Regional Outlook 2021 - Country notes

Israel

Progress in the net zero transition

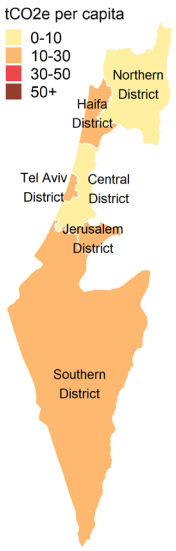
EMISSIONS

2018 OECD average:	2018 Israeli average:	Israeli net zero target:
11.5 tCO_2e/capita	11.4 tCO_2e/capita	No commitment yet

Large regions (TL2)

Figure 1. Estimated regional greenhouse gas emissions per capita

Tons CO_2 equivalent (tCO_2e), large regions (TL2), 2018

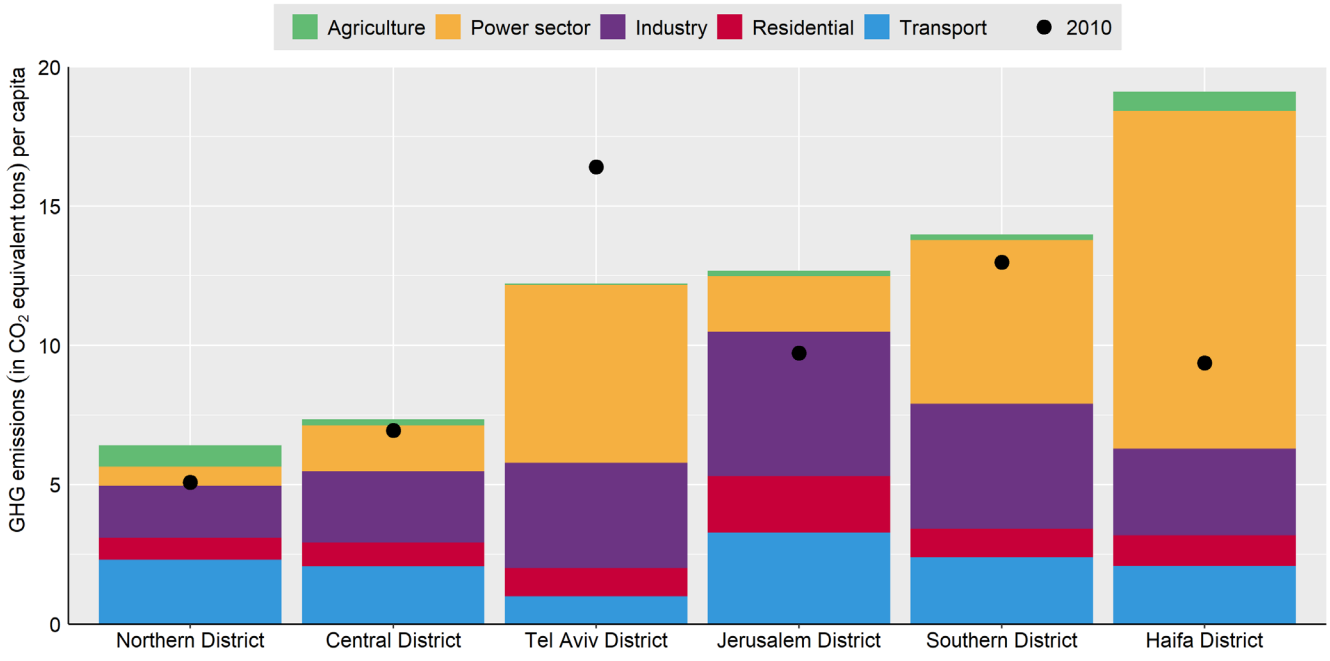


Greenhouse gas (GHG) emissions per capita generated in the majority of Israeli large regions are above 10 tCO_2e per capita. Only Central District and Northern District have lower emissions per capita than the OECD average of 11.5 tCO_2e per capita.

Estimated emissions per capita in Haifa District are almost three times higher than in Northern District.

Figure 2. Estimated GHG emissions per capita

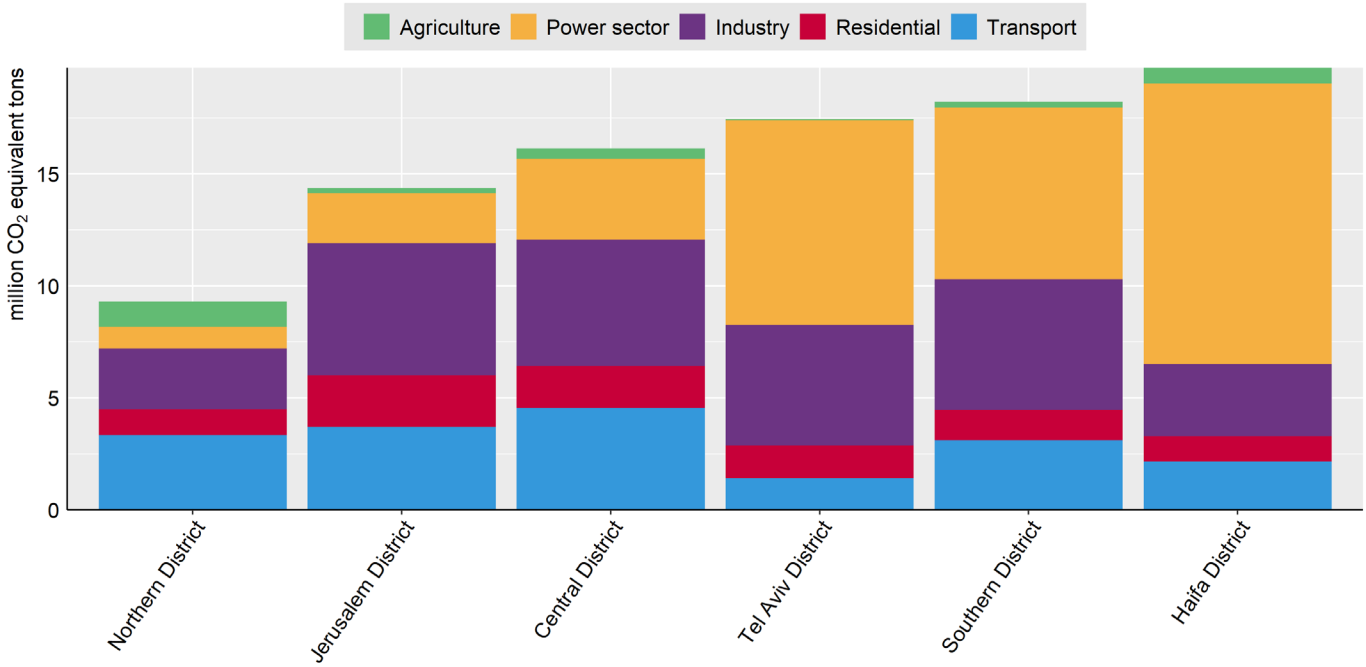
Tons CO_2 equivalent, 2010 & 2018, large regions (TL2)



Estimated emissions per capita have increased since 2010 in all regions, except in Tel Aviv.

Figure 3. Estimated GHG emissions

Million tons CO_2 equivalent, 2018, large regions (TL2)



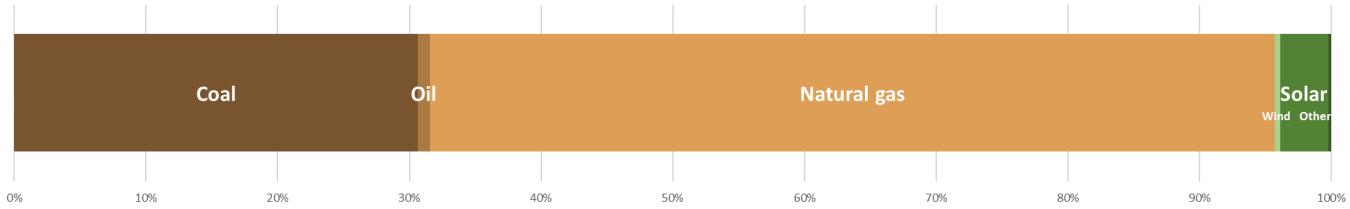
Estimated absolute emissions are highest in Haifa District, mostly due to the power sector.

Target notes: Emissions targets included in the Net Zero Tracker database from ECIU before January 25, 2021 are considered.
Figure notes: Figures 1, 2, 3, the national and the OECD average show OECD calculations based on estimated greenhouse gas emissions data from the European Commission's Joint Research Centre (ECJRC). The Emissions Database for Global Atmospheric Research of the ECJRC allocates national greenhouse gas emissions to locations according to about 300 proxies. See Box 3.7 in the 2021 *OECD Regional Outlook* for more details.

ENERGY

Israeli electricity mix

Figure 4. National electricity generation by energy source in 2019

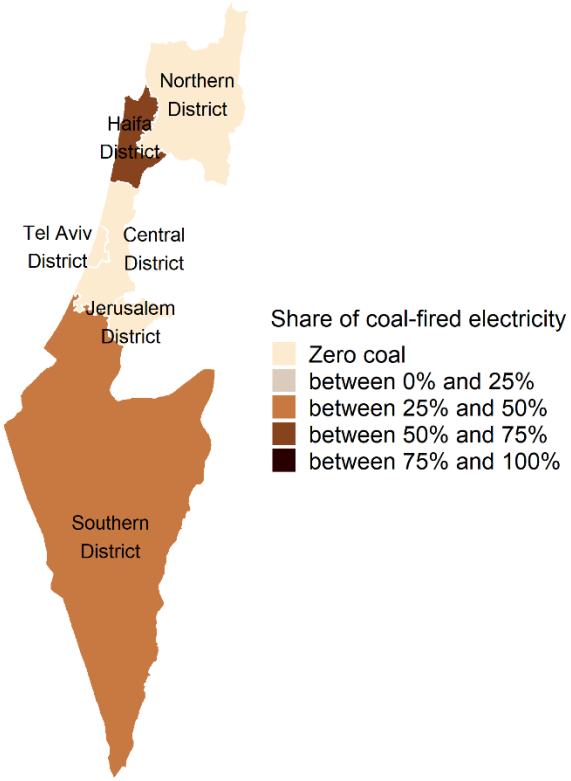


Share of coal-fired electricity generation

2019 OECD average: 23%	2019 Israeli average: 31%	2030 well below 2°C benchmark for Europe: <2% 2030 1.5°C benchmark for OECD countries: 0%

Figure 5. Regional coal-fired electricity generation estimates

Per cent of total electricity generation, large regions (TL2), 2017



Most regions do not use coal in electricity generation. Only Haifa District and Southern District used coal for about 50% and 30% of electricity generation respectively. No new capacity is planned or being build.

Wind power

2019 OECD average: 8%	2019 Israeli average: 0.4%	2030 well below 2°C benchmark for Europe: >27%

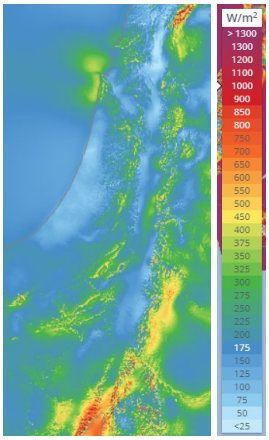
Figure 6. Regional wind power generation estimates

Per cent of total electricity generation, large regions (TL2), 2017

Regional wind electricity generation is estimated using facility level data for 100% of Israel's wind capacity.

Figure 7. Wind power potential

Mean wind power density (W/m²)



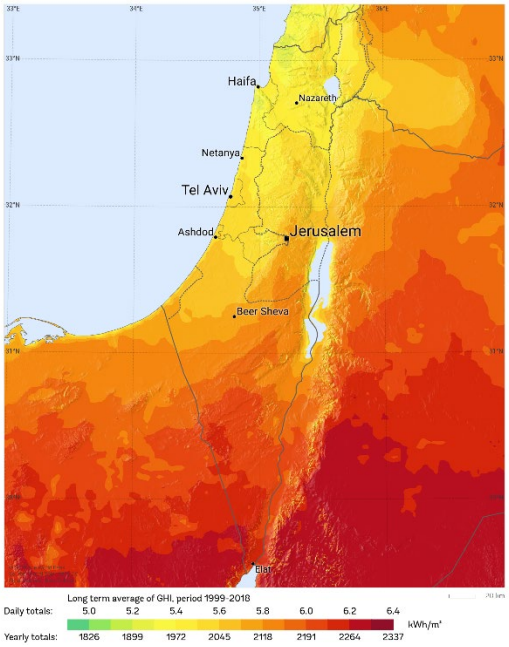
Source: Map produced by The Global Wind Atlas

Solar power

2019 OECD average: 3%	2019 Israeli average: 4%	2030 well below 2°C benchmark for the EU: >11%

Figure 8. Solar power potential

Global horizontal irradiation (kWh/m²)



Source: Map produced by The Global Solar Atlas

The national average shares are still far below the 2030 benchmarks. Solar power potential is high, especially in the south.

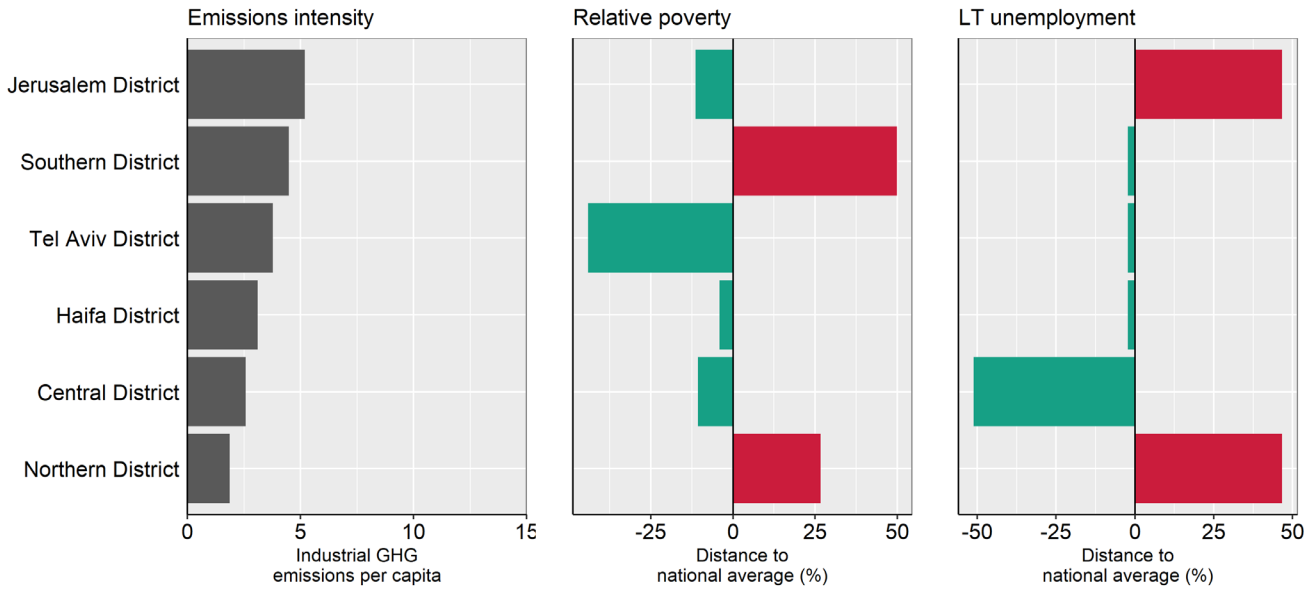
Benchmark notes: The well-below 2 degrees benchmarks show IEA Sustainable Development Scenario (SDS) numbers. The SDS models how the global energy system can evolve in alignment with the Paris Agreement's objective to keep the global average temperature increase well below 2°C above pre-industrial levels. According to the Powering Past Coal Alliance (PPCA), a phase-out of unabated coal by 2030 for OECD countries is cost-effective to limit global warming to 1.5°C.

Figure notes: Figure 4 shows data from the IEA (2020). Figures 5 and 6 show OECD calculations based on the Power Plants Database from the WRI. The database captures electricity generation from the power plants connected to the national power grid. As a result, small electricity generation facilities disconnected from the national power grid might not be captured. See here for more details. Figures 7 and 8 show the power potential of solar and wind. Mean wind power density (WPD) is a measure of wind power available, expressed in Watt per square meter (W/m²). Global horizontal irradiation (GHI) is the sum of direct and diffuse irradiation received by a horizontal surface, measured in kilowatt hours per square metre (kWh/m²).

INDUSTRY

Figure 9. Estimated GHG emissions from industry per capita and relative difference to country means for GDP per capita, relative poverty and long-term unemployment

Large regions (TL2), 2018



Regions with a higher emissions per capita in industry may have a higher transition risk from rising carbon prices. In Israel, estimated industrial greenhouse gas emissions are highest in Jerusalem. The transition to net-zero greenhouse gas emissions needs to be just, avoiding social hardship. Regions with higher industrial emissions per capita are not necessarily the worst performers in terms of poverty risk and long-term unemployment.

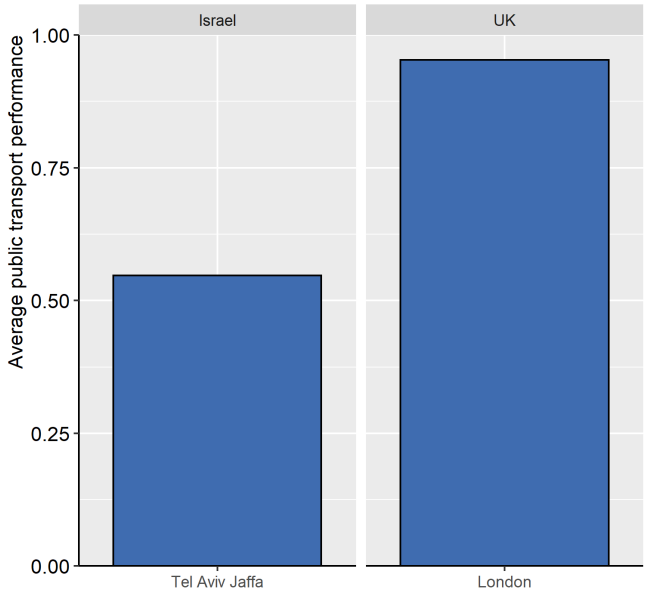
Figure notes: Figure 9 is based on data from OECD Statistics. Poverty risk is assessed from individuals' survey respondents indicating there have been times in the past 12 months when they did not have enough money to buy food that they or their family needed. Long-term unemployment is defined as unemployed for 12 months or more.

TRANSPORT

Modal shift

Tel Aviv has an average public transport performance. For comparison, London (UK) has among the highest public transport performance scores. Inhabitants of the metropolitan area of London can on average reach 95% of the population living within 8 km in 30 minutes by public transport.

Figure 10. Public transport performance in 2018



Benchmark notes: In the IEA's Sustainable Development Scenario, OECD countries (such as the European Union, Japan and the United States) as well as China fully phase out conventional car sales by 2040. This scenario is aligned with the Paris Agreement's objective to keep the global average temperature increase well below 2°C above pre-industrial levels. The UK Committee on Climate Change finds that all new cars and vans should be electric (or use a low carbon alternative such as hydrogen) by 2035 at the latest to reach net zero GHG emission targets by 2050. A more cost-effective date from the point of view of users is 2030.
Figure notes: Figure 10 is based on data from ITF and OECD Statistics. See Box 3.10 in the 2021 *OECD Regional Outlook* for more details. GDP per capita is expressed in USD per head, PPP, constant prices from 2015.

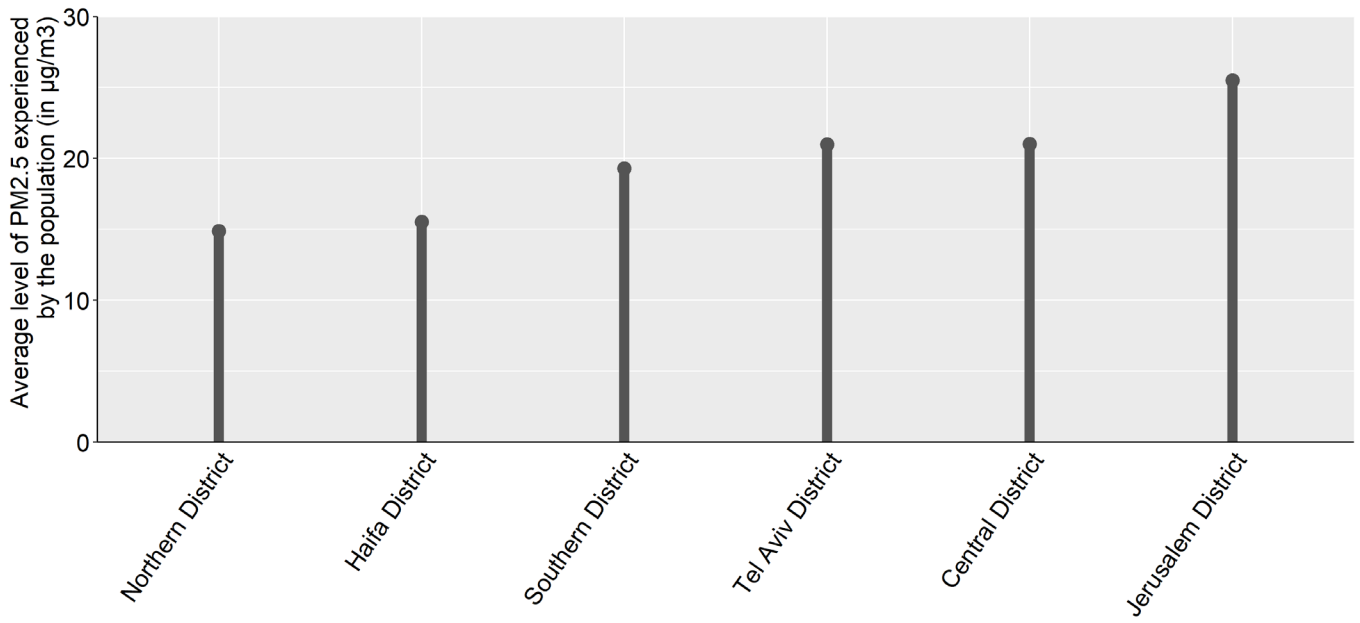
AIR POLLUTION

Large regions (TL2)

2019 OECD average share of population exposed: 62%	2019 Israeli share of population exposed: 100%	WHO-recommended air quality threshold: PM2.5 annual mean concentration < 10 µg/m³

Figure 11. Average level of air pollution in PM2.5 experienced by the population

In µg/m³, large regions (TL2), 2019



Policies towards net-zero greenhouse gas emissions can bring many benefits beyond halting climate change. They include reduced air and noise pollution, reduced traffic congestion, healthier diets, enhanced health due to increased active mobility, health benefits through thermal insulation, and improved water, soil and biodiversity protection. Some are hard to quantify.

In all regions 100% of the population is exposed to small particulate matter air pollution above the WHO threshold. Small particulate matter (PM2.5) is the biggest cause of human mortality induced by air pollution. Major disease effects include stroke, cardiovascular and respiratory disease. Air pollution amplifies respiratory infectious disease such as Covid-19. It affects children the most. It reduces their educational outcomes as well as worker productivity.

Figure notes: Figure 11 is based on data from OECD Statistics.