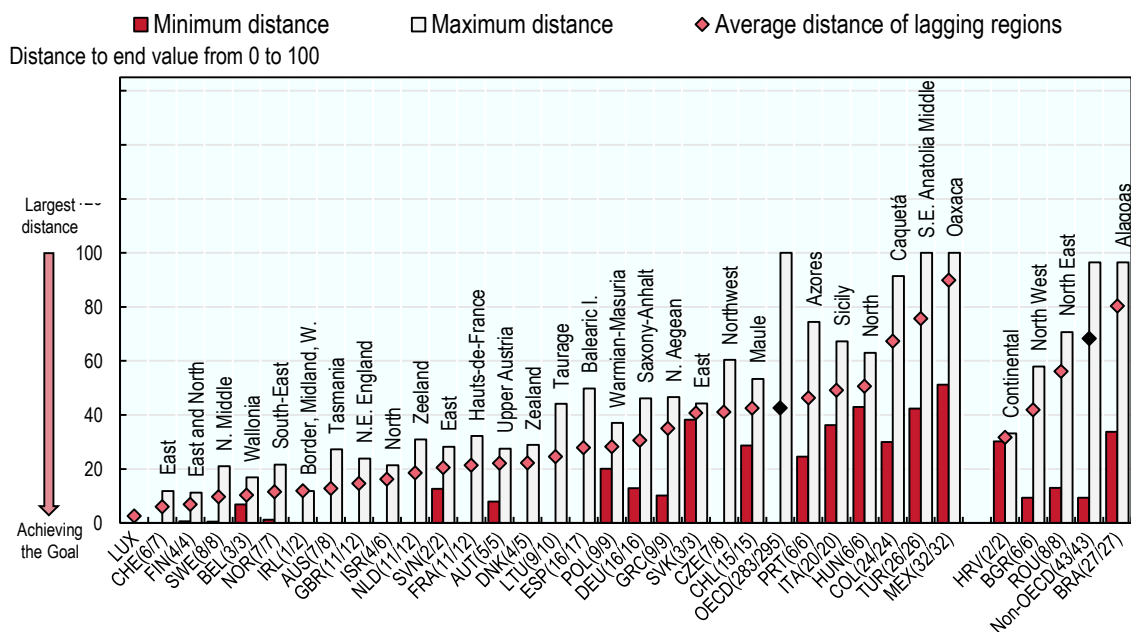
In OECD countries, close to 4% of the regions have achieved the end values for SDG 4 about quality of education. Achieving the regional end values for SDG 4 implies bringing school dropouts to 8% or lower and bringing tertiary education to at least 46% of the adult population. For the regions that have 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”

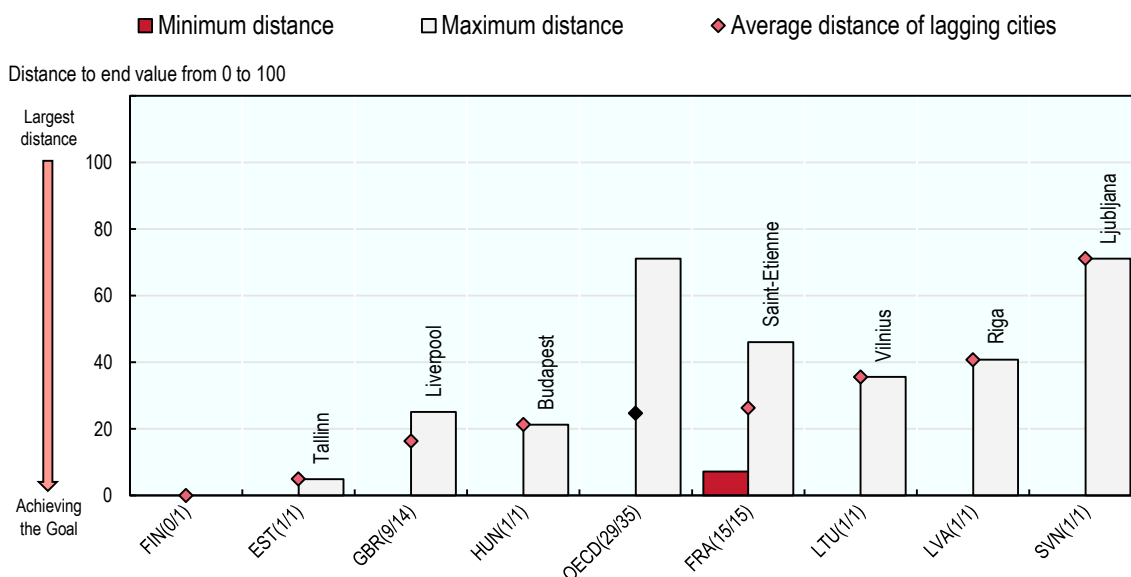
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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.

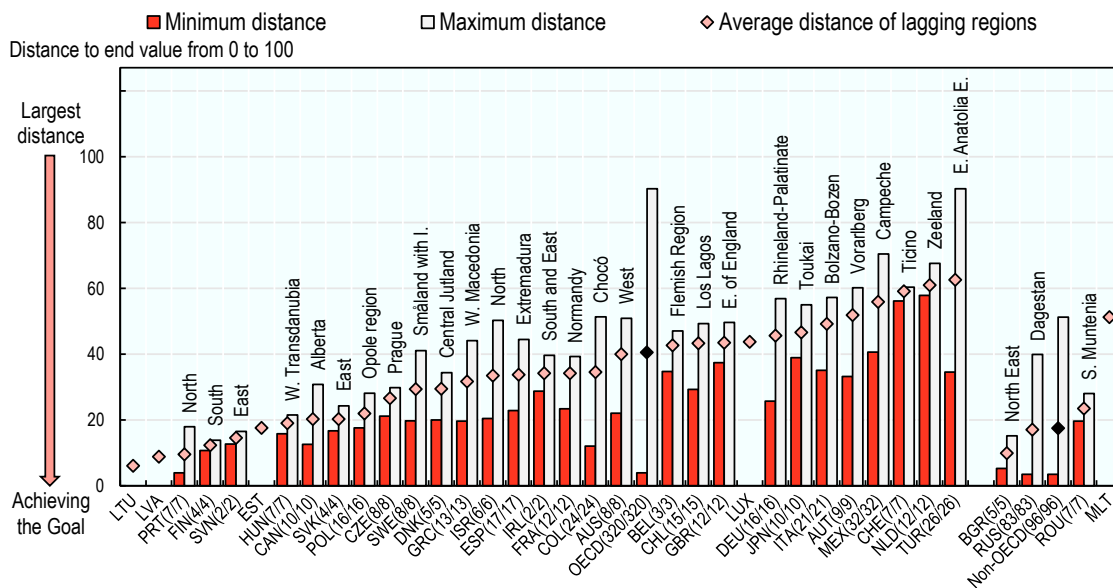
All regions must increase efforts to achieve SDG 5 on gender equality as none of them has reached the intended outcomes in OECD countries. According to Figure 3.9

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

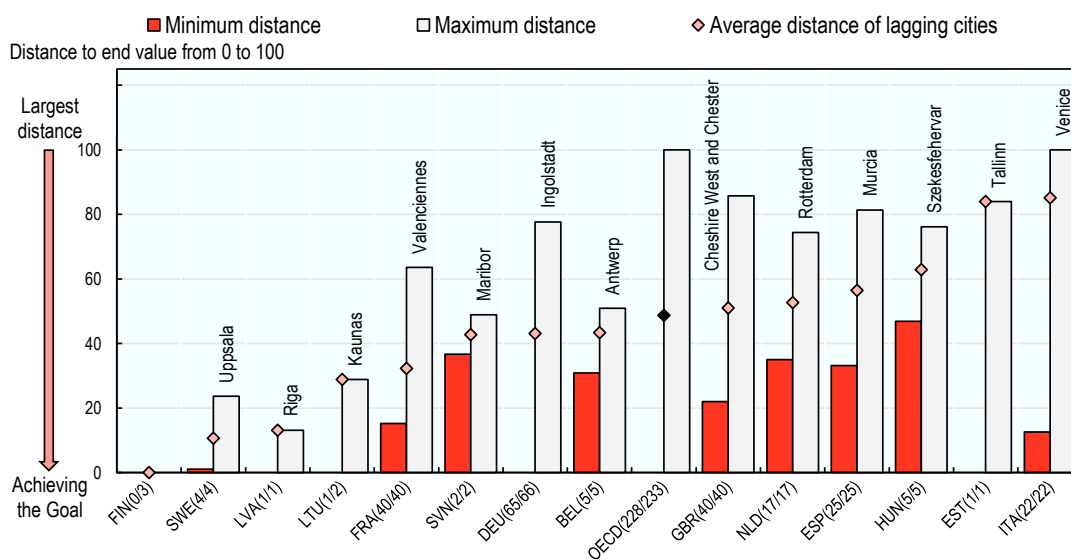


Note: Lagging regions are the regions that have not achieved the end values for 2030. Between parentheses: number of lagging regions over number of regions with available data. These notes also apply to cities (below).

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”

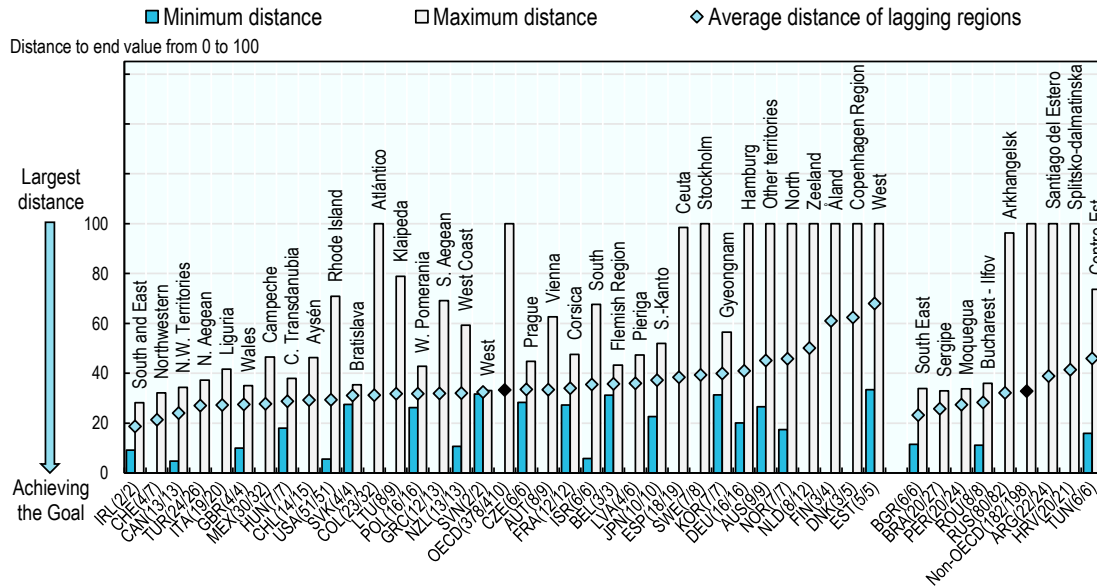
The SDG index for SDG 6 uses the indicator of change in water bodies (rivers, lakes or dams) from 1992 to 2015 (%) that captures the change in the availability of water supplies. SDG 6 acknowledges that the protection of water-related ecosystems is crucial for sustainable water supply management. Halting 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”

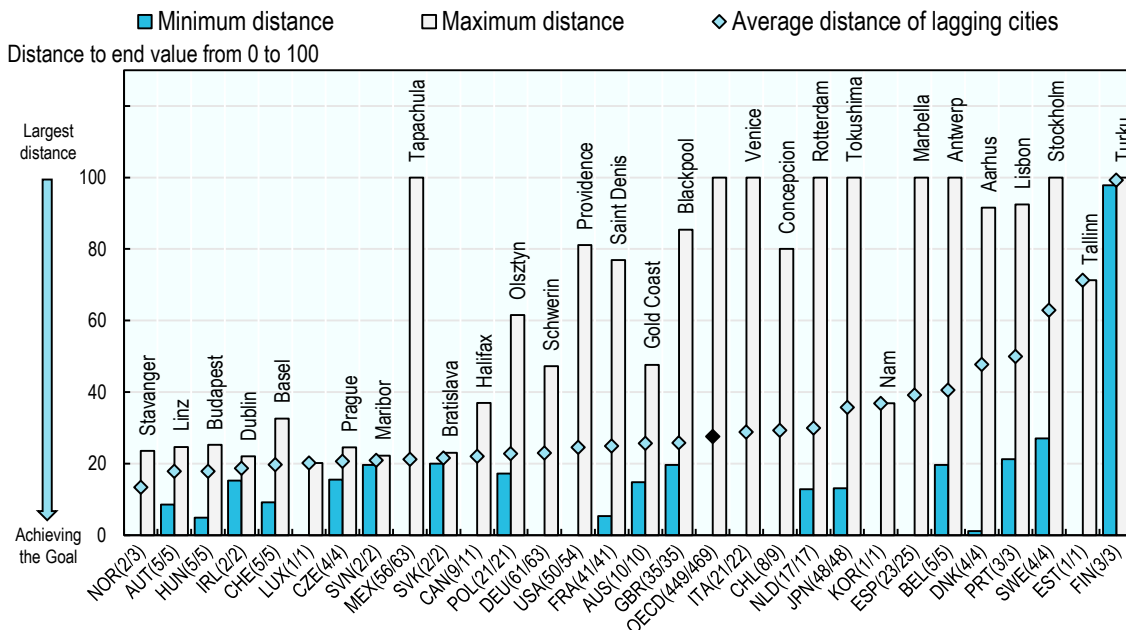
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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”

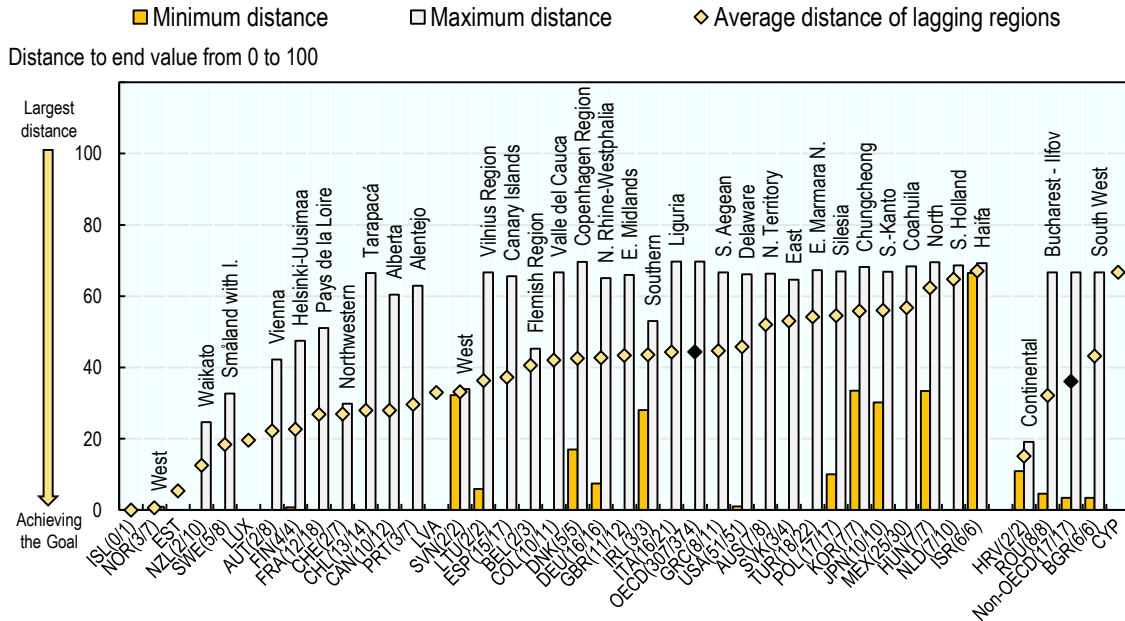
The index for SDG 7 about affordable and clean energy is measured by the combination of three indicators related to the sources for the production of electricity. More precisely, the indicators are defined as the percentage of total electricity production that comes from renewable sources, the percentage 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”

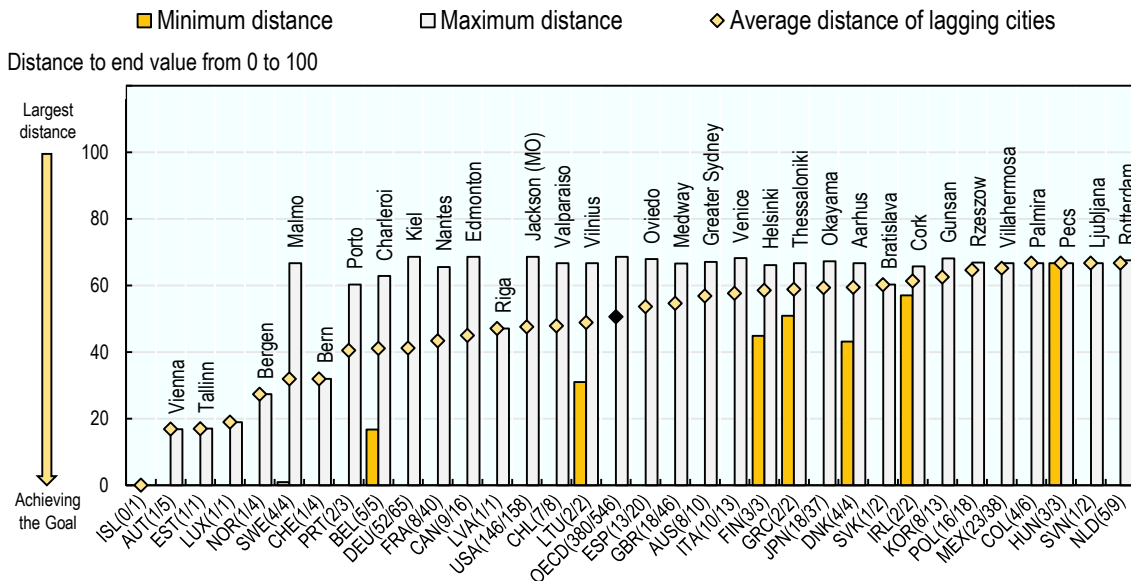
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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.

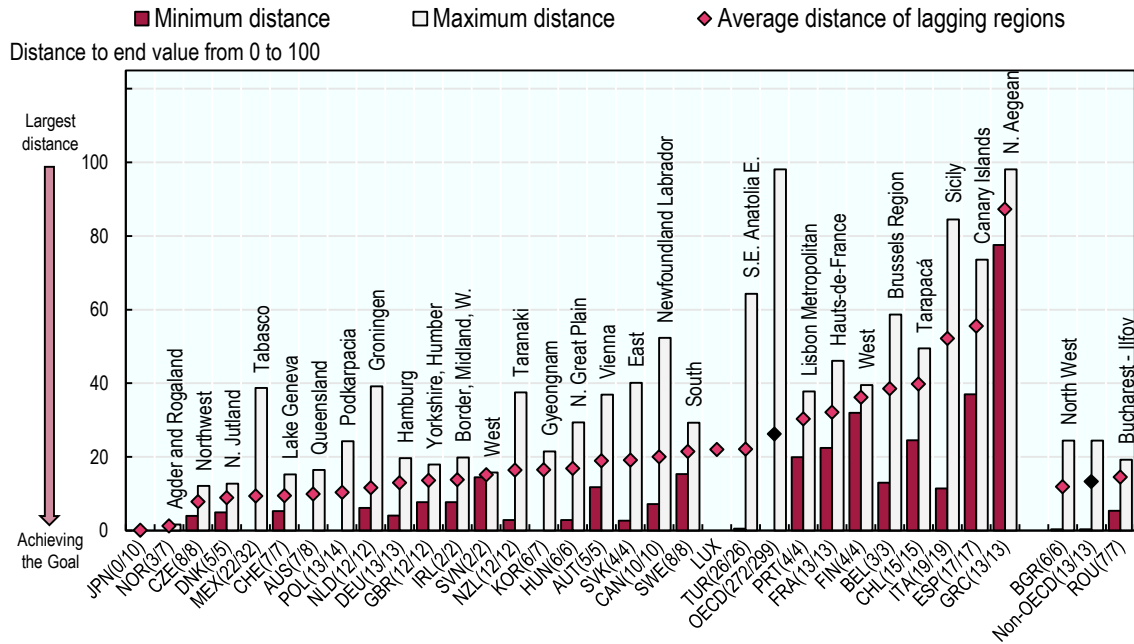
Despite persistent within-country inequalities, most OECD regions are on track to meet the end values for 2030 in SDG 8. Although more than 90% of OECD regions have not yet achieved SDG 8, the average distance they must travel represents less than 26% the maximum possible distance to the goal (Figure 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”

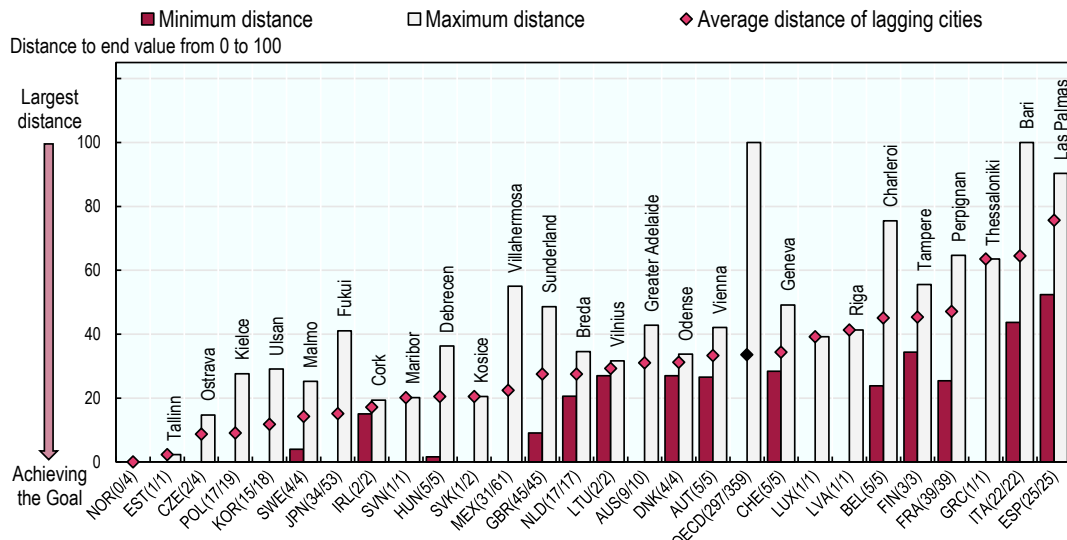
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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 (2019c), “Metropolitan areas”, <https://doi.org/10.1787/data-00531-en>.

SDG 9 for “Industry and innovation”

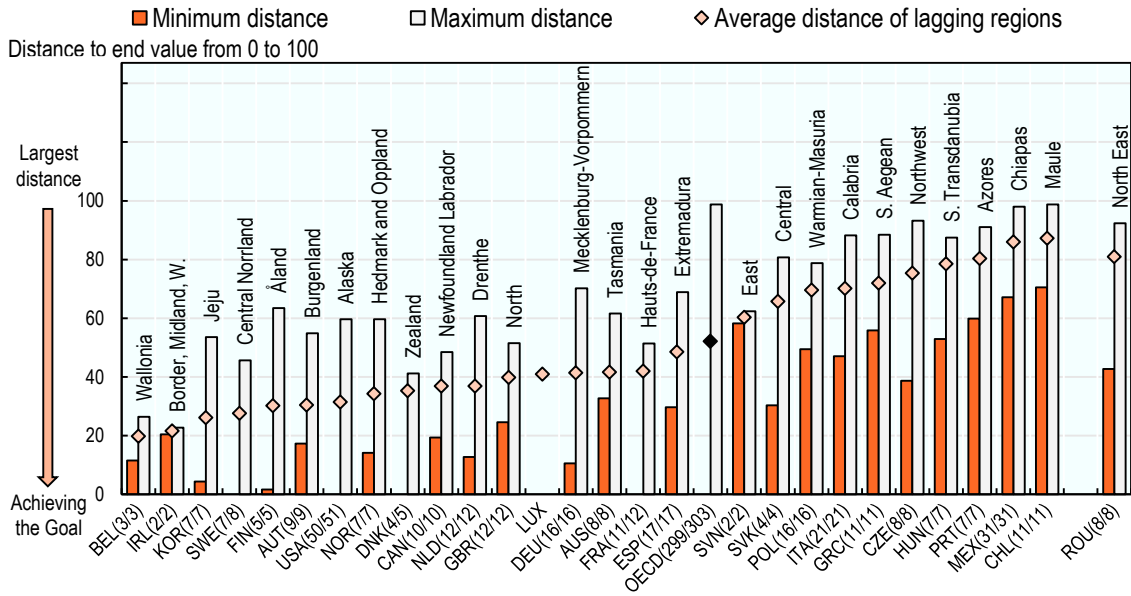
The OECD index that evaluates the distance of OECD regions to SDG 9 about industry and innovation integrates the indicators of productivity in manufacture, the percentage of the labour force with at least tertiary education and of the patent applications (PCT) per 1 000 000 people. SDG 9 recognises the 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”

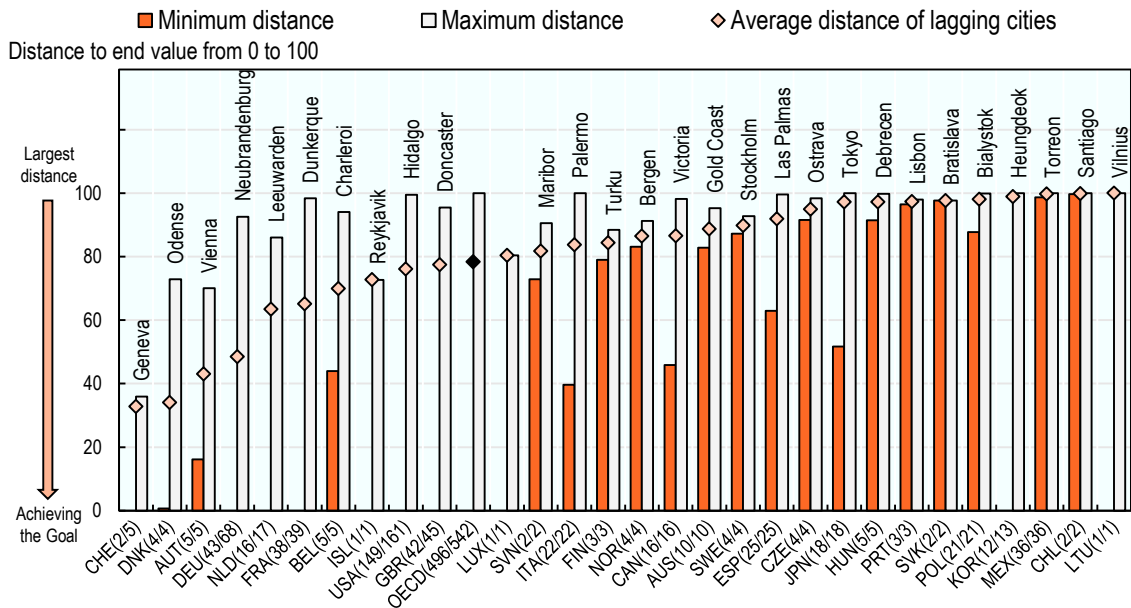
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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”

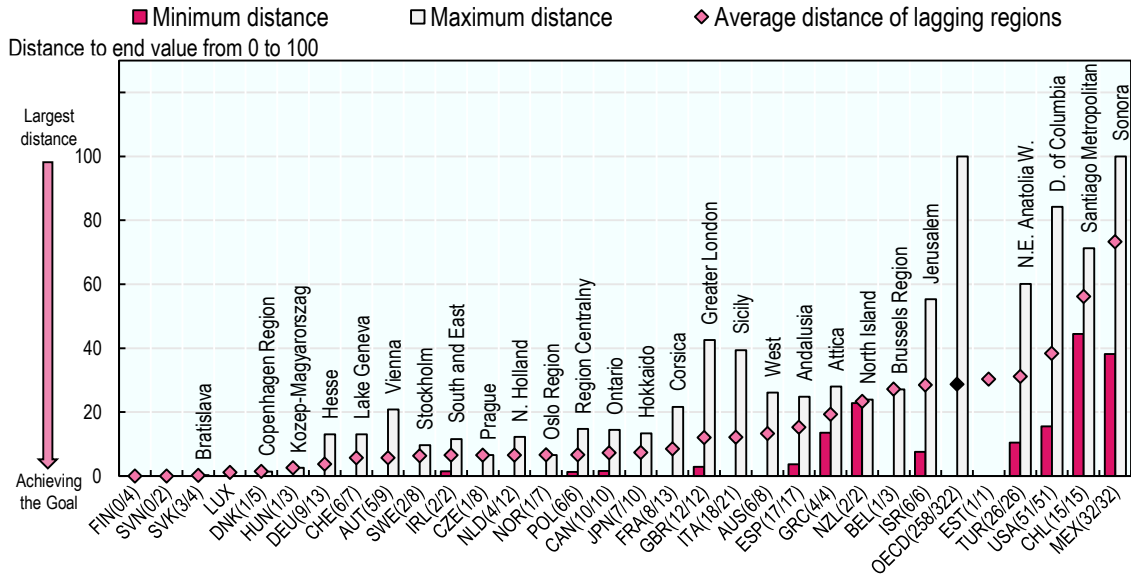
The Gini coefficient of disposable income (after taxes and transfers) and the ratio between the average disposable income of the top and the bottom quintiles constitute the index to measure the distance to SDG 10 on reducing inequalities. These indicators complement each other to capture different aspects 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”

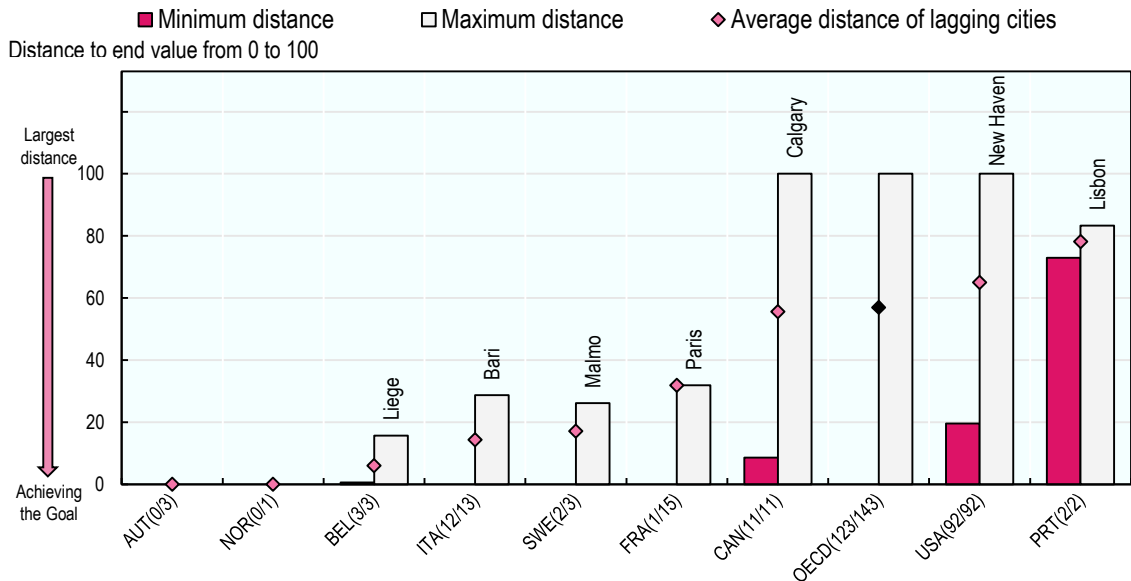
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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 (PM_{2.5}) 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 µg/m³ 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).

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.

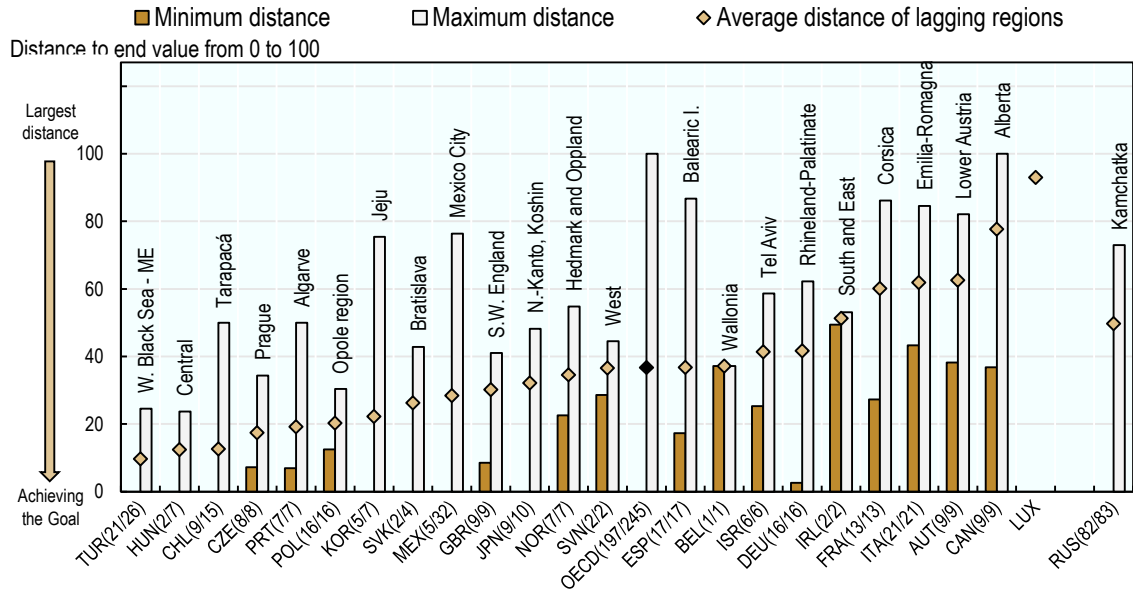
While the municipal waste rate and motor road vehicles are proxies to help monitor SDG 12, improving the measurement of this goal requires further refinements. For example, through the Working Party on Territorial Indicators, the OECD has started the collection of SDGs indicators for SDG 12, such as 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”

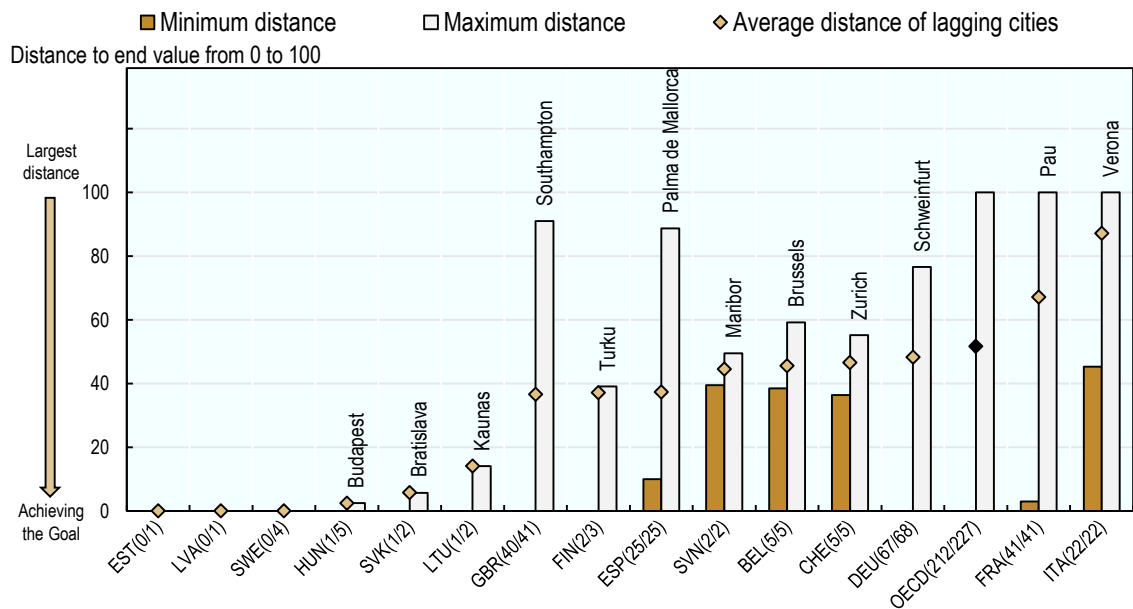
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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”

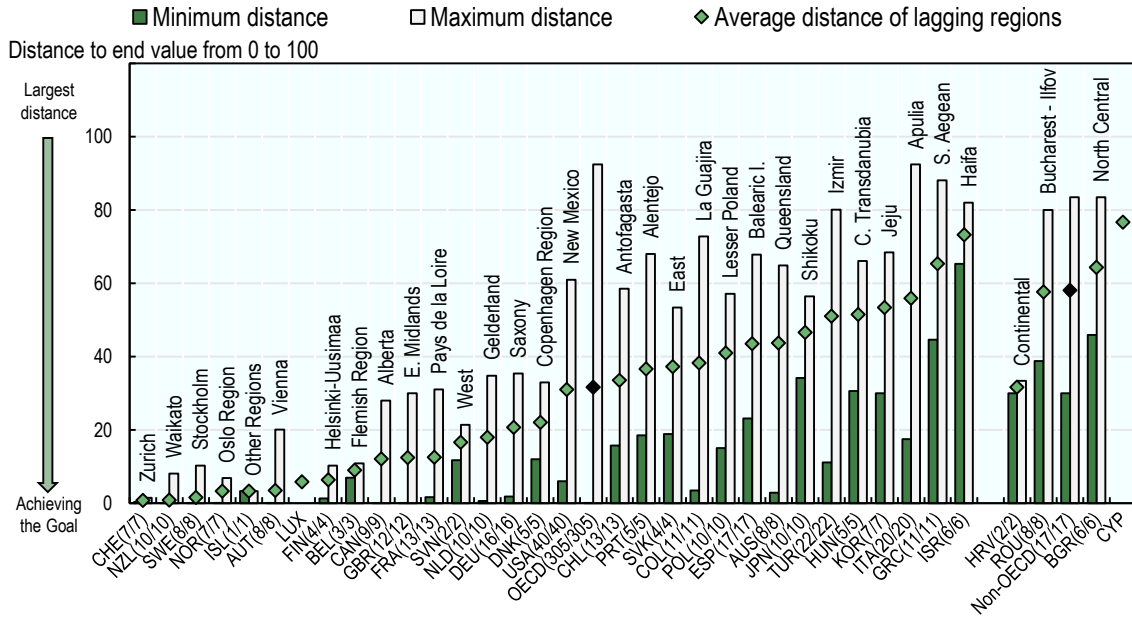
The indexes for SDG 13 use the indicators of CO₂ emissions per electricity production, the change in cooling degree days in the last 30 years and the percentage of the population satisfied with efforts to preserve the environment. While the latter indicator reflects the general opinion about the intensity 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”

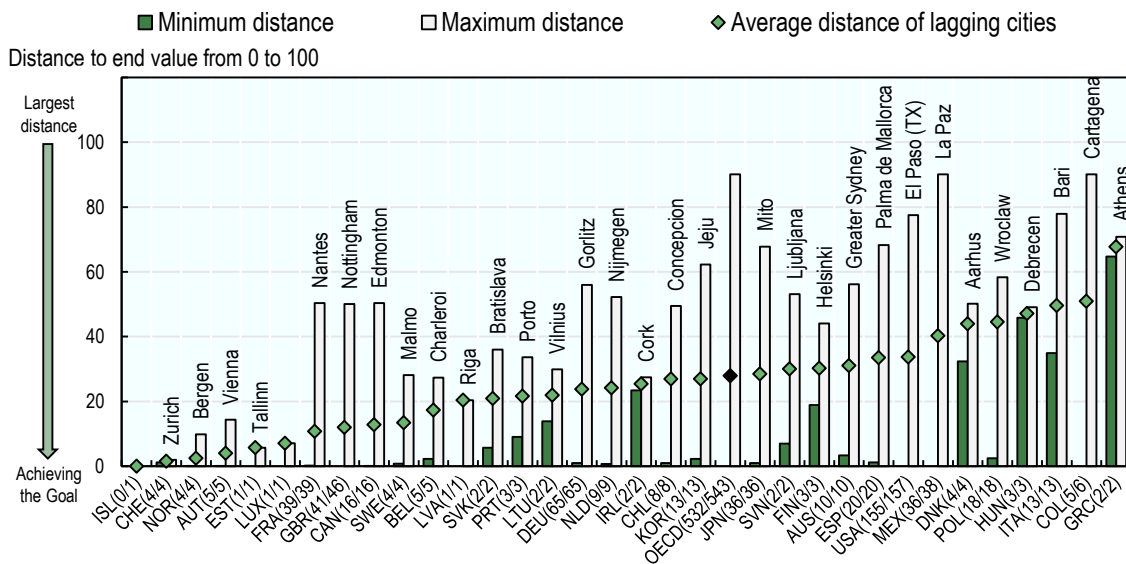
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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).

SDG 15 for “Life on land”

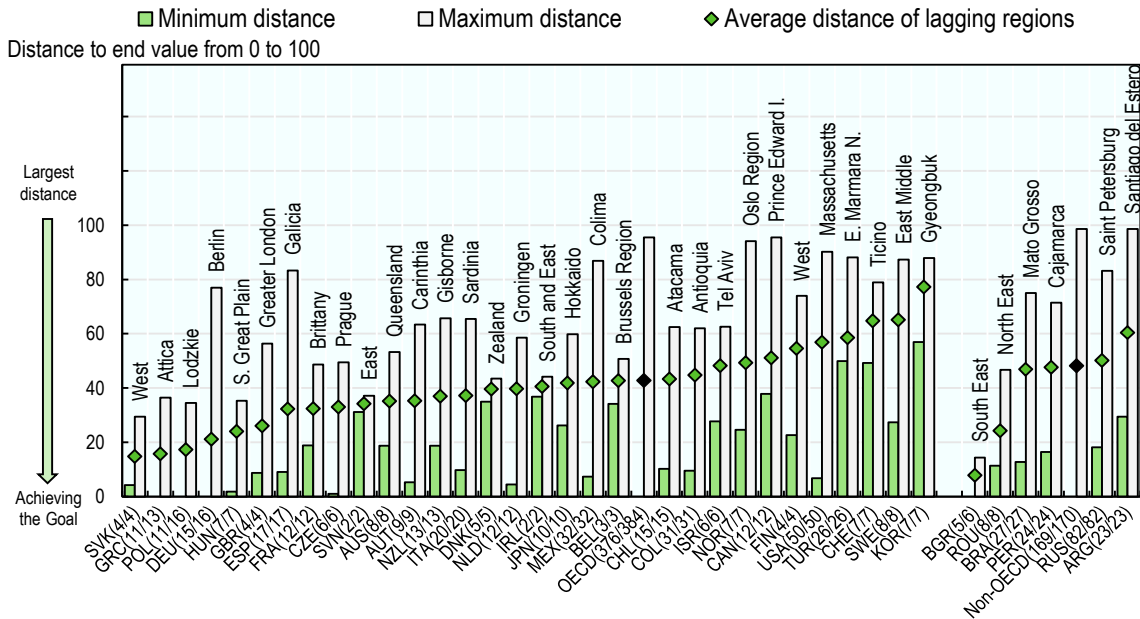
The index for SDG 15 about life on land combines the indicators of tree cover loss (from 1992 to 2015, in percentage points) and terrestrial protected areas as a percentage of total area. Both indicators reflect the main purpose of SDG 15, which is to protect and restore territorial ecosystems, by combatting 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”

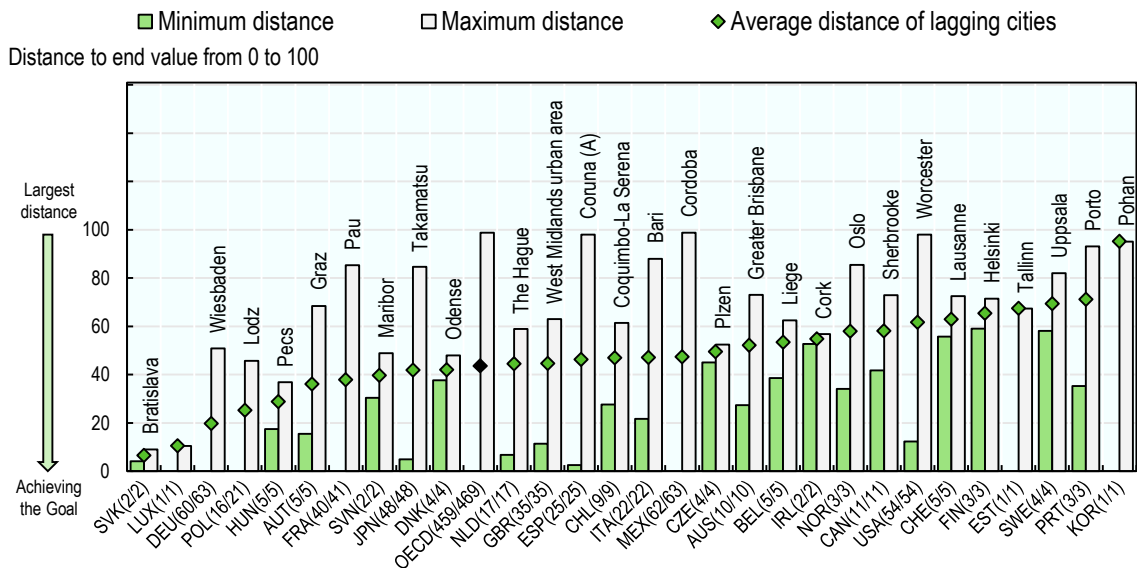
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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.

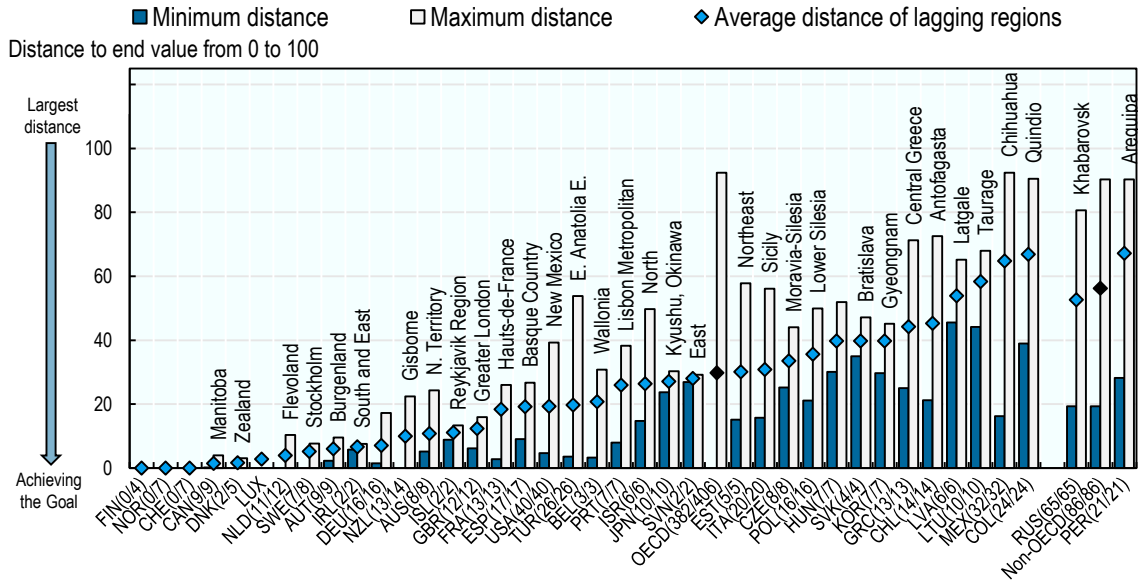
OECD regions must travel only 30% of the way to complete the intended outcomes in SDG 16 about peace and institutions. Figure 3.31 shows that although 94% of OECD regions have not reached the end value for 2030, an average of 30 points separates them from completing the end values suggested for this 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”

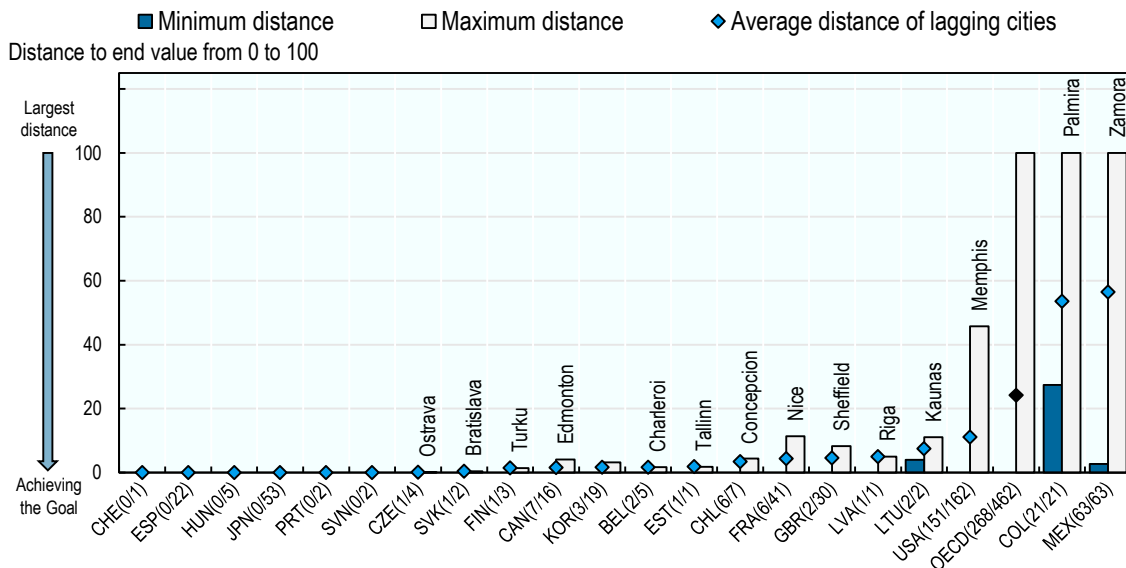
Average distance of the regions that have not achieved the end value set by the OECD for 2030



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”

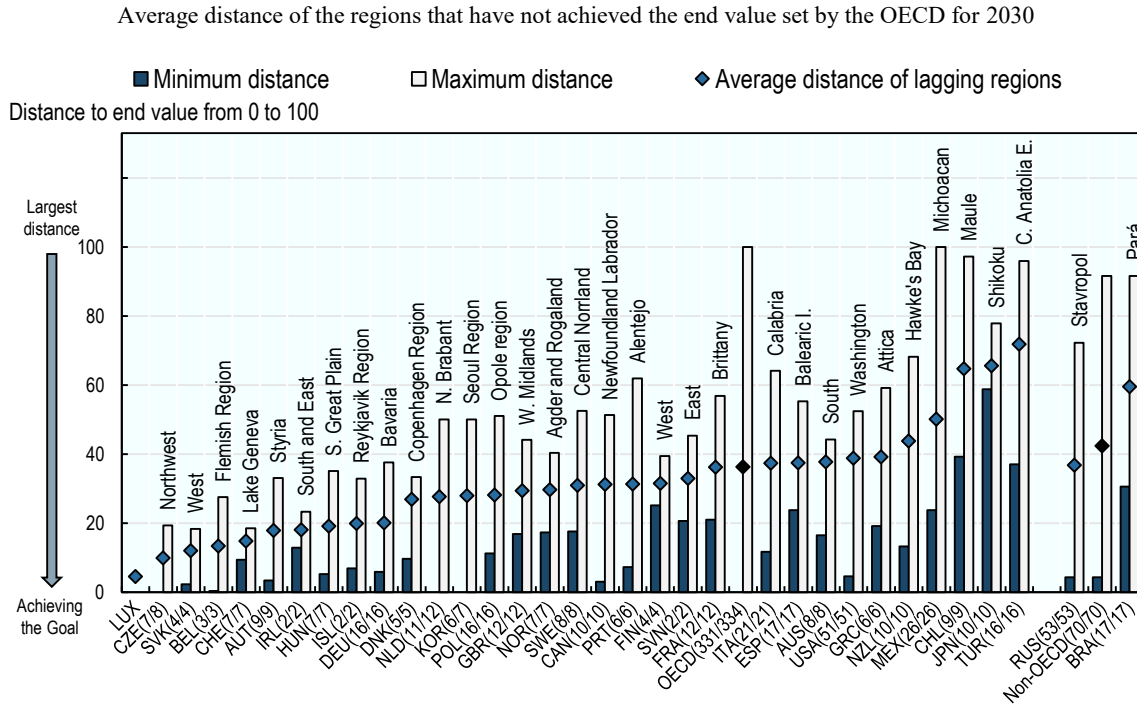
The indicators of the share of co-patent applications that are done with foreign regions (in percentage of co-patent applications) and the percentage of households with internet access (broadband for regions and optical fibre for cities) compose the OECD index for SDG 17 about partnerships and enablers 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).

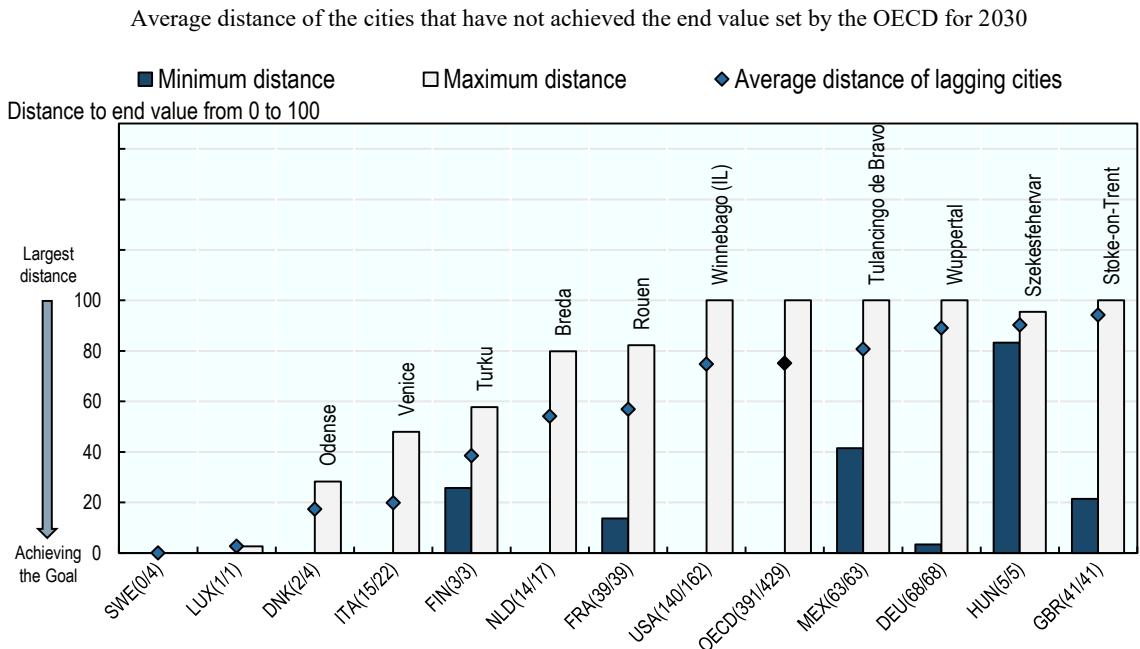
OECD cities have to travel on average 75% of the way before meeting the end value set for SDG 17 of having at least 59% of their population connected to optical fibre. Only 38 cities out of the 429 cities with available data have achieved this end value, which means that 91% of OECD cities are still 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”



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”



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

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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/m ³ , 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

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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

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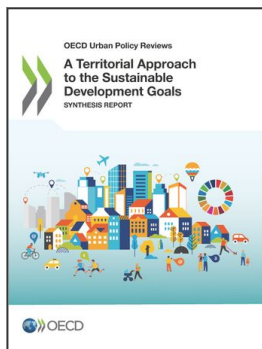
Goal	OECD Indicator	Desired direction	Start value	End value	Cities that have achieved the end value	Average distance to end value of lagging cities	Average standardised distance to end value of lagging cities	Source
	INDEX SDG 8	Positive	0	100	62 out of 359 (17.2%)	33.52205658	1.3874913	
SDG 9. Industry 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/m ³ , 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	

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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.



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