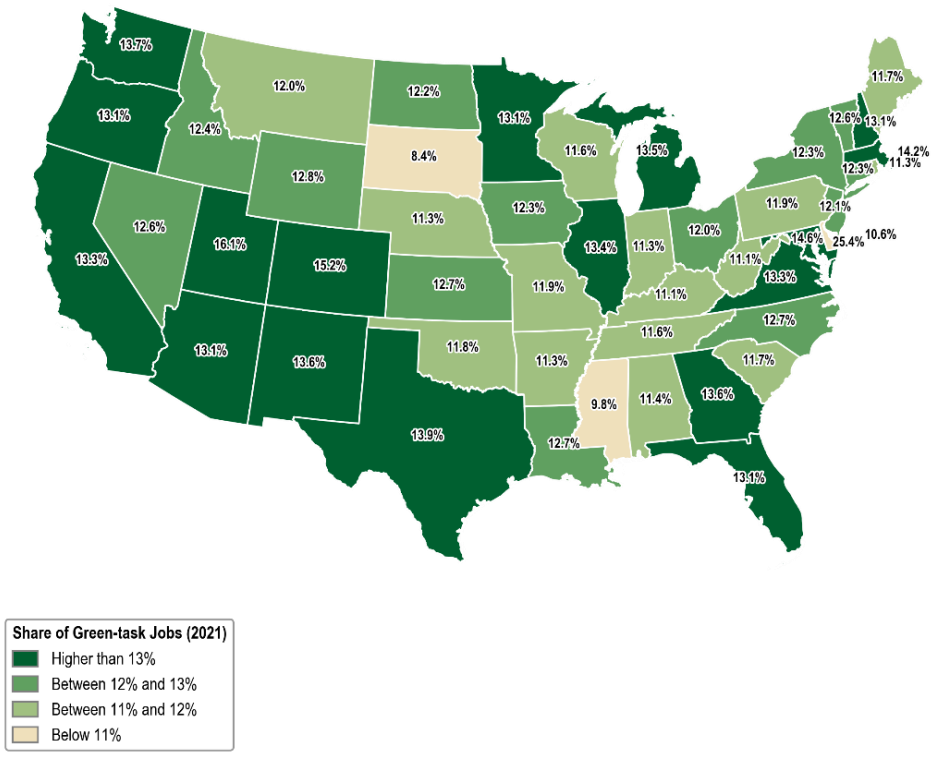
United States

The report Job Creation and Local Economic Development 2023: Bridging the Great Green Divide assesses the local labour market impact of the green transition. It presents novel evidence on the share of jobs with a significant proportion of green tasks (green-task jobs) as well as polluting jobs, those which face a higher risk of disappearing, across regions within countries. Furthermore, it analyses current socio-economic and gender implications of the green transition within local labour markets. The report covers all OECD countries for which detailed data on employment by occupation is available.

How green are regional labour markets in the United States?

On average in the United States, around 12.9% of workers are employed in jobs with a significant share of green tasks that contribute to environmental objectives. This is 4.7 percentage points (pp) less green than the OECD average of 17.6%. This figure ranges from 8.4% in South Dakota to 25.4% in the District of Columbia[1]. Between 2011 and 2021, all regions in the United States recorded an increase in the share of green-task jobs in their employed labour force.

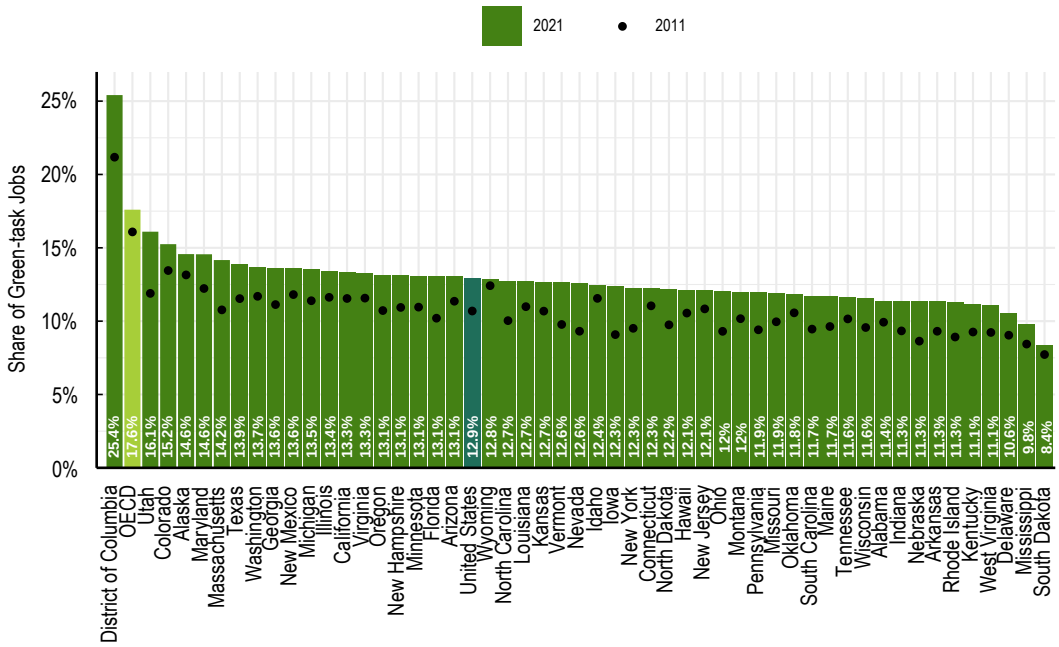
Figure 1 Share of green-task jobs in US states



Note: See annex for examples of green tasks and occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

[1]Note that the District of Columbia has a very small spatial scale and is the federal capital, setting it apart from US states. This largely explains the gap between this and other regions for the indicators presented in this report.

Figure 2 Green-task jobs in US states (2011 - 2021)

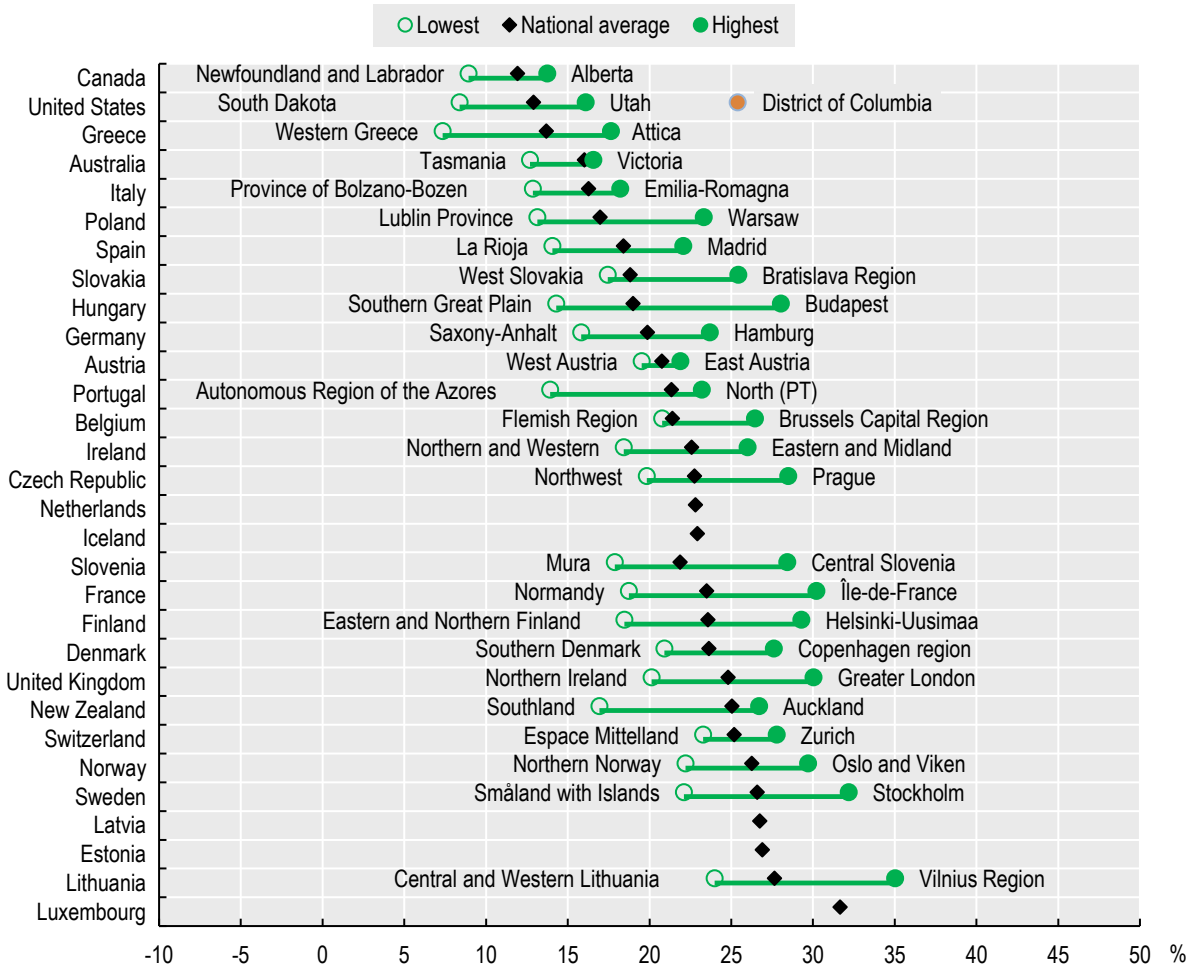


Note: See annex for examples of green tasks and occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Regional differences in green-task jobs in the United States and the OECD

Across the OECD, regional labour markets differ substantially in their greenness. The leading regions record employment shares in green-task jobs of around 30%, while in those regions at the bottom, green-task jobs account for less than 10% of employment. Regional disparities in the share of green-task jobs are relatively more pronounced in the United States compared to other OECD countries, as the regional gap between the leading and lagging regions is 17 pp, compared to 7.2 pp within OECD countries on average. Nevertheless, note that this figure changes dramatically if we exclude the District of Columbia as the state with the second highest share of green-task jobs (Utah) has a share of 16.1%, making the regional gap 7.7 pp which is significantly closer to the OECD average.

Figure 3 Regional values for the share of green jobs

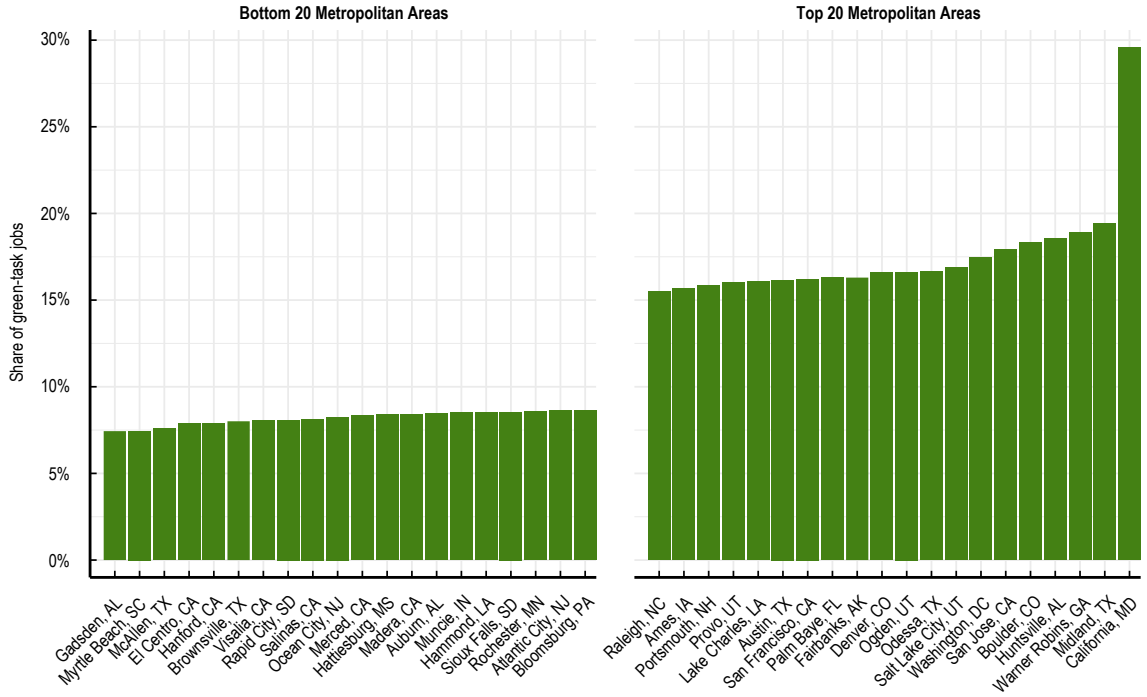


Note: Last available year. 2019 for the UK. 2020 for Iceland. 2021 for Australia, Canada, EU countries, Norway, New Zealand, Switzerland, and the US. See annex for examples of green tasks and occupations.
Source: OECD calculations based on EU LFS, Canadian LFS (StatCan), OEWS (US Bureau of Labour Statistics), Table EQ08 (Australian Bureau of Statistics), HLFS (Stats NZ), Slovenian LFS (Statistical Office of the Republic of Slovenia) and Polish LFS (Statistics Poland).

Green-task jobs across metropolitan and non-metropolitan areas in the United States

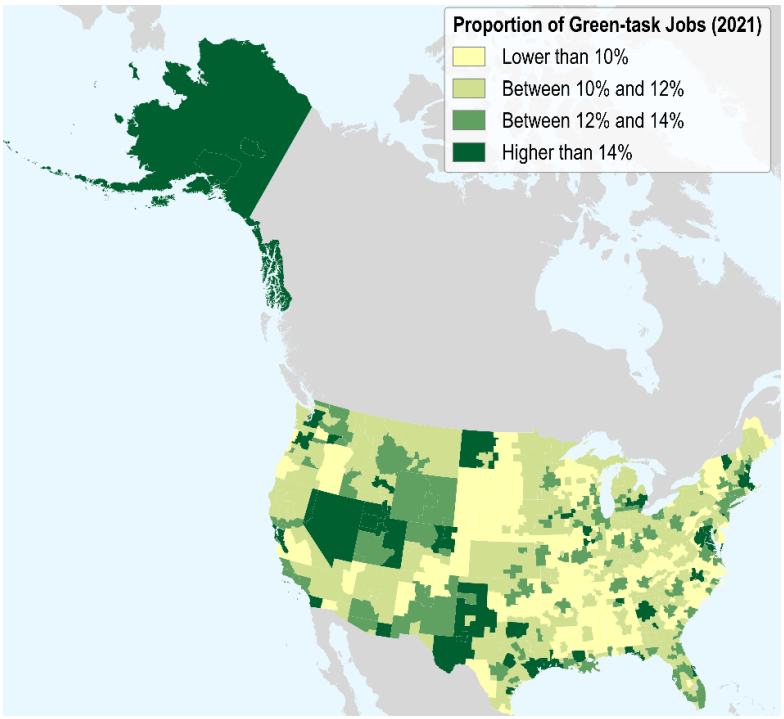
The share of green-task jobs in metropolitan areas is 13.1% on average. On the other hand, non-metropolitan areas have on average a lower share of green-task jobs, at 10.4%. The labour markets of metropolitan areas differ greatly across the country as the share of green-task jobs in metropolitan areas ranges from 7.4% in Gadsden, Alabama to 29.5% in California, Maryland. Furthermore, 46 out of the 48 states with both metropolitan and non-metropolitan areas have a higher share of green-task jobs in the former.

Figure 4 Share of green-task jobs in top and bottom 20 metropolitan areas



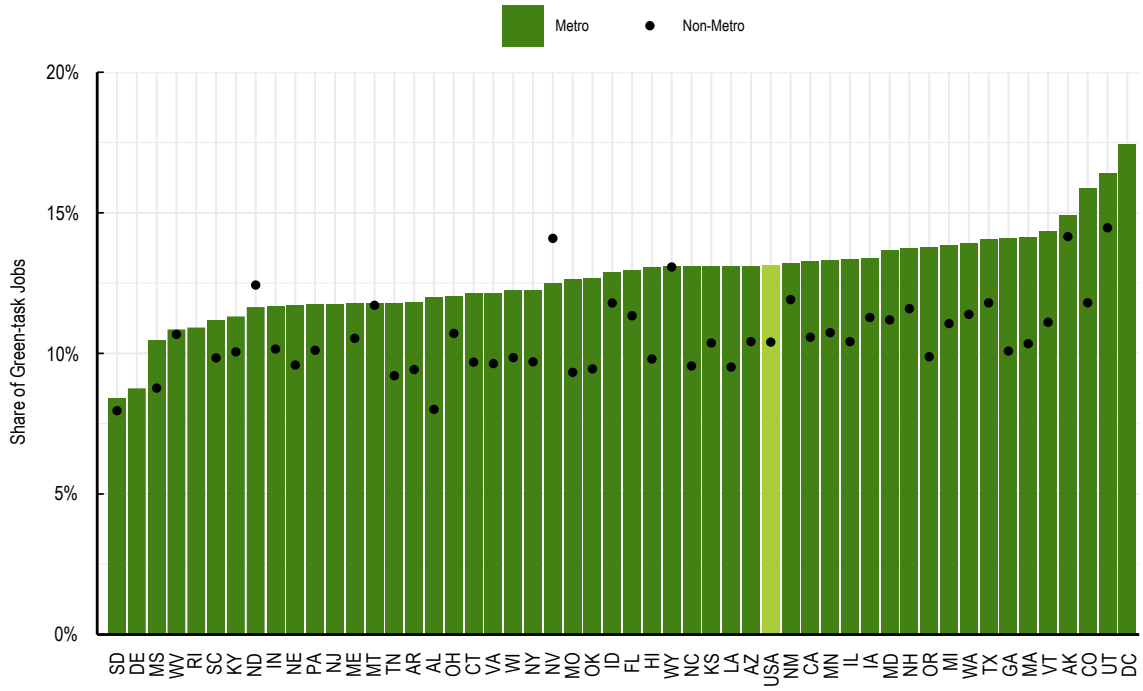
Note: Data for 2021. See annex for examples of green tasks and occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Figure 5 Share of green-task jobs in metropolitan areas and non-metropolitan areas



Note: Data for 2021. See annex for examples of green tasks and occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Figure 6 Share of green-task jobs in metro and non-metro areas by state

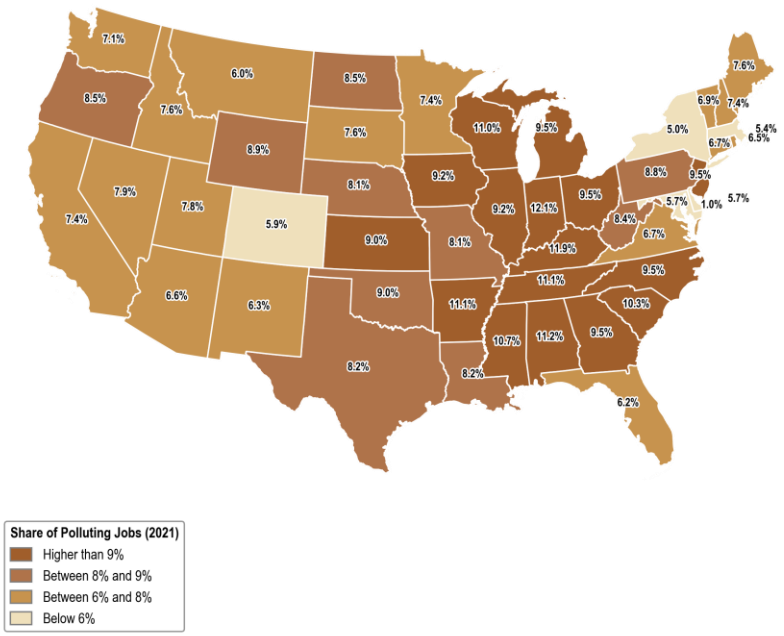


Note: Data for 2021. See annex for examples of green tasks and occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Polluting jobs

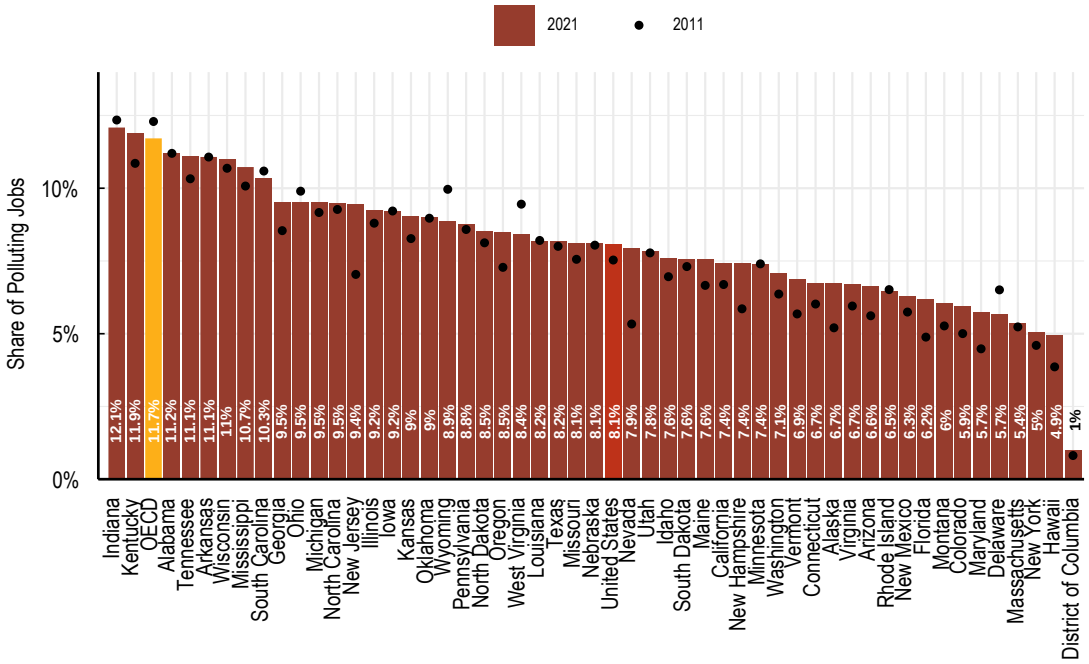
Polluting jobs in emission intensive sectors, such as mining or oil and gas, are heavily concentrated in some regions, raising the risk of those regions being left behind in the green transition. In the United States, on average around 8.1% of workers are employed in polluting jobs that will face a greater risk of displacement due to the green transition, compared to 11.7% on average in OECD countries. The share of polluting jobs differs across regions in the United States, ranging from 5% in Hawaii to 12.1% in Indiana. Since 2011, only 11 out of 51 regions in the United States reduced their share of polluting jobs, falling on average by 0.4 pp.

Figure 7 Polluting jobs in US states



Note: See annex for further details on polluting occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Figure 8 Polluting jobs in US states (2011 - 2021)

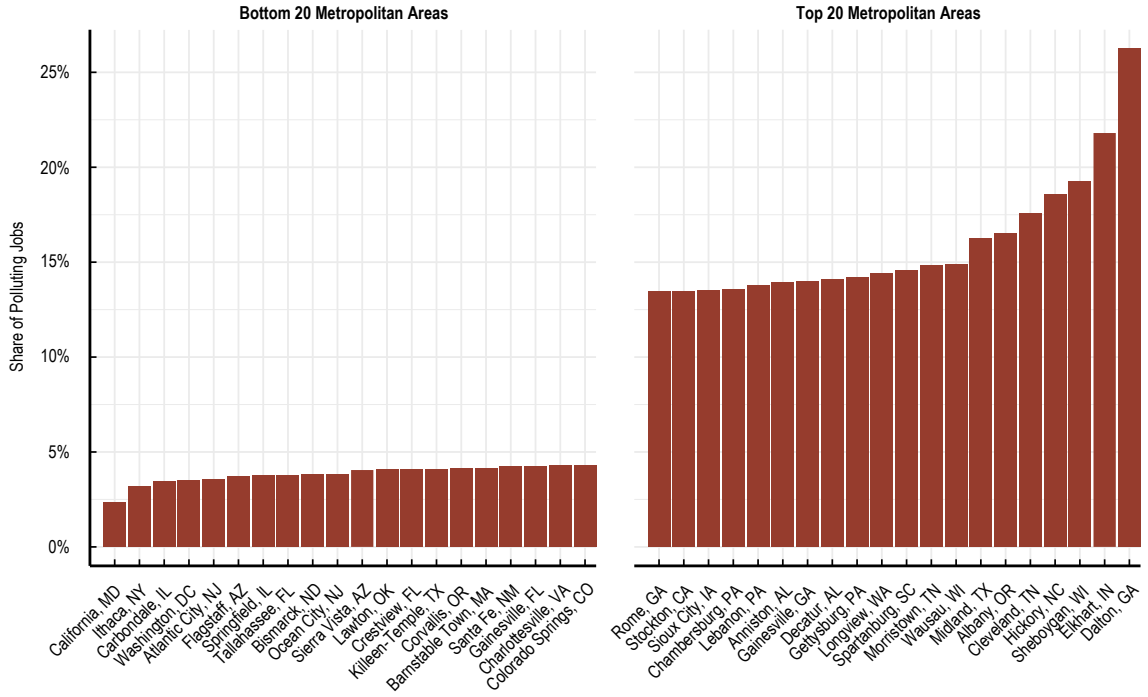


Note: See annex for further details on polluting occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Polluting Jobs across metropolitan and non-metropolitan areas in the United States

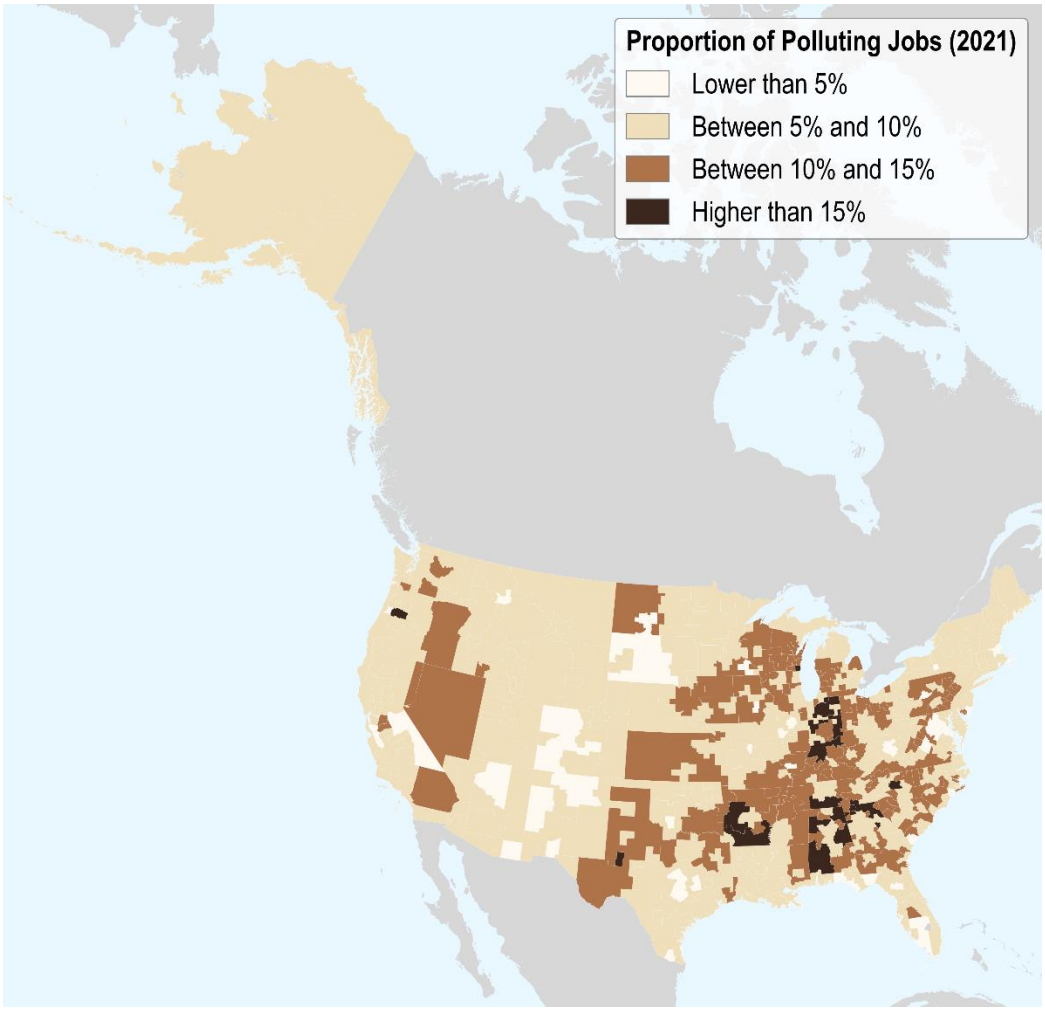
The share of polluting jobs in metropolitan areas is 7.4% on average. On the other hand, non-metropolitan areas have a higher share of polluting jobs at 10.5% on average. The labour markets of metropolitan areas differ greatly across the country as the share of polluting jobs in metropolitan areas range from 2.3% in California, Maryland to 26.2% in Dalton, Georgia. Furthermore, 43 out of the 48 states with both metropolitan and non-metropolitan areas have a higher share of polluting jobs in the latter.

Figure 9 Share of polluting jobs in top and bottom 20 metropolitan areas



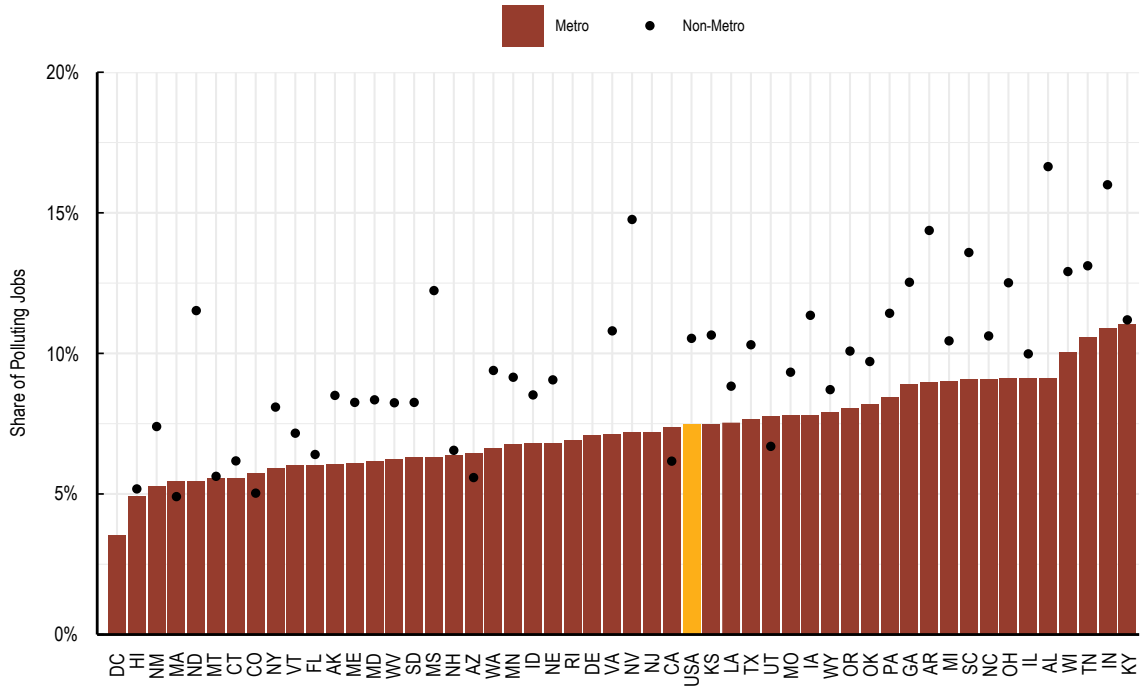
Note: Data for 2021. See annex for further details on polluting occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics)

Figure 10 Share of polluting jobs in metropolitan areas and non-metropolitan areas



Note: Data for 2021. See annex for further details on polluting occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Figure 11 Share of polluting jobs in metro and non-metro areas by state

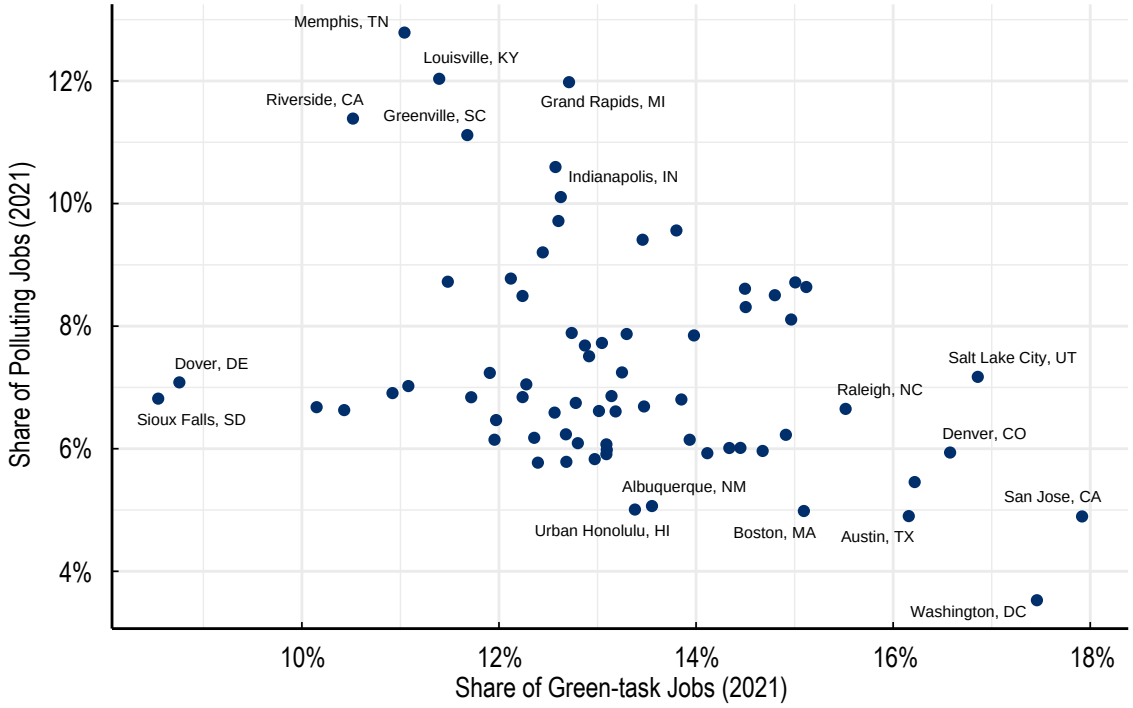


Note: Data for 2021. See annex for further details on polluting occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Green-task and polluting jobs across metropolitan areas

Across the country there are 389 metropolitan areas, around half of which have labour markets with under 90 000 employed persons. Figure 12 illustrates how the labour markets of selected metropolitan areas compare.

Figure 12 Share of green-task and polluting jobs in selected metropolitan areas



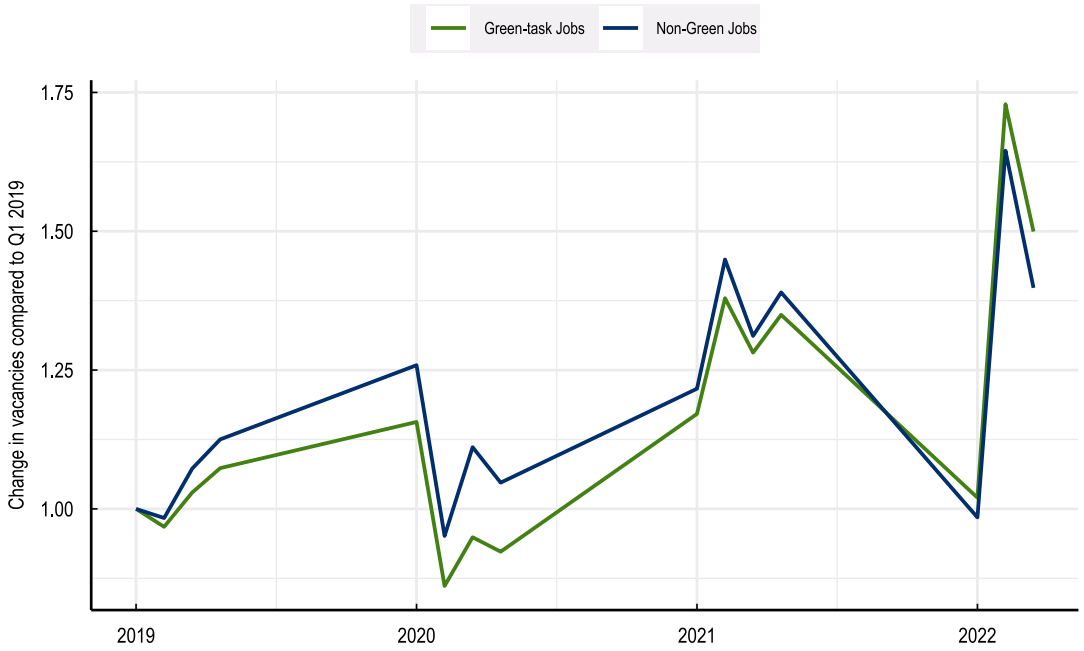
Note: Data for 2021. Metropolitan areas are selected based on absolute employment relative to both the state and country. See annex for further details on polluting occupations, green tasks and occupations.
Source: OECD calculations based on OEWS (US Bureau of Labour Statistics).

Current labour market demand for green-task jobs

Speeding up the slow pace of growth in green jobs is critical to reach net zero. While most local labour markets have not become much greener over the last decade, since the start of the pandemic, growth in the demand for green-task jobs has outpaced overall labour market demand by 20% across the OECD.

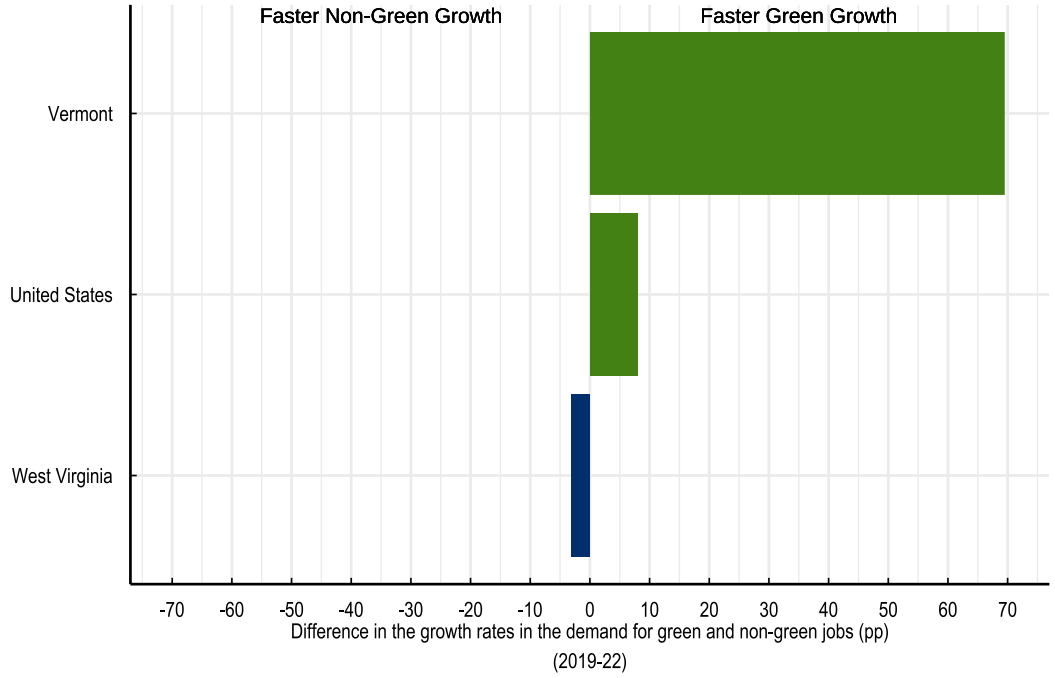
As the OECD overall, the United States has also experienced faster growth in the demand for green jobs than for non-green jobs. On average, this demand grew by 8pp between Q1 2019 and Q1 2022. In the United States, the relative growth in the demand for green jobs was highest in Vermont (69.5%) and lowest in West Virginia (-3.1%).

Figure 13 Online job posting over time, compared to base year (2019)



Source: OECD calculations based on Lightcast job posting data.

Figure 14 Relative growth of green and non-green online job postings



Source: OECD calculations based on Lightcast job posting data.

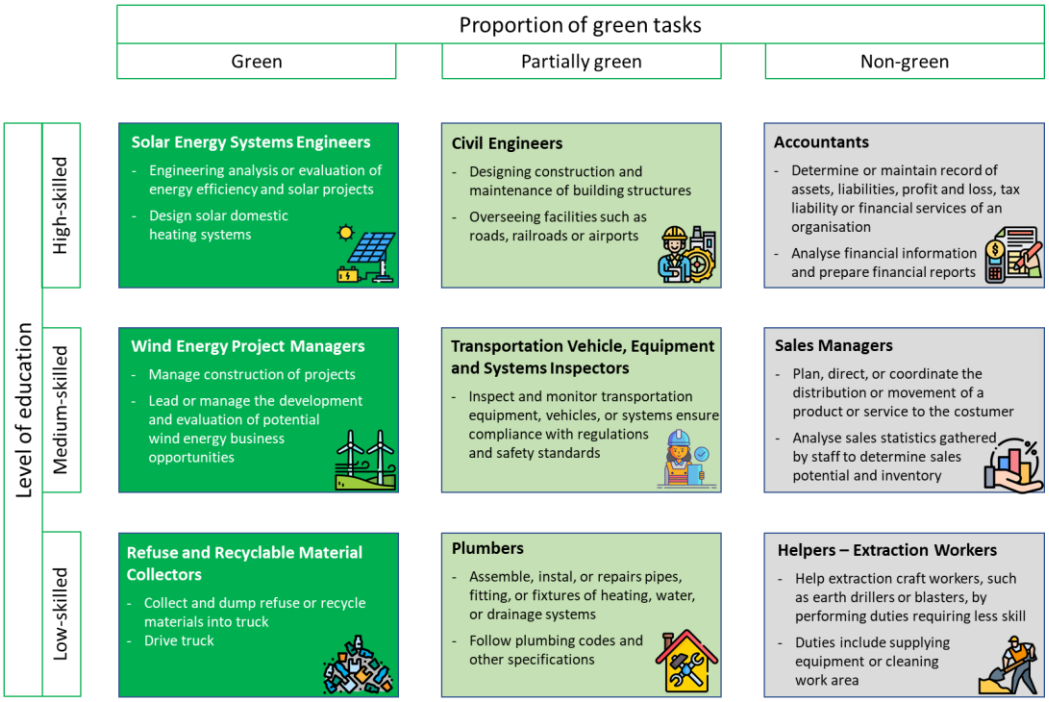
Annex - Measuring the share of green-task and polluting jobs

Green tasks and green jobs

Green-task jobs are defined and analyzed at the occupation level based on the greenness of their related task content. It relies on classifications developed by O*NET, which provides a taxonomy of the greenness of all tasks for more than 900 occupations. Tasks identified as green contribute to environmental objectives such as preserving the environment and reducing emissions.

Using the information on the tasks of an occupation, one can compute a greenness score for each occupation, ranging from 0 to 1. A score of 0 denotes an occupation with no green task. Infographic 2.1 offers a number of illustrating examples of different occupations, including those with a very high greenness score, those with some green tasks, and those with no green tasks. Based on O*NET's classification, the majority of jobs have no green task. Occupations with no green tasks in O*NET's classification are not necessarily 'dirty', as illustrated by the examples below.

Figure 15 Occupation and task examples



Note: The greenness of occupations is based on their task content and the fact whether those tasks are green or not. The greenness score of occupation ranges from 1 (all tasks are green) to 0 (all tasks are non-green). The classification of high-, medium-, and low-skilled occupations follows ISCO.
Source: OECD elaboration based on O*NET's Green Tasks Data.

Green-task jobs

To examine the geography of jobs with a significant share of green tasks and to examine differences across workers within regional labour markets, a binary measure is constructed which classifies an occupation as being green-task or non-green-task. For this report, green-task jobs consist of those occupations with at least 10% of their tasks considered green.

Polluting jobs

Polluting jobs are a subset of non-green-task jobs (i.e. they have no green tasks) that are particularly concentrated in highly polluting sectors, based on the emission of seven contaminants: CO, VOC, NOx, SO2, Pm10, PM2.5, lead and CO2.

References

OECD (2023), Job Creation and Local Development 2023 – Bridging the Great Green Divide: https://doi.org/10.1787/21db61c1-en