



PIIE PETERSON INSTITUTE FOR
INTERNATIONAL ECONOMICS

Climate Action: Implications for Factor Market

Reallocation

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Is Factor Reallocation Relevant for Macroeconomics?

- Simulations and past experience, suggest climate policies are likely to have a small positive impact on aggregate employment and investment in most regions, most US states and EU regions.
- But they do require reallocation of labor and investments that could be consequential and negative for workers, some communities and investors at microeconomic level.
- This reallocation can present policy challenges for climate and spillovers into other policies (some having macro-impacts)

Policy Impacts

- Trade.
 - Overall trade less important than technology and demand in declining manufacturing employment.
 - But dislocation at local levels has had seismic political & social consequences. (Trump, Brexit, Opioids, Suicides, Non-Employment)
 - Some believe better adjustment policies would have helped dampen these
- Fiscal Policy.
 - Joe Manchin and US Fiscal Policy
- Climate Policy.
 - US rejection of cap and trade. Multiple goals in IRA (unions, local content, poor communities)
 - Macron retreat because of Yellow-Jackets.

JOBS AT RISK: Brown Jobs

Narrow: Fossil fuel occupations:(480k)	0.38%
Broader: Fossil Industries: Extraction and Refining. (927k)	0.66%
Expansive: Energy-Intensive & GHG Manufacturing. (2 million)	1.55%

Workers affected by Technological & Product Changes.

- EG. BEVs could cost 265,000 US auto jobs.
- Likely much greater churning among firms
- Impacts on Upstream and Downstream industries and communities lead to much larger estimates
- Source of estimates: Pesek and Raimi (2022) and BLS

Adjustment Challenges For Fossil Fuel Communities: From Brown to Green & White Jobs?

- Workers.
 - Mass layoffs 1.4 times annual income losses (Davis and Von Watcher)
 - Employment share in Community. In most very low but some >10 percent
 - Rurality of communities. Common in mining and extraction.
 - Specific Skills in old and new job?. Literature contains different views Some easy to move from brown to green. E.G. Curtis, E. M. and I. Marinescu.
 - But several emphasize very different skills in brown and other workers. E.G. Consoli, D.et. Al..
 - General Human Capital. Fossil fuel education generally less than average.
 - Place /Jobs Mismatches
- Communities:
 - Fiscal dependence on fossil fuel incomes.
 - Propensity to migrate. Declined over time-non-employment increased.

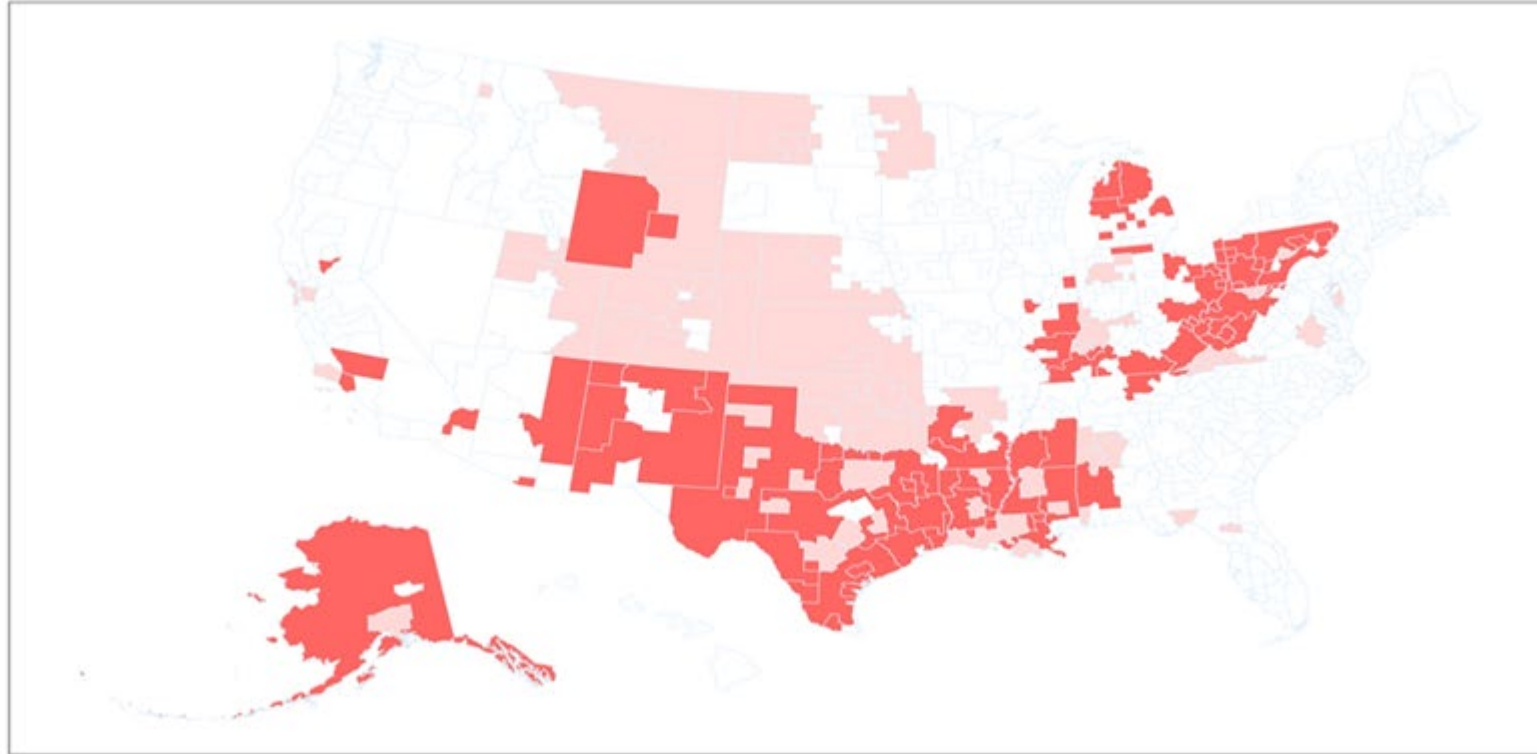
USA Policies for Climate Communities.

- Very limited Federal Resources devoted to general labor market & community adjustment policies. Federal Government programs dwarfed by States.
- E.G. Total budget of EDA around \$4 billion, States 50 billion+ (Bartik)
- Biden Justice 40 Commitments. Infrastructure Bill, Chips and IRA all have provisions to aid communities
- . In particular, IRA expenditures should benefit these communities, and special additional subsidies for investments in renewable energy in energy communities.
- However, the policies are poorly targeted. Massive subsidies for union wages and local content and trade protection. Too little for training and reskilling. Emphasis on renewables rather than community development strategies.

Energy Communities a Priority?

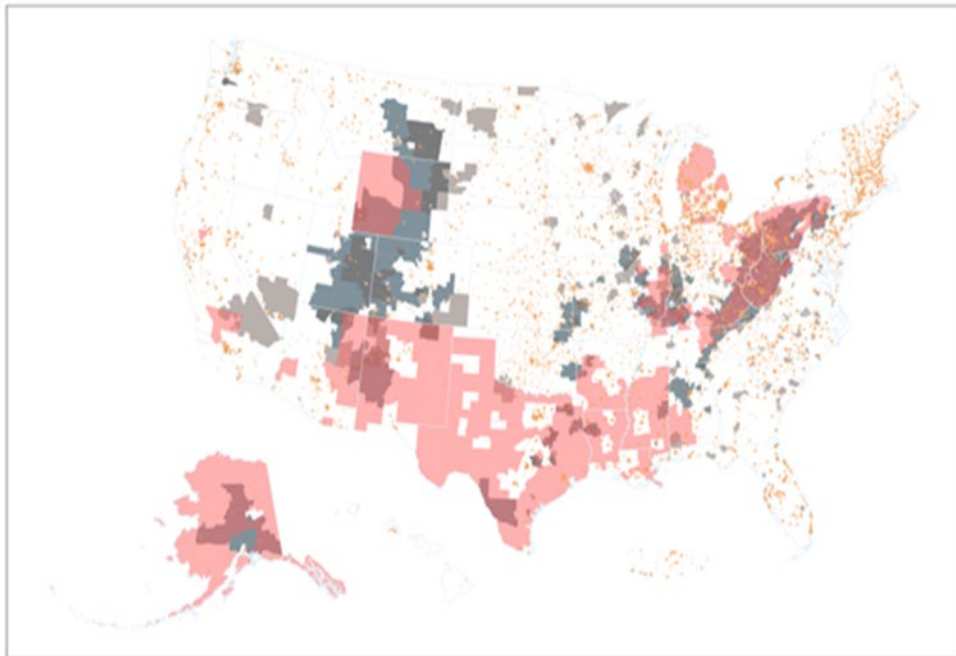
>.17 employment share

Originally IWG Intergovernmental Working Group said just 25 communities. IRA almost 70 percent of US



US From Prioritization to Inclusion. EDA Redux

- .Intergovernmental Working Group: First Report 25 Communities are the priority!



US Policy Recommendations.

- Ideal: Broadly available active labor market policies & place-based assistance.
- Complemented by special programs for energy-communities.
 - Compensation: Workers wage insurance, Scrapping subsidies for plants. Tax-base insurance.
 - Broadly based adjustment. Focus on all opportunities within and beyond communities. Within and Beyond Renewable Energy.

EU JOBS at Risk

- Broad definition of Brown Jobs Almost 5%
- In about 5% of the 242 EU NUTS-2 level regions, more than 20% of employment is in brown activities. In seven regions, brown activities concern 25-31% of all jobs. These regions are all located in Greece and in Romania.
- Narrow Coal related. Direct employment in coal as well as oil and gas related extractive and processing activities stood at 400 000 jobs in 2016 in the EU.US coal jobs 43,000 mines and 111,000 power.
- by 2030 JTC projects cumulative job losses in power plants and mines are likely to 160 000 jobs. An additional 100,000 jobs are threatened in the industries that depend upon coal
- Coal less important in EU Electricity than US More important in Employment.

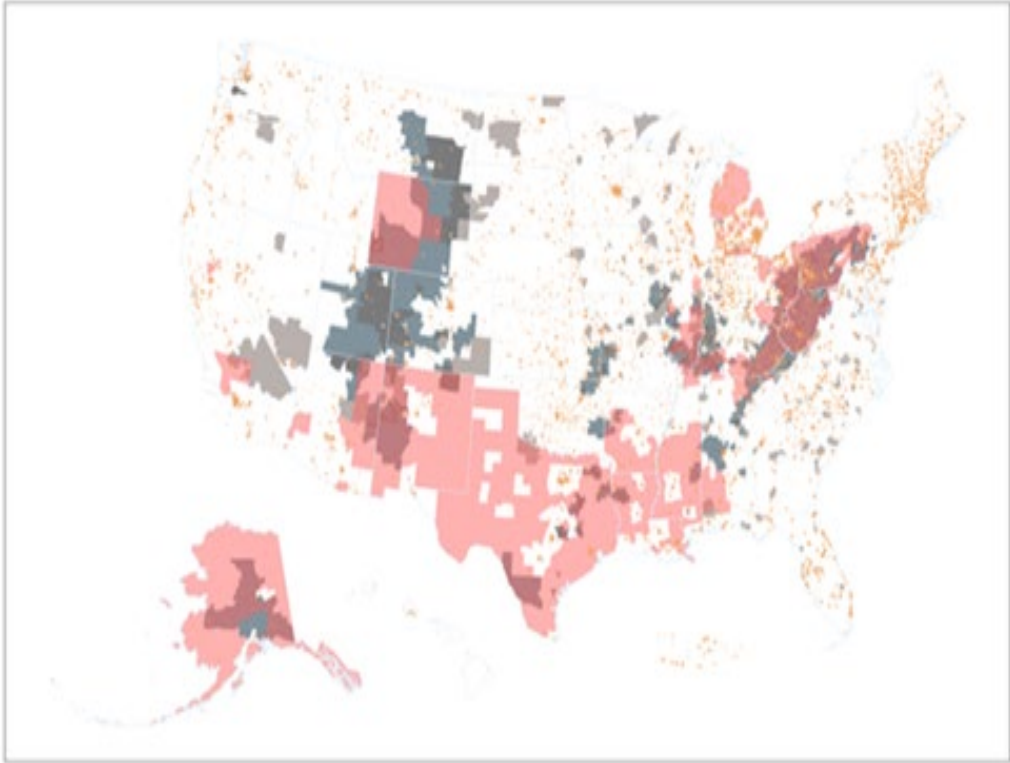
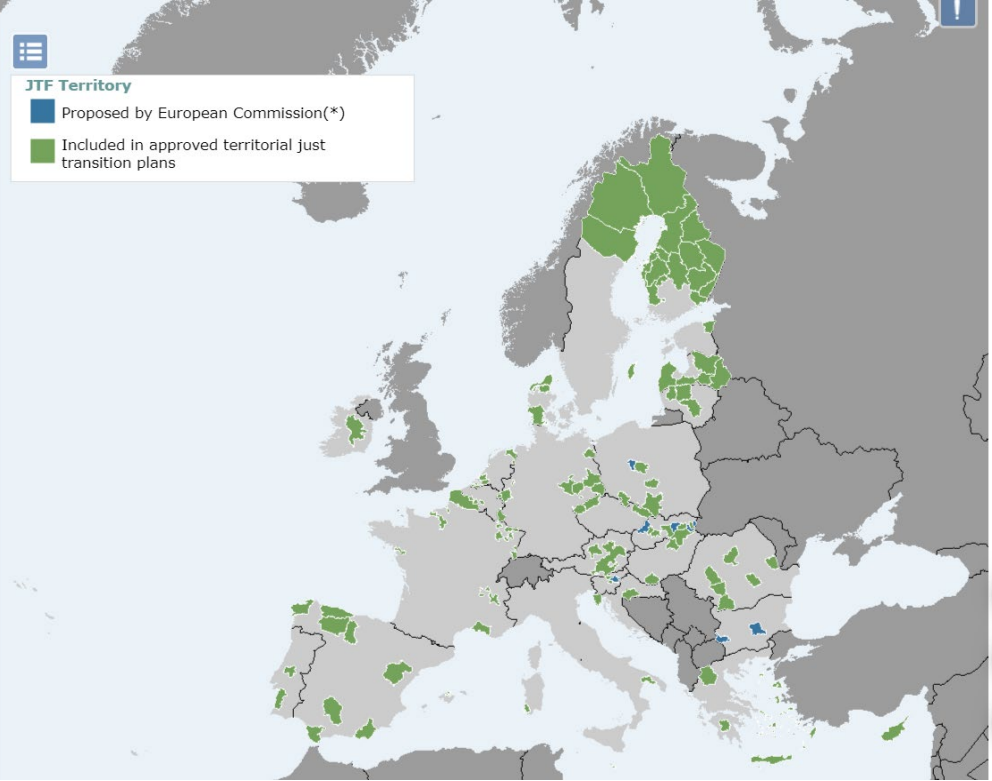
Adjustment Challenges” Qualitatively Similar

- Concentrated in comparatively few communities.
- Skills Mismatches: Green Jobs generally require More Skills.and education.
- Vona et al. (2018) extraction workers (included those employed in coal mining) have very specific skill profiles that are different from those required by other sectors.
- EU(German) Auto industry particularly vulnerable given specialization in ICE engineering.

Simulations of Impact of Low Carbon Electricity benefits and vulnerabilities

- Benefits mostly in regions of Northern Europe, while vulnerabilities exist mostly in regions of Southern and Southeastern Europe.
 - Highest composite benefit indices are primarily located in the Baltics, Germany, Ireland, Scandinavia, and Scotland.
 - These benefits reflect new investment and employment gains, decreased electricity prices, lower greenhouse gas and particulate matter emissions, and reduced land use.
 - Highest composite vulnerability indices in the Balkans, Southern Italy, Portugal, Poland, and Spain.
- Source: Jan Phillippe Sasse and Evelina Trutnevyte (2023)

Major Differences in Prioritization



Other EU & US Differences.

- *EU Commitments much larger.*
 - Unlike US EU spends large amounts of money on Cohesion Funds.
 - Supplemented by Just Transition Mechanism. Part of which involved Just Transition Plans negotiated by EU and vulnerable regions.
- *EU discourages national state aids, US will rely on them.* In addition to protectionism in IRA this will be problematic for EU
- *EU emphasis on broad development strategies, US mainly from brown to green.*

Some Conclusions

- Labor market adjustments in EU and US similar to trade and digitalization. Could increase polarization of labor market along lines of skills and regions.
- US adjustment policies define energy communities too broadly and adjustment policies too narrowly.
- EU a comprehensive approach. Prioritized Just Transition Mechanism complemented by extensive cohesion policies.
- Final political questions: EU deindustrialization experience despite active adjustment assistance did not eliminate populist pressures. Will either US or EU do better with climate change?
- Can the benefits of green policies change Red State views on climate policies?