Japan

Regions and Cities at a Glance provides a comprehensive assessment of how regions and cities across the OECD are progressing in a number of aspects connected to economic development, health, well-being and the net zero-carbon transition. It presents indicators on individual regions and cities to assess disparities within countries and their evolution since the turn of the new millennium. Each indicator is illustrated by graphs and maps. The report covers all OECD countries and, where data is available, partner countries and economies.

Territorial definitions

The data in this note reflect different sub-national geographic levels in OECD countries:

- **Regions** are classified on two territorial levels reflecting the administrative organisation of countries: large regions (TL2) and small regions (TL3). Small regions are classified according to their access to metropolitan areas (Fadic et al. 2019).
- **Functional urban areas** consist of cities – defined as densely populated local units with at least 50 000 inhabitants – and adjacent local units connected to the city (commuting zones) in terms of commuting flows (Dijkstra, Poelman, and Veneri 2019). Metropolitan areas refer to functional urban areas above 250 000 inhabitants.

In addition, some indicators use the degree of urbanisation classification (OECD et al. 2021), which defines three types of areas:

- **Cities** consist of contiguous grid cells that have a density of at least 1 500 inhabitants per km2 or are at least 50% built up, with a population of at least 50 000.
- **Towns and semi-dense areas** consist of contiguous grid cells with a density of at least 300 inhabitants per km2 and are at least 3% built up, with a total population of at least 5 000.
- **Rural areas** are cells that do not belong to a city or a town and semi-dense area. Most of these have a density below 300 inhabitants per km2.

Regional economic trends

Employment and unemployment rates in regions

In Japan, regional disparities in unemployment rates are moderate compared to other OECD countries. While in Hokkaido 3.7% of the working force was unemployed in 2022Q2, the share was 2% in Hokuriku.

Meanwhile, the difference in employment rate between the regions with the highest (Southern-Kanto) and lowest (Hokkaido) employment rates reached 8 percentage points in 2022.

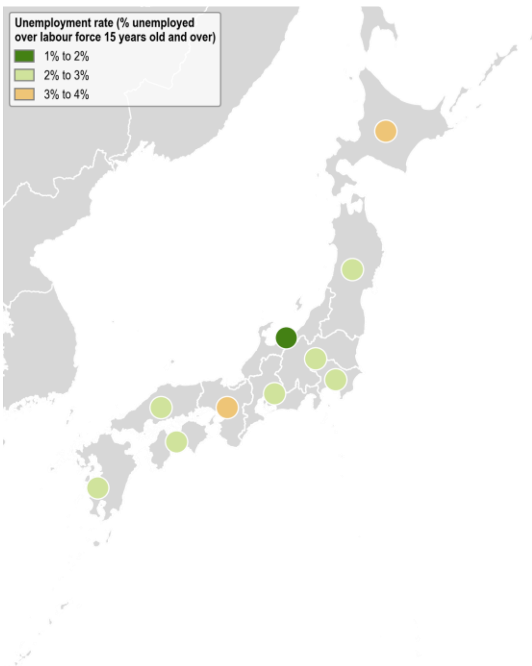


Figure 1: Unemployment rates in large regions, 2022Q2

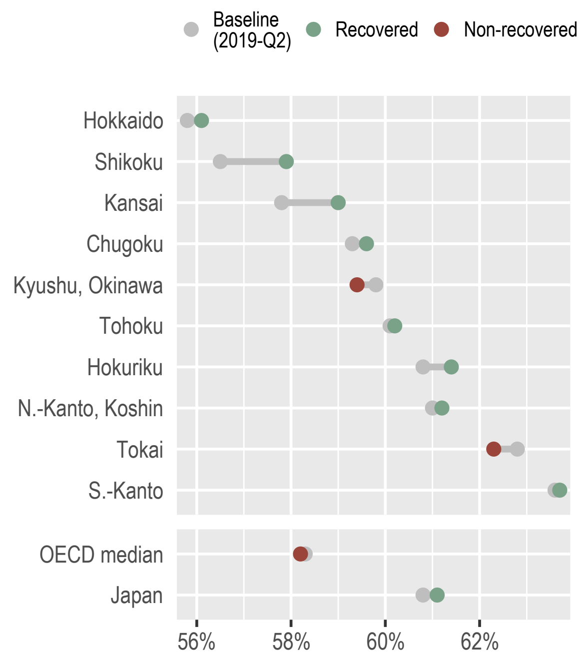
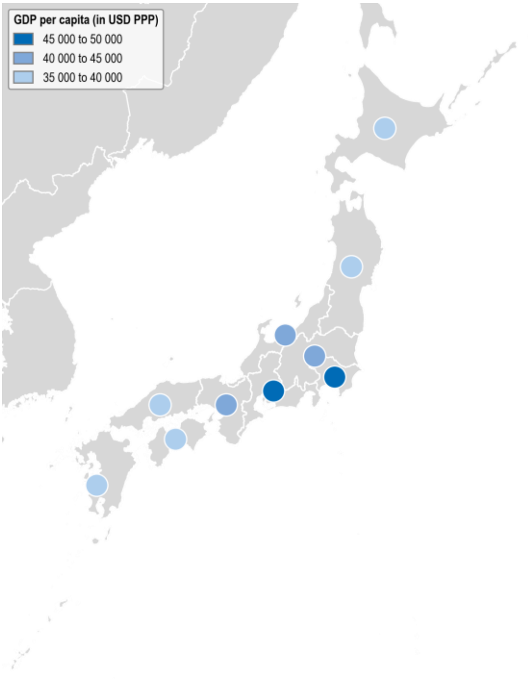


Figure 2: Change in employment rates in large regions, 2019Q2-2022Q2

Note: Harmonised employment and unemployment rates, aged 15 and over. The OECD median corresponds to the median employment rate in large regions.
Source: OECD (2022), "Short-term regional statistics", *OECD Regional Statistics* (database)

Trends in GDP per capita prior to COVID-19

Between 2017 and 2018, GDP per capita increased in all Japanese regions. In 2018, Hokuriku, a region with a GDP per capita -5% below the national average (40 971 vs. 43 083 USD PPP), experienced the largest increase in GDP among Japanese regions, of approximately 3%.



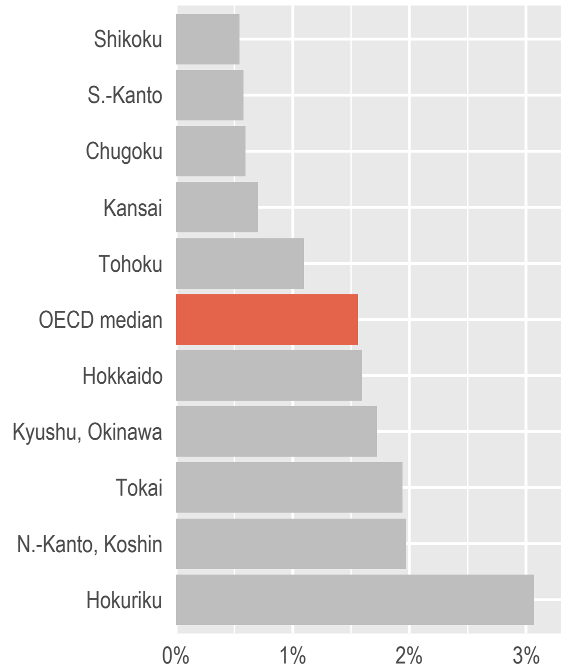


Figure 3: GDP per capita in large regions, 2018

Figure 4: % change in GDP per capita in large regions, 2017-2018

Note: GDP per capita is measured in constant prices and constant PPPs, reference year 2015. Constant prices are calculated using national deflators. The OECD median corresponds to the median decline in GDP per capita observed across OECD large regions over the period.
Source: OECD (2022), "Regional economy", *OECD Regional Statistics* (database)

Trends in regional economic disparities in the last decade

Differences between Japanese regions in terms of GDP per capita have remained relatively stable over the past nine years, with the richest 20% of regions reporting a GDP per capita 1.4 times higher than the poorest 20% of regions.

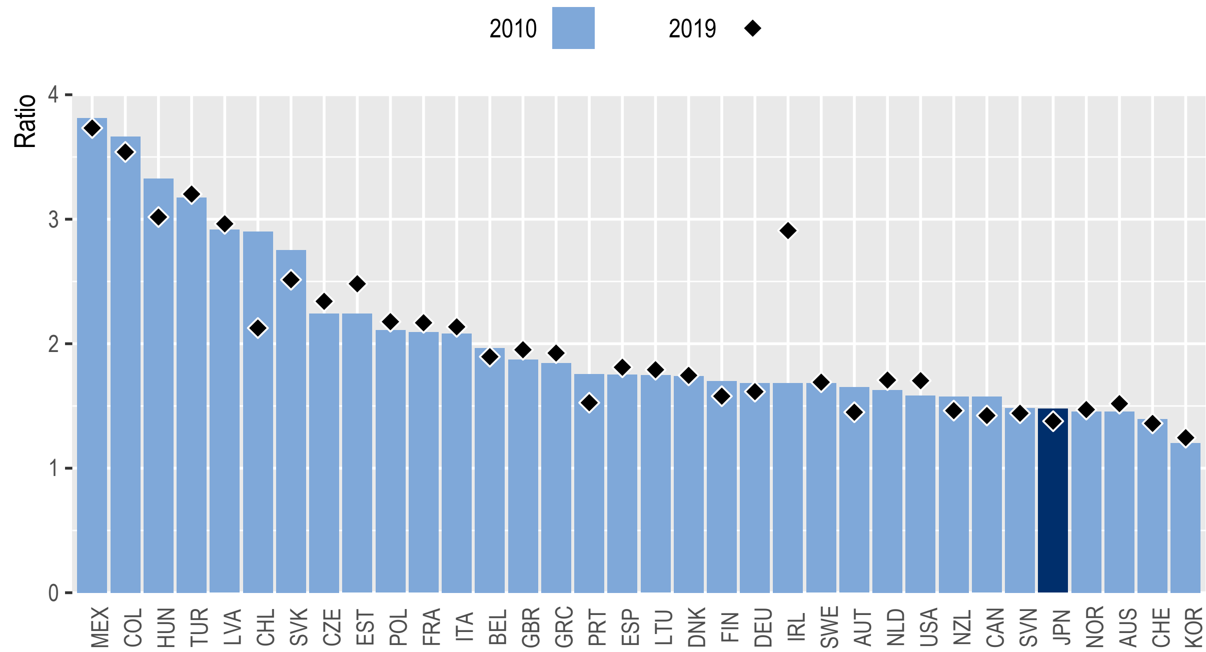


Figure 5: Index of regional disparities in GDP per capita (richest 20% relative to poorest 20% of regions)

Note: The GDP per capita of the top and bottom 20% regions are defined as those with the highest/lowest GDP per capita until the equivalent of 20% of the national population is reached. A ratio of 2 means the richest regions have a GDP per capita twice as large as the poorest regions. The indicator is calculated using large regions, except for Latvia and Estonia, where small regions are used instead. Irish GDP underwent an upwards revision in 2016. Care is advised in its interpretation.
Source: OECD (2022), "Regional economy", *OECD Regional Statistics* (database)

Well-being, liveability and inclusion in regions

Regional well-being

Japan faces stark regional disparities across six well-being dimensions, with the starkest disparities in terms of civic engagement, community and life satisfaction.

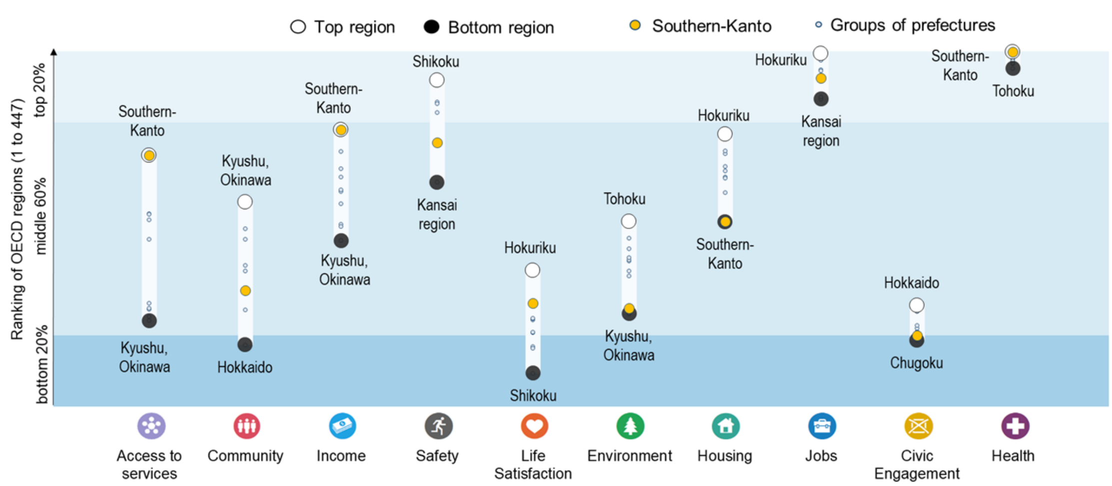


Figure 6: Regional gaps in well-being

Note: Regional indices provide a first comparative glance of well-being in OECD regions. The figure shows the relative ranking of the regions with the best and worst outcomes in the eleven well-being dimensions, relative to all OECD regions. The eleven dimensions are ordered by decreasing regional disparities in the country. Each well-being dimension is measured by the indicators in the table below.

Relative to other OECD regions, Japan performs best in the health dimension, with all of Japanese regions lying in the top 20% of OECD regions.

The top 20% of Japanese regions rank above the OECD median region in 9 out of 13 well-being indicators, performing best in terms of rooms per person and disposable income per capita.

	Country average	Median OECD region	Japanese regions	
			Top 20%	Bottom 20%
Civic engagement				
Voters in last national election (%), 2021	56.0	66.7	58.1	55.0
Community				
Perceived social network support (%), 2016-20	88.2	90.5	91.0	85.8
Life Satisfaction				
Life satisfaction (scale from 0 to 10), 2016-20	6.0	6.6	6.1	5.8
Access to services				
Households with broadband access (%), 2020	71.7	86.0	80.5	59.9
Internet download speed: deviation from OECD average (%), 2021-Q4	+16.2	..	+29.5	-12.0
Environment				
Level of air pollution in PM 2.5 (µg/m³), 2020	12.9	10.8	11.2	14.3
Safety				
Homicide Rate (per 100 000 people), 2021	0.7	1.4	0.5	0.9
Health				
Life Expectancy at birth (years), 2015	83.9	80.3	84.2	83.7
Age adjusted mortality rate (per 1 000 people), 2019	5.6	8.0	5.4	5.7
Jobs				
Employment rate 15 to 64 years old (%), 2021	77.2	68.5	79.1	75.7
Unemployment rate 15 to 64 years old (%), 2021	3.0	5.8	2.5	3.2
Income				
Disposable income per capita (in USD PPP), 2018	22 951	20 601	25 636	20 081
Housing				
Rooms per person, 2018	1.9	1.6	2.0	1.7

Figure 7: How do the top and bottom regions fare on the well-being indicators?

Note: Regional well-being indices are affected by the availability and comparability of regional data across OECD countries. The indicators used to create the indices can therefore vary across OECD publications as new information becomes available. For more visuals, visit https://www.oecdregionalwellbeing.org.

The digital divide

Fixed Internet connections in Japanese cities and rural areas deliver speeds significantly slower than the OECD average (-3% and -30%, respectively). This gap (27 percentage points) is smaller than in most other OECD countries.

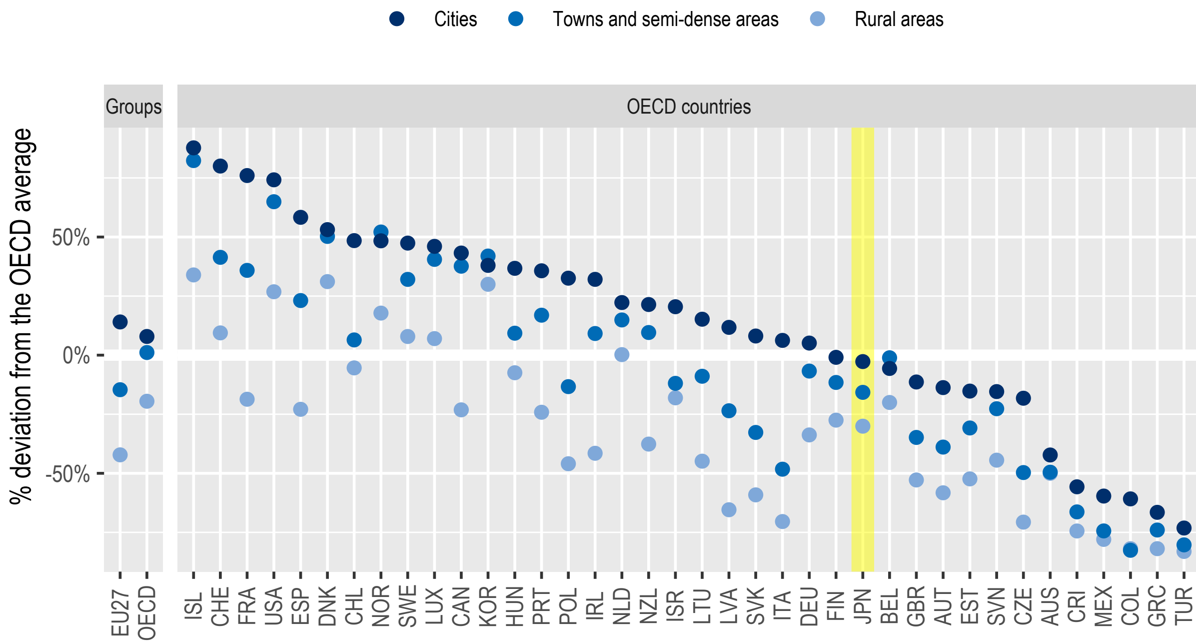


Figure 8: Speed of fixed Internet connections relative to the OECD average, by degree of urbanisation, 2021Q4

Note: Cities and rural areas are identified according to the degree of urbanisation (OECD et al. 2021). Internet speed measurements are based on speed tests performed by users around the globe via the Ookla Speedtest platform. As such, data may be subject to testing biases (e.g. fast connections being tested more frequently), or to strategic testing by ISPs in specific markets to boost averages. For a more comprehensive picture of Internet quality and connectivity across places, see OECD (2022), *"Broadband networks of the future"*.
Source: OECD calculations based on Speedtest by Ookla Global Fixed and Mobile Network Performance Maps for 2021Q4.

The average speed of fixed Internet connections is above the OECD average in 6 out of 10 Japanese regions. Within the country, residents of Northern-Kanto, Koshin, Southern-Kanto and Tokai experience the fastest connections.

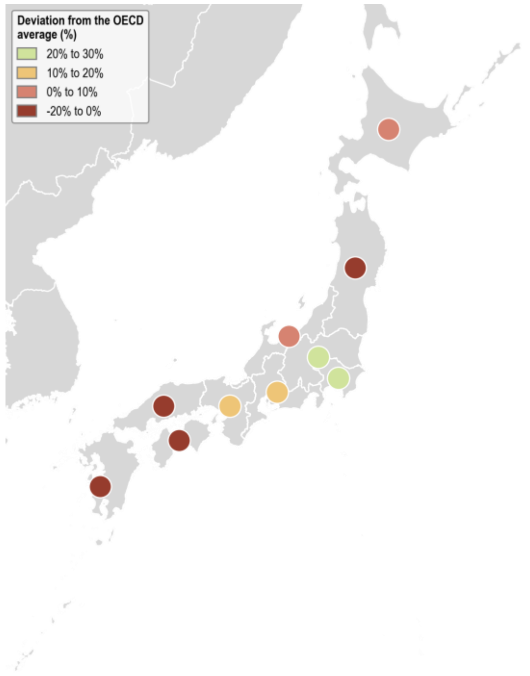


Figure 9: Speed of fixed Internet connections relative to the OECD average, in large regions (2021Q4)

Demographic trends in regions and cities

Population projections by type of regions across OECD countries

Between 2020 and 2040, the population of Japan is expected to decrease in all types of regions. Regions near a metropolitan area are expected to see the greatest change, with their population decreasing, on average, by 19 % over the next two decades.

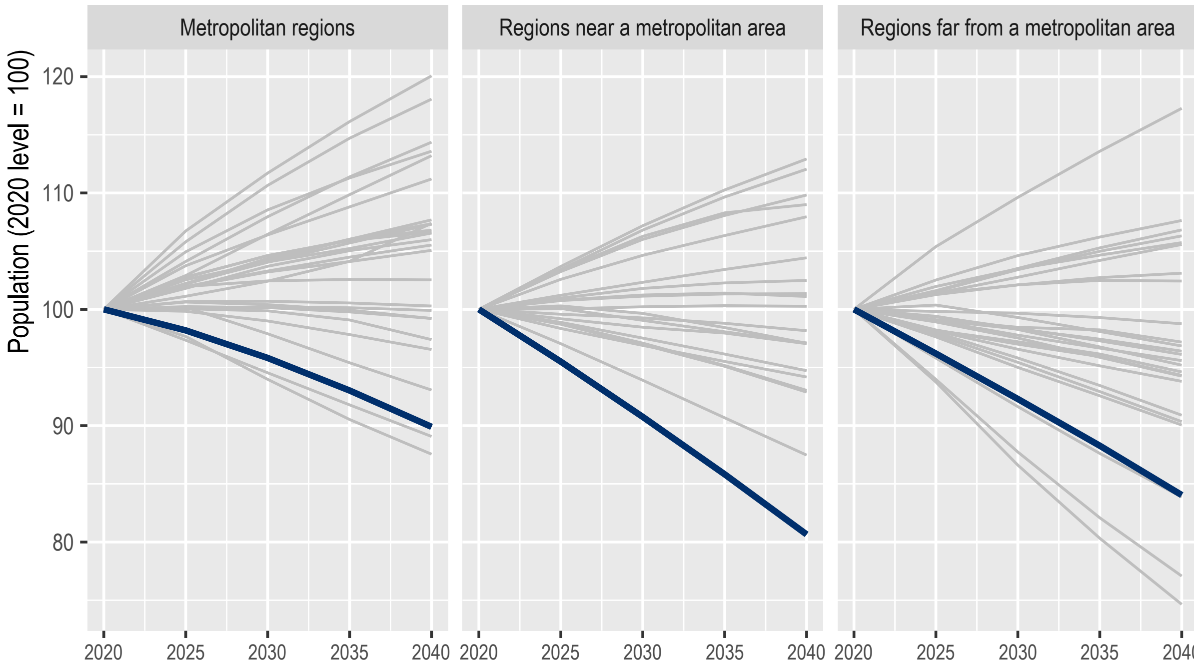


Figure 10: Population projections across OECD countries, by type of regions

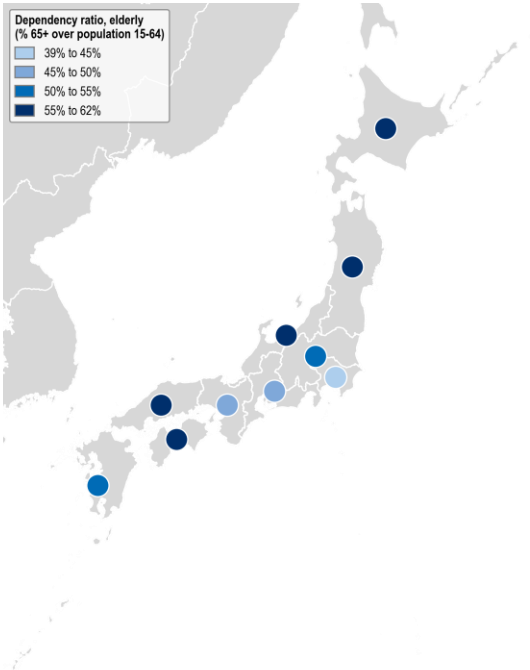
Note: Lines represent the population projection in OECD countries per type of region (Fadic et al. 2019). Japan is highlighted in blue.

Dependency rate and proportion of the elderly

In the coming two decades, the share of the elderly population in Japan is expected to increase across all types of regions.

The elderly dependency rate[1] in Japan is also higher than the OECD average (26.8 %) in all regions, ranging from 61.9% in Shikoku to 40% in Southern-Kanto.

[1] The elderly dependency rate compares the number of elderly people at an age when they are generally economically inactive (i.e. aged 65 and over), to the number of people of working age (i.e. 15-64 years old).



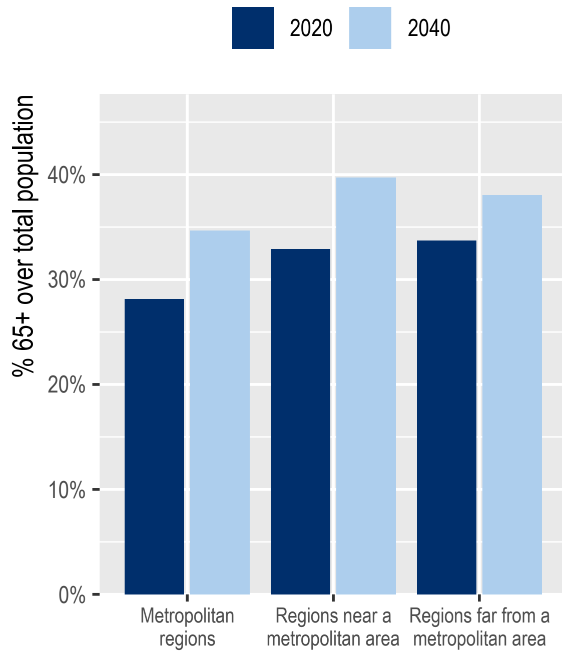
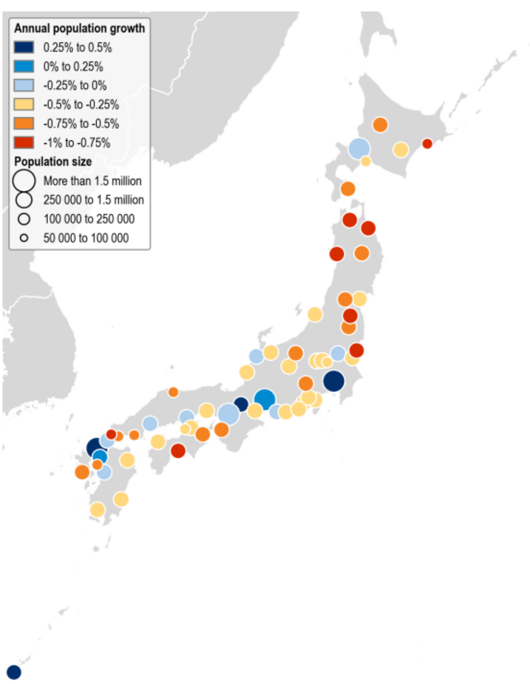


Figure 11: Elderly dependency rate in large regions, 2021

Figure 12: Evolution of the elderly population by type of region

Population in cities

Between 2010 and 2018, 90% of cities in Japan experienced a decline in population. Population growth ranged from -1.0% per year in Akita to 0.5% per year in Naha.



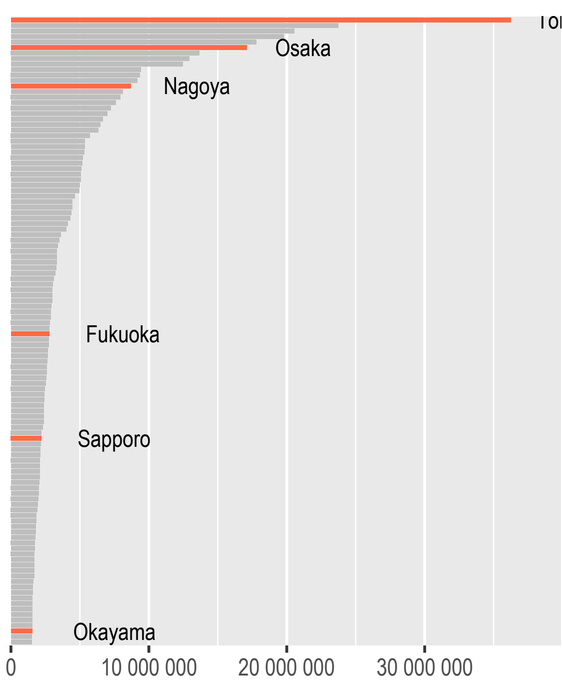


Figure 13: Population growth between 2010 and 2018

Figure 14: Population in OECD functional urban areas, 2021 or latest available year

Note: Cities refer to functional urban areas (Dijkstra, Poelman, and Veneri 2019). Population counts for the functional urban area are aggregated from administrative, municipal-level, data. For readability, only a selection of cities are labelled.

Over the past decade, the population has grown the most in Japanese cities with more than 1.5 million inhabitants. Cities with 100 000 to 250 000 inhabitants have seen their population shrink, on average.

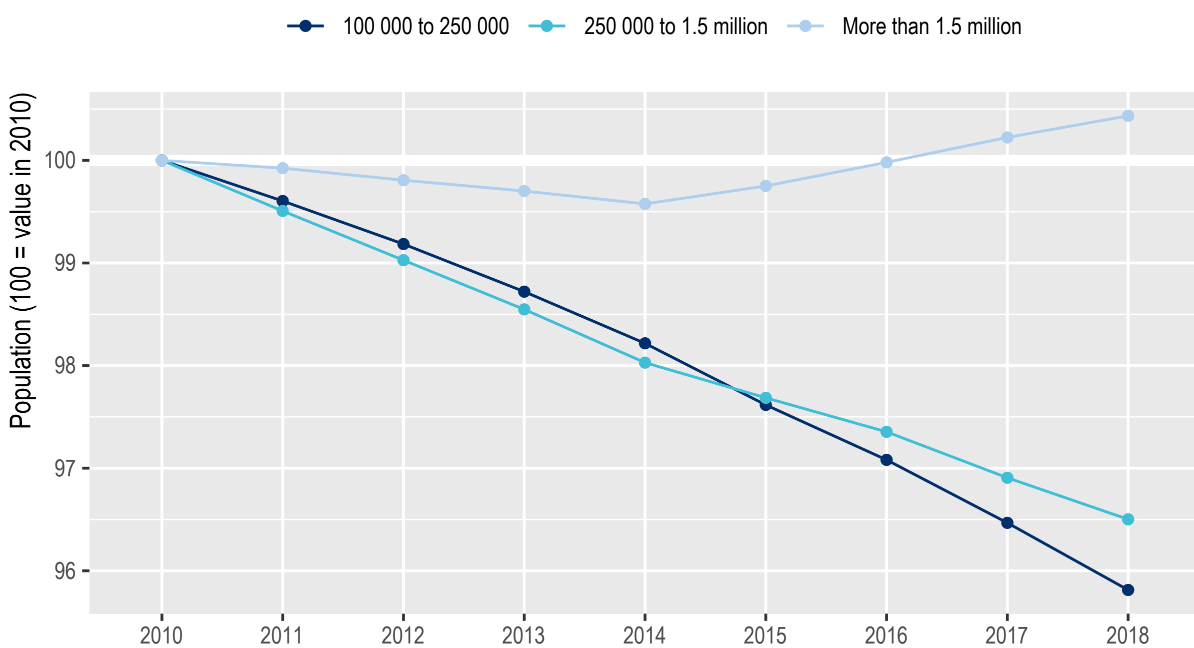


Figure 15: Population by size of functional urban area (100 = value in 2010), 2010-2018

Environmental challenges in regions and cities

Greenhouse gas emissions in regions

Since 1990, production-based greenhouse gas emissions have decreased in most Japanese regions. Southern-Kanto (12%) and Northern-Kanto, Koshin (-24%) experienced the largest increase and decrease in emissions, respectively.

On average, Japanese regions decreased their emissions by 0.22% per year between 1990 and 2018. This is below the 3.37% yearly reduction rate needed to reach the Japan target of a 46% reduction in emissions by 2030, with respect to 2013 levels.

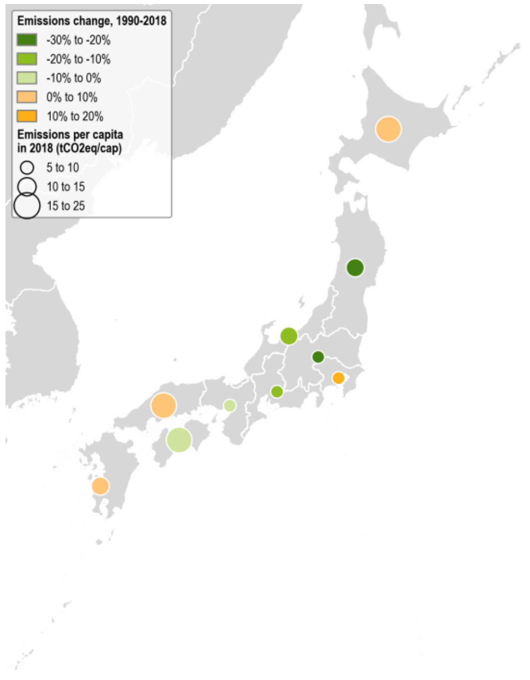


Figure 16: Change in production-based emissions in large regions, 1990-2018

Note: Bubbles are proportional to *per capita* greenhouse gas emissions, not to the overall level of greenhouse gas emissions in the region.
Source: OECD calculations, based on the Emissions Database for Global Atmospheric Research (European Commission. Joint Research Centre. 2019).

In 2018, greenhouse gas emissions per capita in Japan were largest in Shikoku, Chugoku and Hokkaido. Power accounts for the largest share of greenhouse gas emissions in the three regions.

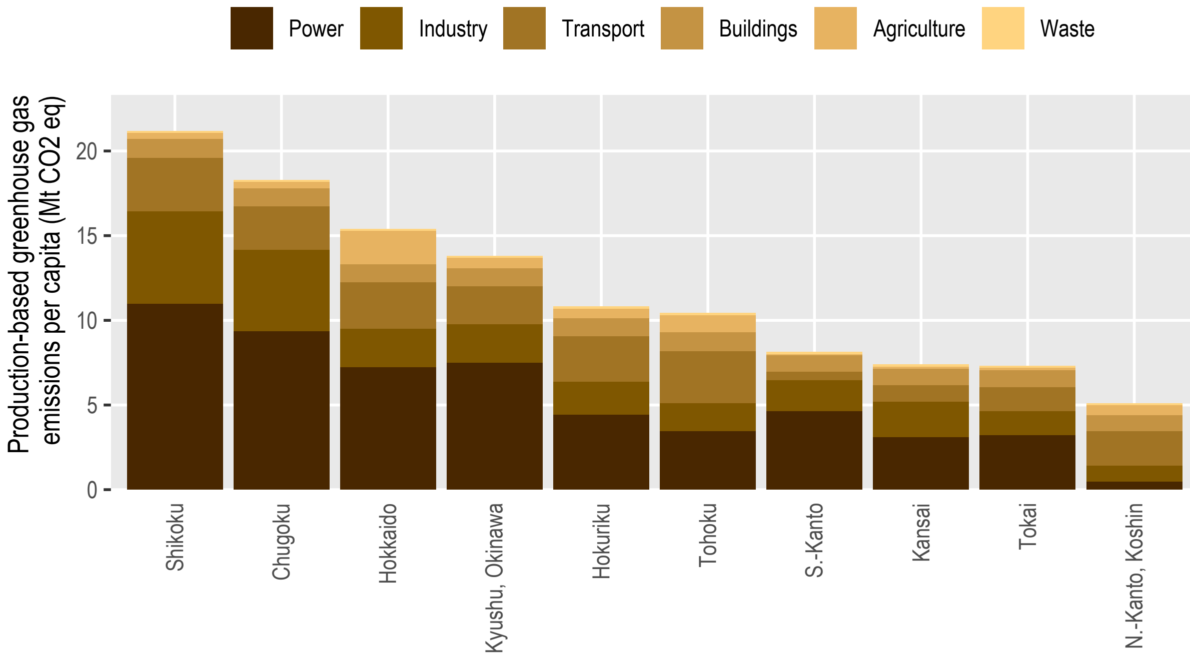


Figure 17: Production-based greenhouse gas emissions per capita in large regions, 2018

Note: Regions with low population counts may rank high in greenhouse gas emissions per capita while contributing relatively little to overall emissions in the country.

Urban heat island effect

In Japanese cities, the difference in temperature between cities and their surrounding areas (i.e. urban heat island intensity) reaches 4.7 degrees Celsius (°C). The largest effect is observed in Kagoshima and Asahikawa, two cities that are, on average, 7.1°C and 7°C warmer than their surrounding areas, respectively.

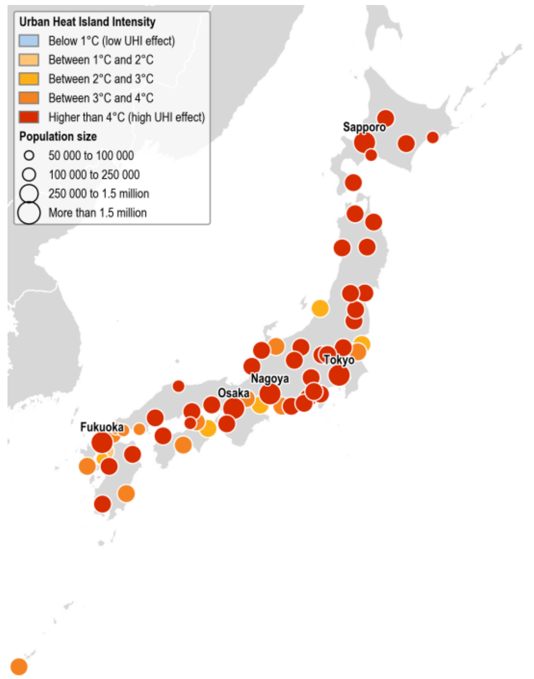


Figure 18: Urban heat island intensity index, 2021

Note: The Urban Heat Island Intensity (UHI) index is defined as the difference in land surface temperature between built-up areas and non-built-up areas within functional urban areas. This index can be affected by the type of vegetation and climate in non-built-up areas.
Source: OECD calculations, based on land surface temperature data from NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) (Wan, Hook, and Hulley 2021a, 2021b)

References

Source of administrative boundaries: © OECD, © EuroGeographics, National Statistical Offices, © UN-FAO Global Administrative Unit Layers (GAUL)

Dijkstra, Lewis, Hugo Poelman, and Paolo Veneri. 2019. “The EU-OECD Definition of a Functional Urban Area.” https://doi.org/10.1787/d58cb34d-en.

European Commission. Joint Research Centre. 2019. *Fossil CO2 and GHG emissions of all world countries: 2019 report.* LU: Publications Office. https://doi.org/10.2760/687800.

Fadic, Milenko, José Enrique Garcilazo, Ana Moreno Monroy, and Paolo Veneri. 2019. “Classifying Small (Tl3) Regions Based on Metropolitan Population, Low Density and Remoteness.” https://doi.org/10.1787/b902cc00-en.

OECD. 2022. “Broadband Networks of the Future,” no. 327. https://doi.org/10.1787/755e2d0c-en.

———. 2022. “Regional and Metropolitan Databases.” http://dx.doi.org/10.1787/region-data-en.

OECD, The European Commission, Food, Agriculture Organization of the United Nations, United Nations Human Settlements Programme, International Labour Organization, and The World Bank. 2021. *Applying the Degree of Urbanisation*. https://doi.org/10.1787/4bc1c502-en.

Wan, Zhengming, Simon Hook, and Glynn Hulley. 2021a. “MODIS/Aqua Land Surface Temperature/Emissivity Daily L3 Global 1km SIN Grid V061.” NASA EOSDIS Land Processes DAAC. https://doi.org/10.5067/MODIS/MYD11A1.061.

———. 2021b. “MODIS/Terra Land Surface Temperature/Emissivity Daily L3 Global 1km SIN Grid V061.” NASA EOSDIS Land Processes DAAC. https://doi.org/10.5067/MODIS/MOD11A1.061.