

# *On the Economics of the Just Transition*

Francesco Vona  
(University of Milan and FEEM)

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# Growing concerns about the political acceptability of green policies and enhance political polarization



Opinion **Renewable energy**

## Populism could derail the green transition

Western politicians are scared of a backlash against climate change policies that have been sold as good for the economy

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### Anti-green populist backlash:

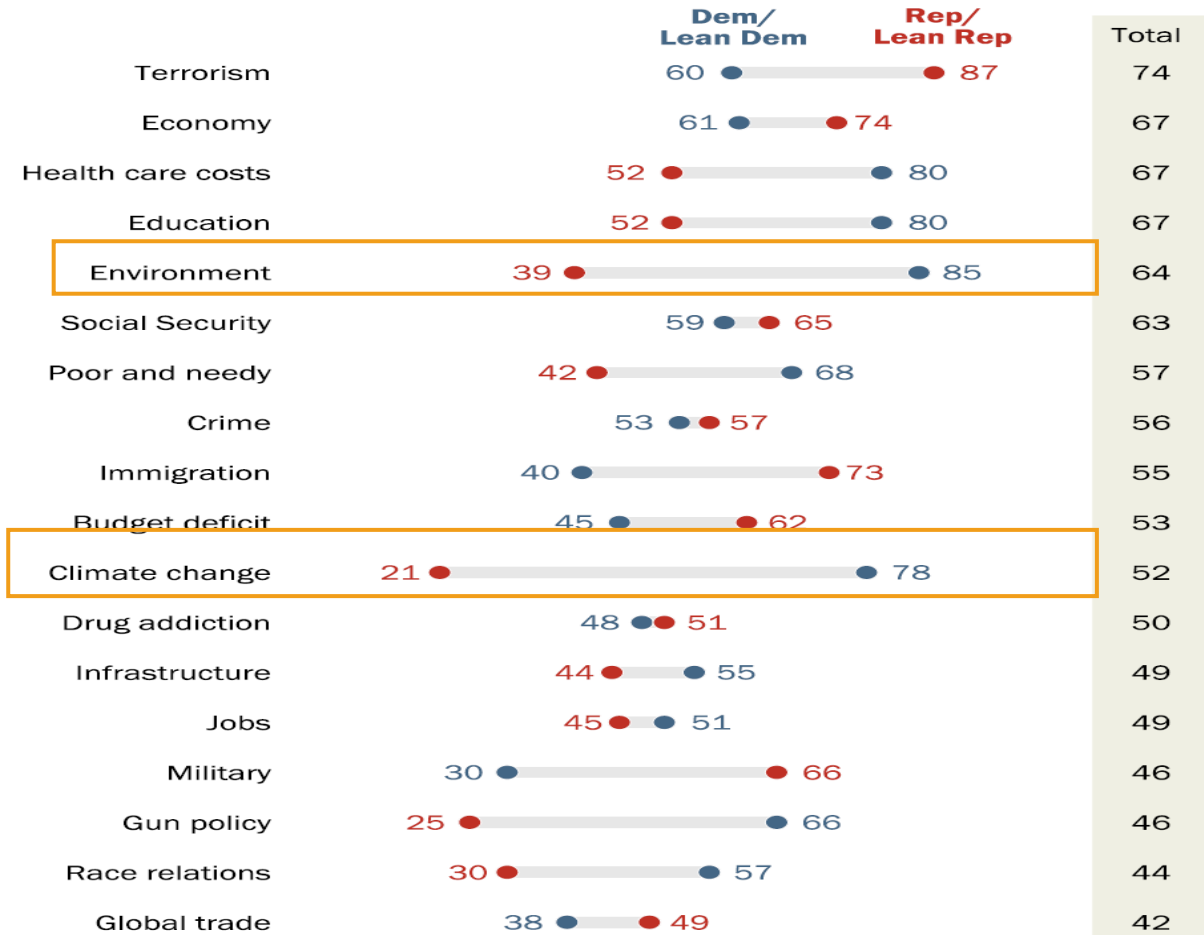
- **EU:** Growing opposition to the green deal, especially from the extreme right
- **US:** job killing argument and “Drill baby drill”
- **France:** Yellow vest, general unfairness or distributional effects of carbon taxes?

# Intensified debate on the just transition: why?

- **Distributional effects of climate policies: “regressive”?**
  - Policy-driven transition: regressivity less acceptable
- **Multiple dimensions of distributional impacts:** aggregation and misperception
- **Failures of previous transitions:** reducing trust in governments?
- **Political identity and increasing polarization on green issues**

## Wide partisan gaps on climate change, environment, guns and stronger military

% who say \_\_\_ should be a top priority for President Trump and Congress



Source: Survey of U.S. adults conducted Jan. 8-13, 2020.

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# Gap in the (environmental) economics literature

- **Focused on a subset of distributional effects**
  - **Mostly on spending** using theory of tax incidence to evaluate regressivity
  - **Mostly on the functional distribution** of source income: capital vs. labour
  - **Environmental justice gap**: highlight potential progressivity of environ. policies
  - **Marginally on broader equity issues** and their **implications** for **political acceptability**
- Historically, the term **just transition** refers to **large** and **persistent distributional effects**:
  - **Labour impacts** as the origin of just transition studies → ILO idea of **green & decent jobs**
  - **Concentrated** impacts on **distressed communities**
  - Explicit concern for **political acceptability** and **political processes**

# Towards a broader approach

- **Four dimensions in political/social science literature:**
  - **Distributive justice:** just distribution of resources, benefits, opportunities, and burdens across groups.
  - **Restorative justice:** avoid and repair injustices through compensation.
  - **Procedural/participatory justice:** fairness of the processes determining outcomes, meaningful inclusion, participation and informational provision.
  - **Recognition justice:** recognition of past and ongoing inequalities and context-dependence as it relates to historical, cultural, and regional factors.
- *What we know about the energy transition for each dimension?*
- *How to operationalize these criteria?*

# Distributive justice: Are distributional effects of the green transition regressive?

**What we know for climate policies** (green subsidies, carbon taxes, Vona, 2023):

1. Effects are **regressive on spending but unclear** on source **income**.
2. Particularly severe distributional effects on **carbon-intensive regions**.
3. **Nonmonetary benefits progressive** (in terms of health co-benefits and avoided climate damage).
4. **Dynamically**, barriers to adapt and financial constraints make effects **more regressive**.
5. **Poorer households** perceive **nonmonetary benefits as less important** than **monetary costs**.
  - E.g., impacts of heat waves change voting only in rich regions (Hoffman et al., 2022),
  - E.g., WTP for environmental improvement increases with income.

# The other dimensions in the economic literature

- **Restorative justice:**

- **Offsetting policies:** fair amount of research on best approaches to use revenues of a carbon tax
- New research on **acceptability of different green packages:**
  - ✓ Recycling carbon taxes rank lower than green earmarking and infrastructural programs (Klenert et al., 2018; Maestre-Andres et al., 2019; Dechezleprêtre et al., 2022)
- **Missing link with dynamic adjustments** and creation of **new opportunities** (e.g., Vona, 2023)

- **Procedural justice:**

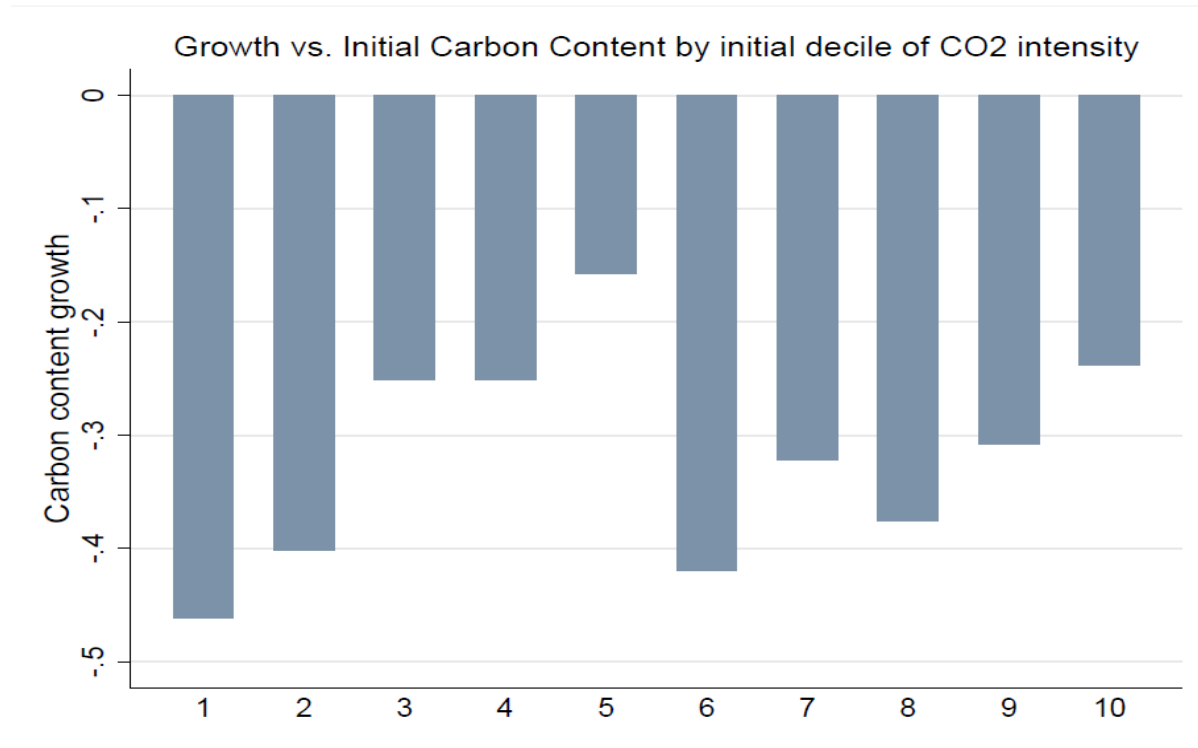
- **Increasing attention** on political acceptability and the political economy of the green transition (Bergquist et al., 2022; Egli et al., 2022; Bez et al., 2023)
- General issues: assessing the drivers of **populistic backlash**, general **fairness** concerns, **trust in government**, **co-management** and **participatory democracy**

- **Recognition justice:**

- Linked to the principle of ‘**common but differentiated responsibilities**’ (UNFCCC, 1992), also within a country (Chancel, 2019)
- More generally, to the **existing inequalities** (Vona & Patriarca, 2011; Nicolli et al., 2022) and to the **experience of past transitions**, such as the China shock (Hanson, 2023)

# Policies to manage the green transition: zooming into the labour effects

- **Need new indicators to identifying the losers and the winners, and the skills required by the winners** (Vona et al., 2018; Marin & Vona, 2024)
  - **Task based** approach to green jobs and skills (Vona et al., 2018)
  - New data on **online job vacancies** combined with **ML techniques** (Saussay et al., 2022)
  - **Carbon content** of jobs, beyond coal miners (Marin & Vona, 2024; Graham & Knittel, 2024) → **hard to decarbonize** occupations/tasks



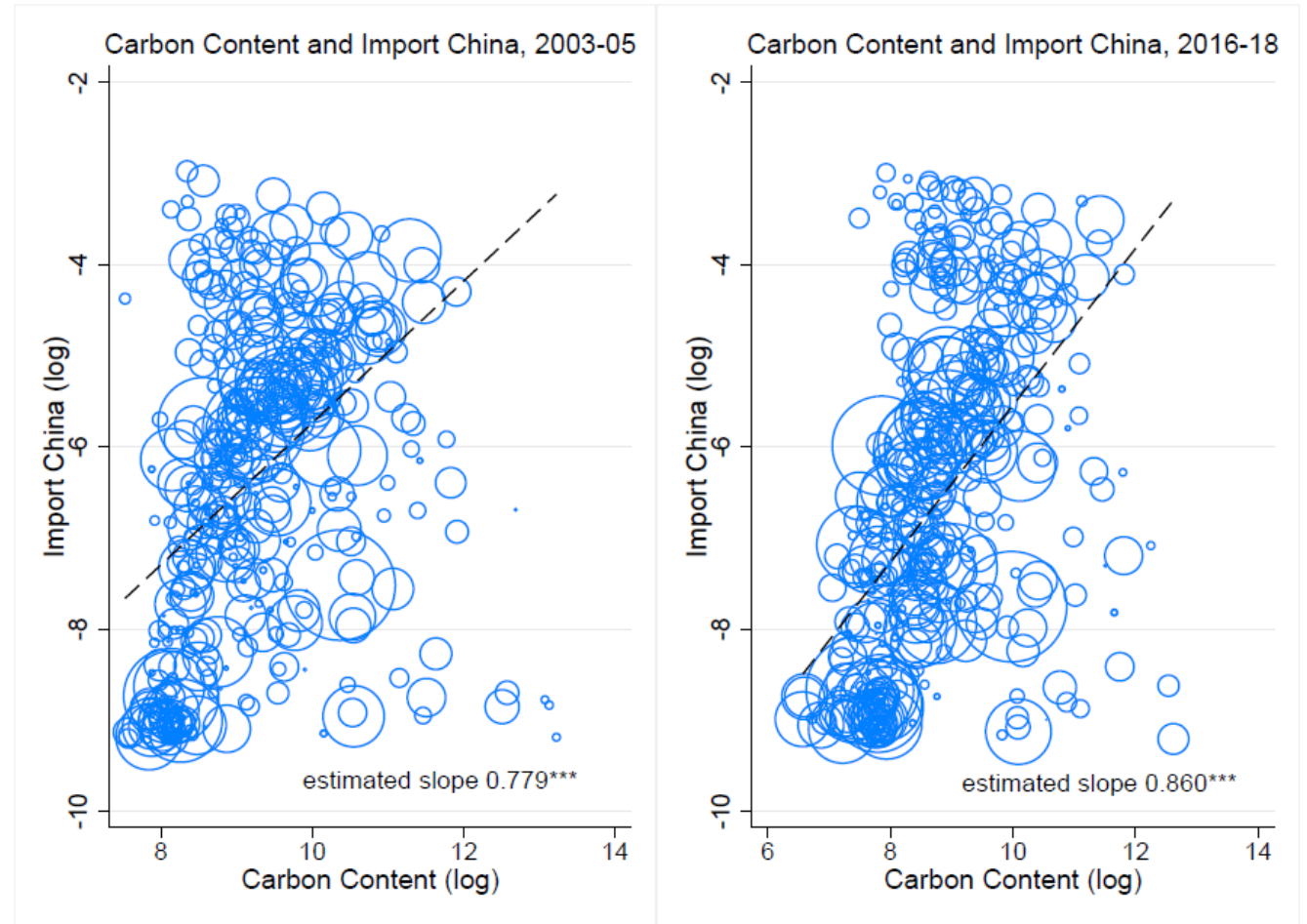
Source: Marin & Vona, 2024. Data: DADS + EACEI data.



# Facts about carbon intensive occupations in France

Carbon intensive jobs are:

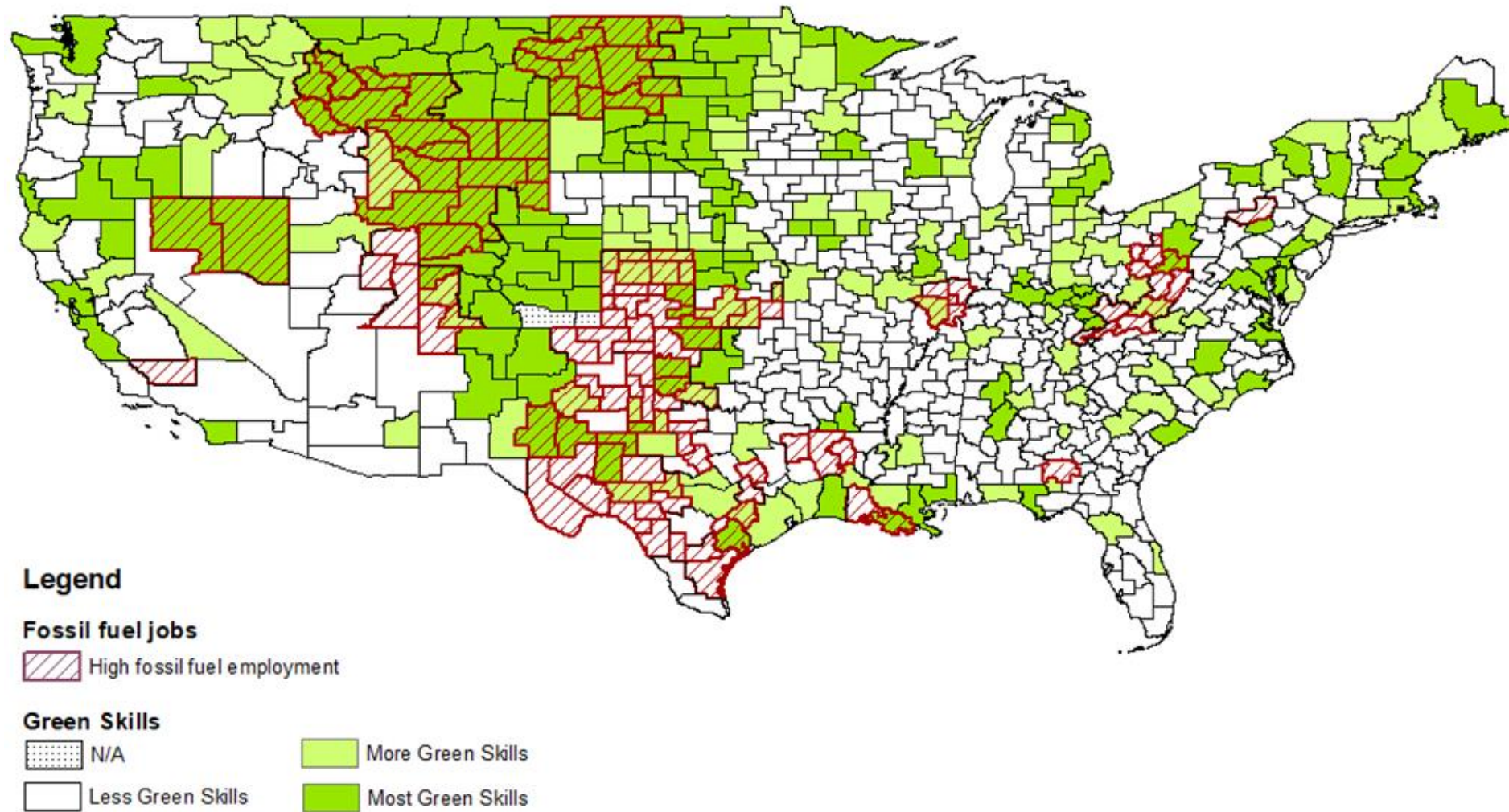
1. **hard to decarbonize**
2. **highly spatially concentrated**  
*(same result in the US)*
3. **more exposed to trade and automation**
4. **declining** over the period 2003-2019
5. **pay higher wages** than green jobs *(same result in the US)*



Source: Marin & Vona, 2024. Data: DADS + EACEI data.

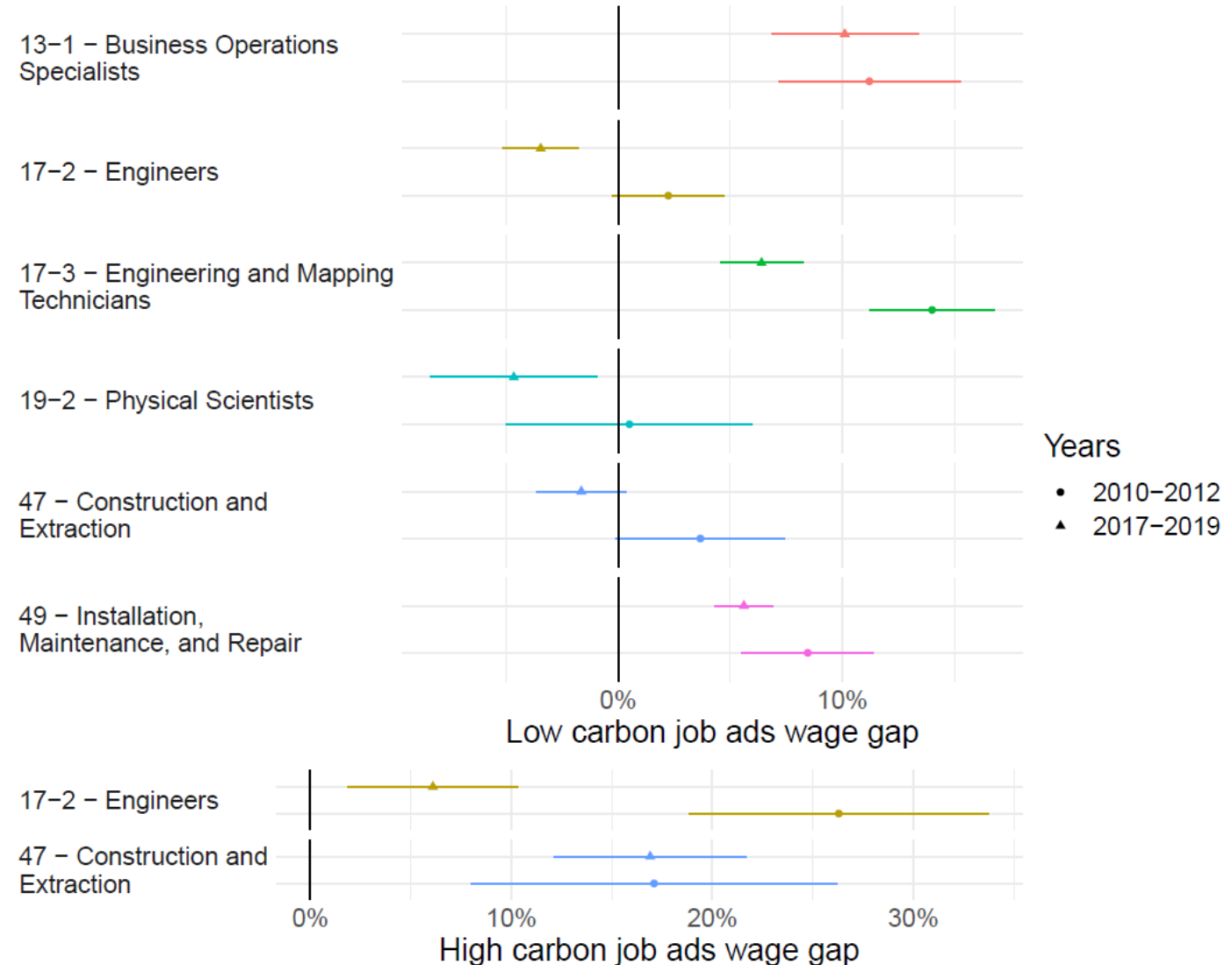
# Spatial distribution of fossil fuel employment and green skill endowment (Popp et al., 2021)

**Green skills** enhance the effectiveness of a **green fiscal push**, but **fossil fuel-intensive regions** not always endowed with such skills



# Wage puzzle also evidence in US job vacancy data (Saussay et al., 2022)

- **Low-carbon jobs** pay a **positive premium**, especially for job with **higher skill complexity**.
- However, the **premium is eroding** (from 5% to 3%) especially for STEM and **lower** than the **high-carbon wage premium**.



# Political economy feedback I:

## *Potential impacts of the green transition on labour markers polarize voting patterns in Europe*

VARIABLES	(1) Green party	(2) Environ	(3) Environ (broad)	(4) Green party	(5) Environ	(6) Environ (broad)
Pred brownness	-0.207*** (0.057)	-1.206*** (0.276)	-0.739** (0.305)			
Pred greenness				0.473*** (0.126)	2.945*** (0.579)	1.725*** (0.624)
Observations	63,496	63,434	63,434	63,496	63,434	63,434
$R^2$	0.088	0.350	0.400	0.088	0.350	0.400
Individual controls	✓	✓	✓	✓	✓	✓
Country x year FE	✓	✓	✓	✓	✓	✓
Region FE	✓	✓	✓	✓	✓	✓
Estimator	OLS	OLS	OLS	OLS	OLS	OLS
Mean	0.0731	3.534	2.324	0.0731	3.534	2.324

Source: Cavallotti et al., 2024. Data: ESS data.

# Political economy feedback II:

*Brown workers with green opportunities in the regions more likely to vote green or green political platforms*

VARIABLES	(1) Green party	(2) Environ	(3) Environ (broad)
Low pred green – high pred brown	-0.020*** (0.004)	-0.129*** (0.026)	-0.170*** (0.025)
High pred green – low pred brown	0.048*** (0.009)	0.079*** (0.025)	0.116*** (0.034)
High pred green – high pred brown	0.045*** (0.009)	0.027 (0.029)	0.156*** (0.038)
Observations	63,496	63,434	63,434
$R^2$	0.089	0.350	0.401
Individual controls	✓	✓	✓
Country x year FE	✓	✓	✓
Region FE	✓	✓	✓
Estimator	OLS	OLS	OLS
Mean	0.0731	3.534	2.324

Source: Cavallotti et al., 2024. Data: ESS data.

# Labour market policies for the green transition

- What we know about **labour market policies** to help **displaced workers**:
  - **Reskilling programs** vs. enhanced **severance payments**:
    - ✓ The **latter more acceptable**, the **former effective** only if targeted (Rodrik and Stantcheva, 2019; Vona, 2023)
    - ✓ **Green jobs** similar to **carbon intensive jobs** in terms of skill requirement (Vona et al., 2018; Saussay et al., 2022)
    - ✓ **Technical/engineering skill biased** and **gender bias** of green jobs: expanding STEM education especially for women
  - **Helping distressed regions** vs. helping **workers** (Bartik, 2019) → the latter more promising also to gain political support
  - Concerns on the **equity** and **acceptability** of **large green deal plans** (Popp et al., 2021; Bergquist et al., 2022) → essential to enhance the progressivity of such plan
  - **Wage losses** for displaced brown workers, mostly associated with rents (Haywood et al., 2023) and weak **wage premia** to **attract talents** into **green jobs** (Popp et al., 2024; Saussay et al., 2022) → specific wage policies required?

# Some (more) general insights

- **Distributive justice:** employment losses but persistent wage rents in carbon intensive jobs (Haywood et al., 2022; Marin and Vona, 2024) → *key barrier to labour reallocation and to create political consensus?*
- **Restorative justice:**
  - Reskilling obviously dominates severance payments in terms of efficiency and long-term equity → **but often not preferred** (Vona, 2019)
  - Targeted place-based policies** such as **small green deal plans** potentially **very effective** (Vona, 2023) and with **high political acceptability** (Cavallotti et al., 2024)
- **Procedural justice:** political acceptability is linked to material interests and potential distributional effects (more than to current ones, Cavallotti et al., 2024)
- **Recognition justice:** it matters as distributional effects compound with existing inequalities that are induced by other structural transformations → financing the green transition by taxing the rich has also high political acceptability (Dechezleprêtre et al., 2022)