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Renewable energy employment and progress toward a just transition in the US and EU

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ABSTRACT: The rapid growth of renewable energy, driven by technological innovation and energy security concerns, is reshaping global electricity generation. This supports climate change mitigation and has significant implications for employment in the power sector. This study examines employment impacts of renewable deployment scenarios in the US and EU, which pursue ambitious policies such as the Inflation Reduction Act and the EU Green Deal. In the first scenario (Continued Trends), regional disparities persist, with leaders advancing and laggards falling behind. The second (Low Carbon Translation) involves leaders in one low-carbon technology extending their expertise to others (e.g., wind to solar), thereby capturing employment gains. In the third (Proportional Benefit), benefits are distributed proportionally to total regional generation. Analysis reveals disparities: while renewables create net job growth, fossil-dependent or lagging regions may benefit little without targeted interventions. Proportional strategies offer equitable outcomes but may raise system costs. The sharp variation in job distribution highlights the need for a just transition that equitably shares economic and social benefits. Achieving this requires harmonized policies across scales, as well as attention to distributive, procedural, and restorative justice. US and EU efforts provide models, but progress must be measured beyond carbon reductions. Prioritizing equity and inclusivity can maximize global and local benefits, ensuring sustainability and resilience.
KEYWORDS: renewable energy, employment, just transition, regional disparities, decarbonization policy, scenario analysis

INTRODUCTION AND POLICY CONTEXT

Dramatic price declines in renewable energy technologies, coupled with concerns about energy security, are accelerating the installation of renewable power. With total capacity growth worldwide projected to nearly double over the next five years, renewables are quickly becoming the largest source of electricity generation. We utilize comparative data from the US and EU to outline how this trend must be accelerated to maintain the (faint) prospect of justly limiting global warming to 1.5°C and examine the employment implications of various regional deployment scenarios. Achieving this will require a green energy transition grounded in distributive justice, ensuring that the benefits—such as job creation and economic opportunities—are equitably allocated. This is essential to prevent regions that are historically reliant on fossil fuels or have fewer renewable resources from being disproportionately disadvantaged as we shift towards a low-carbon economy (Bhattacharyya, 2009; Covert, Greenstone, & Knittel, 2016; Huber, 2009; Wang, Fan, & Zhou, 2022). Furthermore, we examine the employment implications of various regional deployment scenarios.

Both the US and the EU have announced significant policies to accelerate the deployment of renewable and low-carbon energy technologies. In the US, the Inflation Reduction Act (IRA) of 2022 (117th Congress, 2022) allocates US$369 billion to energy security and climate change mitigation, much of which will support the deployment of renewable electricity generation infrastructure. At the state level, 29 states, plus Washington, D.C., have established renewable portfolio standards (RPS), and more recently, 15 states have established 100% clean electricity standards (CES), many in combination with existing RPS (Barbose, 2023). In the EU, the primary mechanism is the substance of the European Green Deal, with its objective of making Europe the world's first carbon-neutral continent by 2050 (European Commission, 2019). To achieve this goal, the European Commission (EC) has announced a package of proposals, known as "Fit for 55," which aims to reduce greenhouse gas (GHG) emissions by 55% below 1990 levels by 2030 (European Commission, 2021). The package includes a call for renewables to make up 40% of the EU energy mix (note that this includes energy use in buildings, industry, and transport in addition to electricity generation).

In response to Russia's 2022 invasion of Ukraine, the EU augmented its stance by announcing RePowerEU, an even more ambitious plan to promote renewables deployment, aimed at both GHG mitigation and reduced reliance on Russian energy imports (European Commission, 2022). RePowerEU increases the 2030 renewables target to 45% of the total energy mix. Critical to reaching this goal is achieving an estimated renewable electricity generation capacity of 1,236 GW in the bloc, which is more than doubling the current capacity within the next six years (EMBER, 2023).

Our comparative assessment highlights the design of transition strategies in economically influential regions that have varying policies, technical capacities, and politics, yet ultimately share comparable institutions and norms for policy development and implementation.

DATA AND METHODS

We constructed alternative scenarios of electricity generation in the US and the EU and compared their potential impacts on energy sector employment. To this end, we analyze electricity generation and carbon intensity data drawn from Ember's Global Electricity Review 2023 (EMBER, 2023). We divide the EU into four regions—Eastern, Southern, Western, and Northern Europe—based on the EuroVoc (EU official) division of member states into regions (Eastern Europe is used as shorthand for Central and Eastern Europe). Notably, this group combines the Baltic states (Estonia, Latvia, and Lithuania) with Northern Europe (Sweden and Finland) based on geographic proximity, despite their historical similarities and ongoing parallels in energy production with Eastern Europe. The Baltic states generate relatively little electricity compared to the rest of the region (Northern or Eastern Europe), so this regional classification question has minimal impact on our results or conclusions.

We divide the US into five regions—West, Central, Midwest, Southeast, and Northeast—primarily based on the geographic coverage of independent service operators (ISOs) and regional transmission organizations (RTOs), aggregated for brevity based on renewable resource distribution and conventional regional divisions. The West region represents the California ISO (CAISO) and the electricity markets of the Northwest and Southwest (plus Alaska and Hawaii), neither of which produces enough electricity to move the needle substantially. This region has strong solar resources (especially in California and the Southwest) and hydroelectric resources (especially in the Northwest). The Central region represents the Southwest Power Pool (SPP) and the Electric Reliability Council of Texas (ERCOT), combining a good solar resource with the country's best wind resource. The Midwest region encompasses the Midcontinent ISO (MISO), a large ISO with favorable wind resources. The Southeast region represents the Southeast electricity market and has strong solar and hydroelectric resources. Finally, the Northeast region encompasses the PJM interconnection, New York ISO (NYISO), and ISO New England (ISO-NE). This region has reasonable hydroelectric resources but relatively poor wind and solar resources.

EMPLOYMENT SCENARIO DESCRIPTIONS

To illustrate the divergence in the potential distribution of these green jobs, we allocate projected 2050 power sector jobs based on the study's guidelines (Ram, Aghahosseini, & Breyer, 2020) (i.e., jobs created in the years 2045-2050) among the nine regions according to three scenarios described below. Note that the job projections in Ram et al. (2020) are based on an analytical approach using the Employment Factor (EF) method, which estimates job creation by considering various aspects of renewable energy development, such as manufacturing, construction, installation, operation, maintenance, fuel supply, and decommissioning. This method, adapted from previous studies (e.g., Rutovitz, Dominish, & Downes, 2015), applies specific employment factors to different renewable technologies and energy storage options. The research also incorporates regional variations and anticipated technological advancements to model job growth over time, providing a detailed projection of employment impacts for the global transition to renewable energy by 2050.

The following Ember generation technologies were considered (with corresponding technologies from Ram et al. (2020) denoted in parentheses): coal (coal); gas (OCGT, CCGT, steam turbine, power to heat, gas storage); other fossil (ICE); bioenergy (biomass, CHP biogas); hydro (hydro dam, hydro RoR, pumped hydro); nuclear (nuclear); wind (wind onshore, wind offshore); solar (PV utility-scale, PV rooftop, CSP); and other renewables (geothermal, waste-to-energy, methanation, power-to-gas, battery storage large-scale, battery storage prosumer, A-CAES, transmission).

In the Continued Trends scenario, each region maintains its 2022 share of its continent's generation for each technology. Formally, the regional employment er for a region r is given by:

$$e_r = \sum_T \left(E_{c,T} \frac{g_{r,T}}{G_{c,T}} \right)$$

where $E_{C,T}$ is the projected employment (number of jobs in 2010-15 or 2045-50) in the continent *c* containing region *r* (i.e., Europe or North America) for technology *T*, $g_{r,T}$ is the generation (in 2015 for baseline or 2022 for projections) in the region *r* from technology *T*, and $G_{c,T}$ is the generation from technology *T* in the whole continent *c*. In short, this is the sum of products of continental employment and regional shares of the continent's generation, summed over generation technologies.

In the Low Carbon Translation scenario, each region maintains its 2022 shares of its continent's fossil generation (all fuels combined) and "low carbon" generation (all renewables plus nuclear combined). Formally, er is given by:

$$e_r = \frac{\sum_T \left(E_{c,T} I(T)\right) \sum_T \left(g_{r,T} I(T)\right)}{\sum_T \left(G_{c,T} I(T)\right)} + \frac{\sum_T \left(E_{c,T}(1-I(T))\right) \sum_T \left(g_{r,T}(1-I(T))\right)}{\sum_T \left(G_{c,T}(1-I(T))\right)}$$

where all variables are as above, and *I(T)* is an indicator function which equals 1 for T ϵ {*coal, gas, other fossil*} and 0 otherwise. In short, for each of the fossil and low-carbon generations, this is the product of the sum (over generation technologies) of continental employment and regional generation, divided by total continental generation. These values are added together to yield the total number of jobs.

Finally, in the Proportional Benefit scenario, each region captures a share of 2050 power sector jobs (across all technologies) proportional to its total electricity generation in 2022, regardless of its makeup. Formally, er is given by:

$$e_r = \frac{\sum_T E_{c,T} \sum_T g_{r,T}}{\sum_T G_{c,T}}$$

This is simply total continental employment times total regional generation, divided by total continental generation.

REGIONAL ELECTRICITY GENERATION PROFILES AND CARBON INTENSITY

Figure 1 shows yearly generation data for each major technology category and the overall (generation-weighted) carbon intensity of power generation for each region.

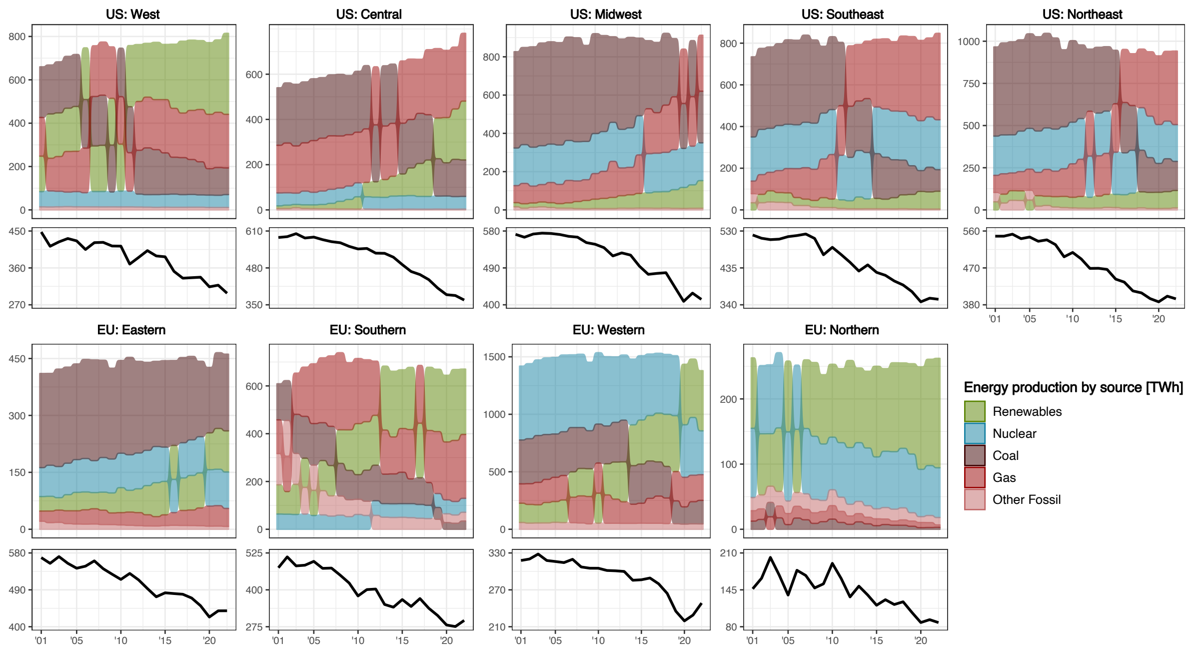

Figure 1. Regional differences in energy mixes in the US and EU (2001-2022)
Source: EMBER (2023)

In the US, the Southeast and Northeast have primarily switched from coal to gas, which has reduced the regions' carbon intensity in electricity generation. However, nuclear generation has stagnated, and the regions lag behind all others studied in terms of renewable energy growth and shares. The Midwest is currently transitioning from coal to gas as a fuel source, but progress has lagged behind that of other regions. Despite a growing share of renewables, this region has the highest carbon intensity of all US regions. The Central US also retains a substantial coal generation share; however, the accompanying growth in renewables has given the region a carbon intensity on par with the gas- and nuclear-dominated Southeast. Meanwhile, the West is the only US region in which a plurality of generations are from renewable sources. The region has the lowest carbon intensity in the US, despite the stubborn presence of coal generation and little nuclear generation.

EU regions exhibit relatively low carbon intensity. In Southern, Western, and Northern Europe, renewables make up a plurality of electricity generation, and coal use is minimal. Northern Europe, in particular, leads the green electricity transition, with the vast majority of its power coming from zero-carbon renewables or nuclear sources, giving it the only regional carbon intensity below 100 gCO2/kWh (and indeed, the only one below 200 gCO2/kWh). The only exception to Europe's relatively clean generation trend is Eastern Europe, where the high prevalence of coal generation gives the region the highest carbon intensity of all the studied regions. Even here, however, renewables are on the rise, accounting for a larger share of generation than in three of the five US regions.

In addition, the breakdown of 2022 electricity generation from renewables (solar, wind, hydroelectric, biomass, and others), nuclear, and fossil fuels, is shown in Figure 2, and is further broken down by region, for each of the US and the EU.

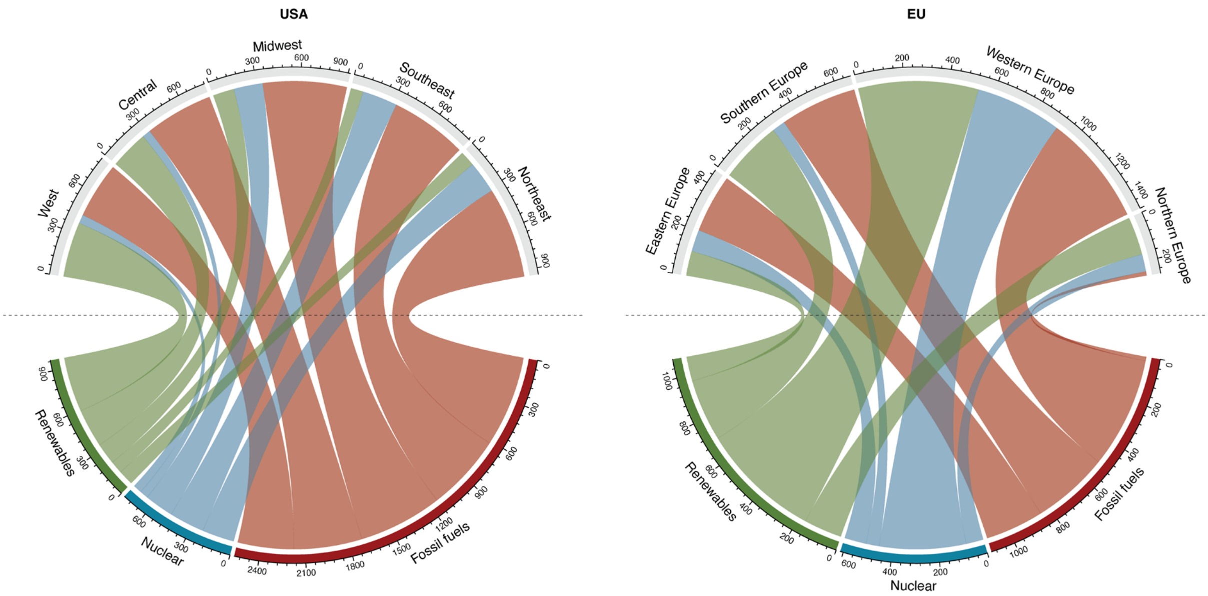

Figure 2. Energy mixes in the US and Europe in TWh consumption (2022)
Source: EMBER (2023)

As a whole, the EU generates a far greater share of its electricity from clean (non-fossil) sources, and particularly from renewables. There is also substantial regional variation in both cases. In the US, all of the Midwest, Southeast, and Northeast generate a vast majority of their power from non-renewable sources (fossil fuels and nuclear) and an absolute majority from fossil fuels. However, the Midwest has a moderate renewables share. The West and Central regions have significantly higher shares of renewables and lower shares of nuclear energy; half of their electricity comes from fossil fuels. Meanwhile, in the EU, Northern Europe has a very low-carbon generation mix, relying on fossil fuels for only a very small fraction of its electricity. Western Europe produces more nuclear power than any other region, although its mix is reasonably balanced among the three generations of nuclear power. Both Southern and Eastern Europe use a greater share of fossil fuels for electricity generation, though Southern Europe generates a nearly equal share from renewable sources.

HOW WILL THE BENEFITS OF A GREEN TRANSITION BE DISTRIBUTED?

It is estimated that the transition toward renewable energy will result in job growth worldwide, due to both the expansion of electricity-generating capacity and the higher number of jobs per unit of generation for renewables compared to fossil and nuclear power. Under a 100% renewable energy scenario, both North America and Europe are expected to see job gains (Ram et al., 2020). However, the employment benefits are not necessarily distributed equally or justly. Figure 3 shows the percent increase in power sector jobs from 2015 to 2050 under these three scenarios. Note that each of the scenarios entails the same net job gain in each Europe and North America—the sum of the bar heights (percent increases) is not equal across the scenarios.

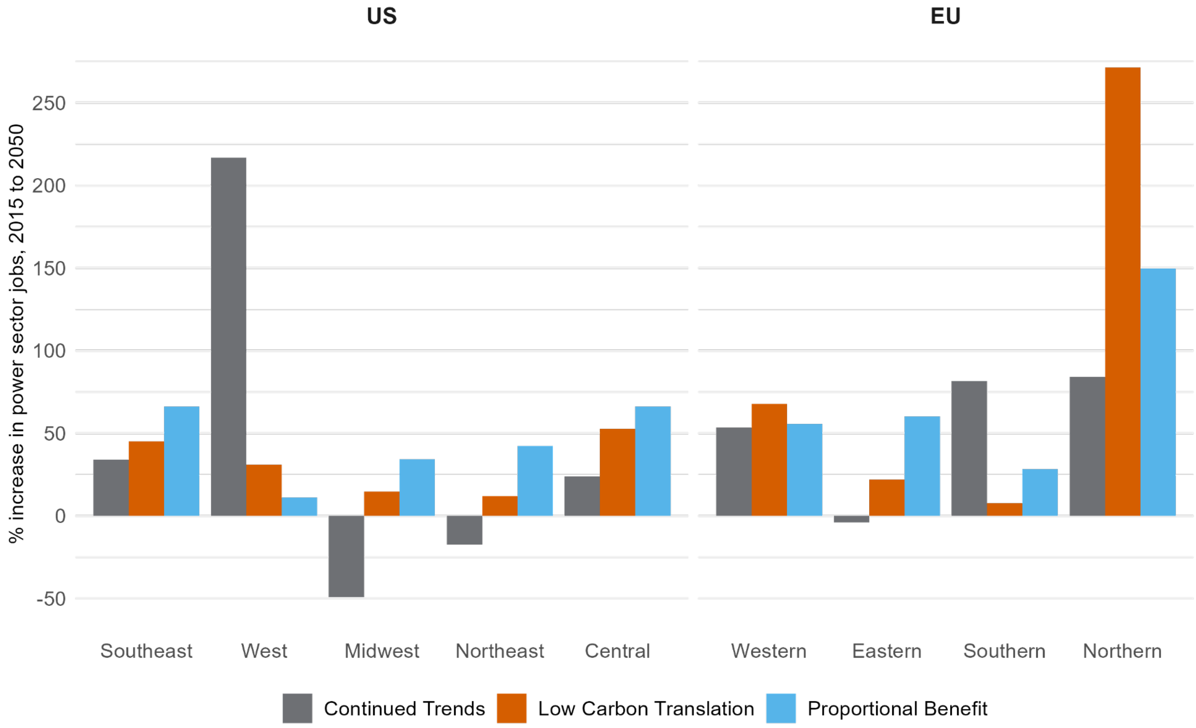

Figure 3. Employment increases from 2015 to 2050 under *Continued Trends*, *Low Carbon Translation*, and *Proportional Benefit* scenarios. 2050 jobs are estimated as described in-text. 2015 jobs are estimated using 2010-15 job figures from Ram et al. (2020) generation figures from EMBER (2023).

Although overall job increases occur under a transition toward renewable energy (Ram et al., 2020), it is clear that these job gains may not be evenly distributed across regions.

Notably, in the Continued Trends scenario, the Western US achieves high levels of job growth (due to its current leadership in solar PV deployment, which is projected to be by far the leading job creator in both North America and Europe), Meanwhile, three regions—The US Midwest, US Northeast, and Eastern Europe—show job declines from 2015 to 2050 due to vanishing fossil fuel and nuclear jobs which are not offset by sufficient jobs in renewables. All regions experience job growth under Low Carbon Translation, led by Northern Europe (which currently deploys high levels of nuclear, hydroelectric, biomass, and wind power, but low levels of solar PV). In this scenario, the lowest growth is observed in regions that currently lag behind in low-carbon power (the US Midwest, US Northeast, and Eastern Europe) and those with high 2015 employment due to high historical renewable energy deployment (the US West and Southern Europe). Finally, in the Proportional Benefit scenario, all regions exhibit substantial job growth; indeed, the high-baseline Western US is the only region with under 25% growth from 2015 to 2050.

In addition to analyzing job growth in terms of percentage increase over time, we also calculated the predicted numbers of annual job creation during the transition for each scenario. The results of this analysis for the three scenarios and the different regions in the US and EU are presented in Figures 4–6 below; detailed numbers are provided in the Appendix, Tables A1, A2, and A3.

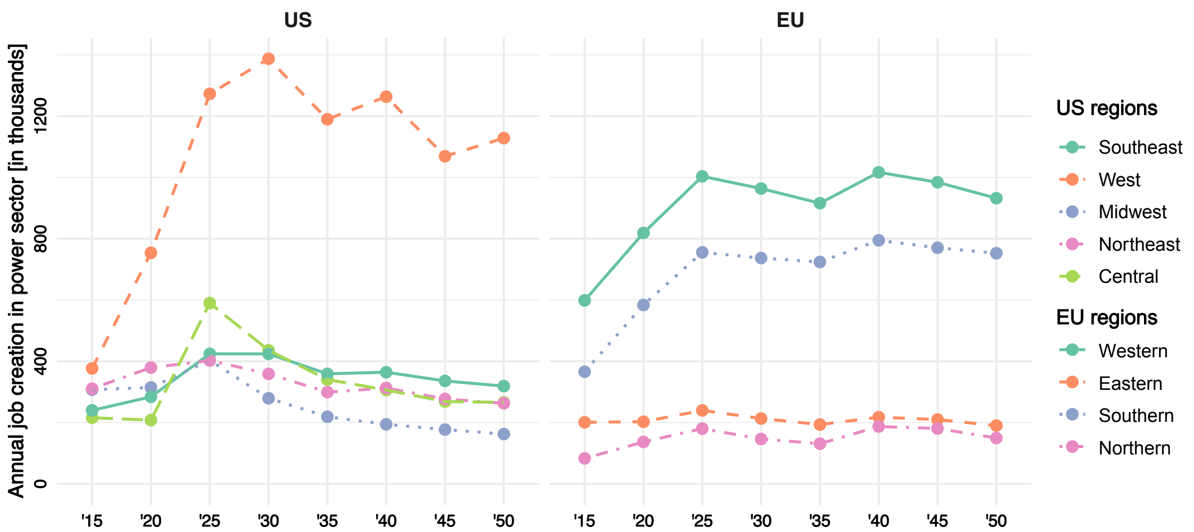

Figure 4. Annual job creation in power sector in the US and EU under the *Continued Trends* scenario. Jobs are estimated using figures from Ram et al. (2020) and generation figures from EMBER (2023)

Note that the regions included in the Ram et al. (2020) model are more extensive than those included in our analysis, covering the continents of North America and Europe. To predict annual job creation, we proportionally assigned Ram et al.'s numbers to the US and EU based on their share of electricity generation, as reported by EMBER in 2022. Consequently, the sum of regional job estimates in each scenario does not equal the continental job numbers reported by Ram et al., with the disparity varying in each scenario. This is intentional: beyond the possibility of winners and losers within the US and EU, different futures may result in a different balance of energy generation and employment across North American and European nations.

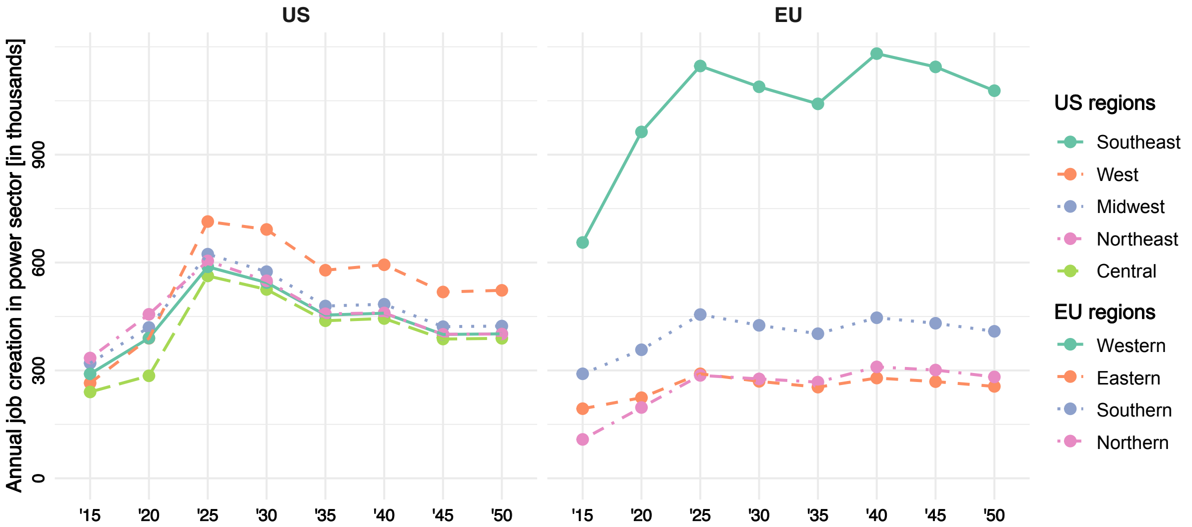

Figure 5. Annual job creation in power sector in the US and EU under the *Low Carbon Translation* scenario. Jobs are estimated using figures from Ram et al. (2020) and generation figures from EMBER (2023)

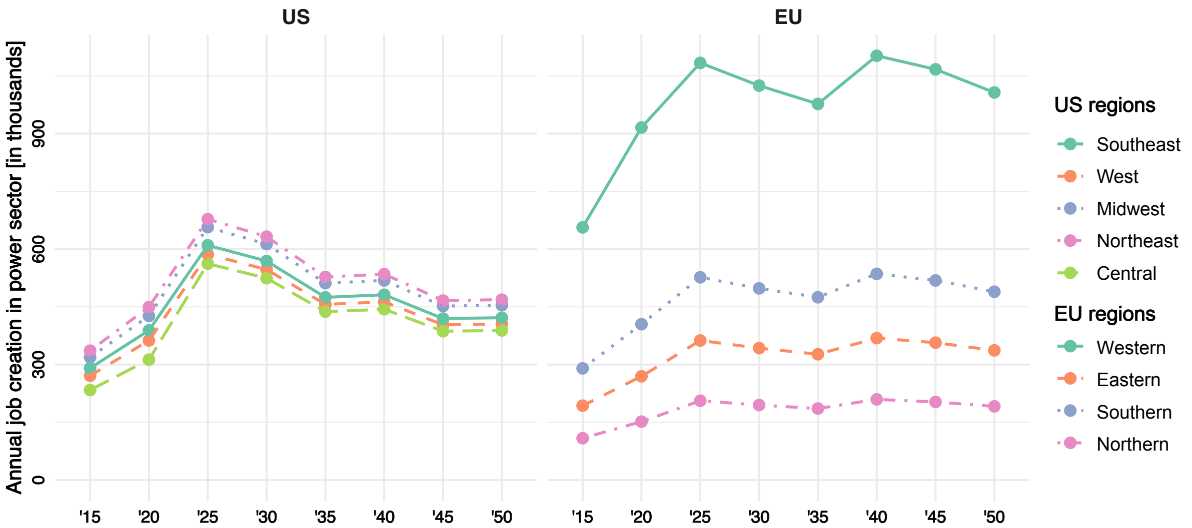

Figure 6. Annual job creation in power sector in the US and EU under the *Proportional Benefit* scenario. Jobs are estimated using figures from Ram et al. (2020) and generation figures from EMBER (2023)

Under the Low Carbon Translation scenario, job creation is balanced across the US regions. Our analysis suggests that by 2025, all five regions are within a narrow range (approximately 560 to 714 jobs), with the West slightly ahead and the Central region consistently at the lowest level. In turn, when we look at the Continued Trends scenario, the distribution becomes unbalanced as the West gets a dominant position of annual job creation (approximately 1.27 million in 2025, remaining above 1.1 million by 2050), while the Midwest and Northeast fall into a lower tier (e.g., around 163 thousand and 263 thousand, respectively, by 2050). Finally, our estimations under the Proportional Benefit scenario demonstrate that they are close to each other. By 2025, the Northeast and Midwest are expected to rise to the top, with 678,000 and 657,000 jobs, respectively, while the West is notably lower than in the Low Carbon Translation scenario, with 586,000 jobs. By 2050, Proportional Benefit produces the most even regional pattern in the US, with regions more closely grouped (approximately 389–469 thousand jobs).

In the EU, however, our analysis clearly shows that Western Europe consistently leads in annual job creation. Under Low Carbon Translation, Western European countries are the main beneficiaries (e.g., approximately 1.15 million in 2025), with Southern Europe in a second position, and Eastern and Northern Europe with a smaller number of job creations. When it comes to the Continued Trends scenario, Western Europe's annual job creation is lower than under Continued Trends. Still, for Southern Europe, the scenario demonstrates the highest values (about 756 thousand in 2025 and about 753 thousand in 2050). Finally, our estimates indicate that under the Proportional Benefit scenario (relative to Low Carbon Translation), Eastern Europe has the most favourable position, resulting in a more balanced EU distribution, even though Western Europe remains the largest.

DISCUSSION AND SUMMARY

Ensuring that the energy transition leaves no one behind is both a moral imperative and a matter of prudent precaution. It is a moral imperative because transitioning away from fossil fuels presents a multi-trillion dollar opportunity, even without accounting for the numerous co-benefits of renewable energy, such as decreased local air pollution (Way, Ives, Mealy, & Farmer, 2022). It is sensible because GHG emissions are a public bad, regardless of where they are emitted. The climate does not care where coal-fired power plants operate; in the words of Ulrich Beck, "poverty is hierarchic, smog is democratic" (Beck, 1992). Furthermore, justly and inclusively distributing the benefits of the energy transition—such as stable employment, reduced pollution, and increased independence from fossil fuel imports—will support the social license for a rapid transition, thereby making it more politically palatable and achievable (Cronin et al., 2021).

Governments will have to manage an interesting trade-off when it comes to the geographic distribution of renewable generation capacity (Meckling, 2025). On the one hand, siting renewables where they are most abundant and cheap will enable lower overall system costs; for example, inter-regional expansion and coordination of transmission infrastructure in the US could save over $100 billion by 2050 by allowing higher levels of renewables integration at the lowest cost (Brinkman et al., 2021). Continuing to ambitiously build out transmission infrastructure in both the US and the EU will help renewable energy deployment anywhere translate to decarbonization everywhere, as otherwise curtailed energy can be exported to neighboring states or countries. On the other hand, the geographically disparate deployment of renewable energy infrastructure could lead to regional disparities in employment (and air quality improvements, etc.), as shown in Figures 2 and 3. Employment effects may be a key determinant of public support for new energy technologies (Stokes & Warshaw, 2017), so pursuing a more equitable distribution of renewable energy infrastructure may be politically favorable, despite higher system costs.

Increasing the geographic distribution of renewables relative to the current trend could also have important energy security co-benefits. Indeed, the potential of renewable energy to ease fossil fuel import dependence (on Russia) has been a significant pillar in the EU's increased renewables ambitions (European Commission, 2021). Continuing to enhance energy security via renewables, rather than simply substituting domestic fossil fuel production for imports, is critical for both achieving climate goals and maintaining a credible leadership position in the climate negotiation process (Nature, 2022). It is, therefore, paramount that large entities such as the US and EU work to ensure that while continent-scale grids are built out rapidly and cost-effectively, the economic and energy security benefits of renewables are also experienced at smaller scales.

On this last point, it is interesting to note the different scales at which environmental justice is conceptualized in the US and EU. The EU takes a broader approach: The European Green Deal's Just Transition Mechanism (JTM) aims to support the "regions and sectors" most vulnerable to the low-carbon transition (i.e., those most dependent on fossil fuels and carbon-intensive processes) by allocating extra funding, technology, and knowledge transfer to these broader segments of the bloc (European Commission, 2019). On the other hand, in the US, the IRA allocates additional resources and provisions to "energy communities," which exist at a more granular level, including brownfield sites, statistical areas, and census tracts (117th Congress, 2022). This difference makes sense: the EU has limited power to enforce the granular allocation of funding or subnational policy priorities, so its energy justice remit is limited to the member state level. In contrast, the federal system in the US gives the government the power to enact policy at a more discerning, granular level. We see merit in both approaches: the EU's broader focus on distributive justice ensures that all citizens can feel a sense of national ownership and pride in the energy transition; meanwhile, the more community-scale approach in the US ensures that resources to accelerate the clean energy transition are allocated more precisely where they can improve the conditions of historically disadvantaged communities. Conceptualizing energy and environmental justice at multiple scales simultaneously could further the US and EU's ambitions to support equitable and rapid growth in renewables.

Lastly, and critically, we note that progress toward a just energy transition cannot be measured solely by renewable energy deployment or carbon intensity reduction. We echo calls for a more comprehensive understanding of a just transition which transcends a mere "dichotomy of vulnerable fossil fuel communities" also to consider history, finance, resource potentials and dependencies, pledges, policies, technology, economics, and social dynamics, and which centers multiple dimensions of justice (e.g., distributive, procedural, and restorative) (McCauley, Pettigrew, Todd, & Milchram, 2023). For instance, the employment benefits of renewable energy deployment should extend to communities whose current livelihoods involve upstream carbon intensity—and who might be overlooked by well-intentioned just transition provisions (Graham & Knittel, 2024). Furthermore, harmonizing "stick" policies such as carbon pricing (e.g., embracing and expanding the EU's regional carbon market model as opposed to the more balkanized subnational model in the US) will reduce carbon leakage and ensure that actors pay their fair share toward the transition. Recent policy efforts by the US and EU to accelerate the equitable deployment of renewable energy are undoubtedly a step in the right direction. Regional disparities in progress to this end underscore the crucial challenges ahead. At the same time, the effectiveness of these strategies in both the US and the EU will increasingly depend on rising demand for critical minerals essential to renewable energy technologies (Baranowski, Jabkowski, & Kammen, 2025a, 2025b; Bazilian, 2018; Srivastava, 2023), bringing with it economic, geopolitical, and governance considerations that merit sustained policy attention.

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BIOGRAPHICAL NOTE

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APPENDIX

Table A1. Annual job creation [in thousands] in power sector in the US and EU under the *Continued Trends* scenario. Jobs are estimated using figures from Ram et al. (2020) and generation figures from EMBER (2023).

Region/Year	2015	2020	2025	2030	2035	2040	2045	2050
US: Southeast	239.9	284.0	424.3	424.0	359.1	364.3	335.8	319.0
US: West	376.8	754.0	1,272.9	1,387.4	1,189.9	1,263.6	1,069.1	1,128.3
US: Midwest	307.4	314.5	403.3	279.4	219.0	194.3	177.1	162.5
US: Northeast	310.7	379.5	402.4	358.8	299.1	312.7	277.2	262.9
US: Central	215.7	208.0	590.0	436.0	340.4	306.4	268.5	266.0
Total for US	**1,450.5**	**1,940.0**	**3,092.9**	**2,885.6**	**2,407.5**	**2,441.3**	**2,127.8**	**2,138.6**
EU: Western	598.6	818.8	1,003.5	963.9	915.9	1016.8	984.3	932.2
EU: Eastern	200.9	202.6	239.7	213.2	193.4	217.5	209.8	190.1
EU: Southern	365.7	583.8	755.5	736.8	724.2	794.9	770.5	752.7
EU: Northern	83.1	136.8	180.1	146.3	131.0	187.1	180.7	149.4
Total for EU	**1,248.3**	**1,741.9**	**2,178.9**	**2,060.2**	**1,964.5**	**2,216.2**	**2,145.3**	**2,024.3**

Table A2. Annual job creation [in thousands] in power sector in the US and EU under the *Low Carbon Transition* scenario. Jobs are estimated using figures from Ram et al. (2020) and generation figures from EMBER (2023).

Region/Year	2015	2020	2025	2030	2035	2040	2045	2050
US: Southeast	290.4	389.9	588.2	544.4	454.0	459.1	400.1	401.8
US: West	264.9	389.3	714.0	692.0	578.7	593.8	518.1	522.7
US: Midwest	320.3	419.5	623.3	574.7	479.2	484.0	421.7	423.4
US: Northeast	334.6	456.1	604.6	549.2	457.5	459.9	400.5	401.4
US: Central	240.2	285.1	562.8	525.2	438.2	444.4	387.3	389.3
Total for US	**1,450.5**	**1,940.0**	**3,092.9**	**2,885.6**	**2,407.5**	**2,441.3**	**2,127.8**	**2,138.6**
EU: Western	655.8	963.3	1,146.6	1,088.7	1,041.3	1,181.0	1,144.1	1,077.9
EU: Eastern	193.7	224.2	290.7	269.6	253.5	278.8	268.9	255.6
EU: Southern	290.7	357.5	455.4	425.4	402.1	446.5	431.2	408.8
EU: Northern	108.2	197.0	286.2	276.5	267.6	309.9	301.1	282.0
Total for EU	**1,248.3**	**1,741.9**	**2,178.9**	**2,060.2**	**1,964.5**	**2,216.2**	**2,145.3**	**2,024.3**

Table A3. Annual job creation [in thousands] in power sector in the US and EU under the *Proportional Benefit* scenario. Jobs are estimated using figures from Ram et al. (2020) and generation figures from EMBER (2023).

Region/Year	2015	2020	2025	2030	2035	2040	2045	2050
US: Southeast	290.7	388.8	609.9	569.0	474.7	481.4	419.5	421.7
US: West	271.1	362.5	586.3	547.0	456.4	462.8	403.3	405.4
US: Midwest	318.8	426.4	657.0	612.9	511.4	518.6	452.0	454.3
US: Northeast	336.1	449.5	677.8	632.3	527.6	535.0	466.3	468.7
US: Central	233.9	312.8	562.1	524.4	437.5	443.6	386.7	388.6
Total for US	**1,450.5**	**1,940.0**	**3,092.9**	**2,885.6**	**2,407.5**	**2,441.3**	**2,127.8**	**2,138.6**
EU: Western	656.3	915.9	1,083.7	1,024.7	977.1	1,102.3	1,067.0	1,006.8
EU: Eastern	193.1	269.5	362.5	342.7	326.8	368.7	356.9	336.8
EU: Southern	290.1	404.9	526.6	498.0	474.8	535.7	518.5	489.3
EU: Northern	108.7	151.7	206.0	194.8	185.8	209.6	202.9	191.4
Total for EU	**1,248.3**	**1,741.9**	**2,178.9**	**2,060.2**	**1,964.5**	**2,216.2**	**2,145.3**	**2,024.3**