**PRE-ANALYSIS PLAN**

**Realigning climate-forcing players?**

**Power Resources Mobilisation pathways in the Just Transition**

Rens Chazottes & Robin Huguenot-Noël (latest draft : 19 Mai 2025)

1. **Introduction: CFA stranding and its political implications**

Climate change and decarbonization imperatives have led governments across the world to adopt policies aimed at reducing the economic value of ‘climate-forcing assets’ (CFA), such as coal mines, fossil fuel-powered and vehicles, and aircraft reliant on traditional jet fuel.

Decarbonisation policies, however, rarely affect climate-forcing asset holders alone (Colgan, Green, and Hale, 2021).

More often than not, CFA ‘stranding’ comes at a cost for the *social fabric* of established communities, starting with the fragmentation of social structures at the local level to the contestation of democratic structures by anti-climate parties, as observed in the US, Argentine, or the Netherlands.

From a political economy perspective, this context raises two major questions:

1. Can asset-stranding policies be designed in a way that enhances (rather than undermines) local community ties?
2. To what extent can political intermediaries (such as trade unions) embedded in CFA structures initiate, cope with, and react to large-scale shifts in relative valuations?
3. **Existing contributions and research gap: The role of just transition policy support** 
   1. **The political backlash of ‘climate-forcing asset holders’**

Climate change and decarbonization policies have an obvious distributive impact. As scholars have shown (Colgan, Green, and Hale, 2021), climate politics across the globe can be essentially portrayed as a struggle between two groups: To the extent that they are negatively impacted by climate change, ‘climate vulnerable asset holders’ (CVA) generally benefit from climate policies. On the other hand, however, a group of 'climate-forcing asset holders’ (CFA) are, on balance, set to be negatively affected by decarbonization policies.

While decarbonization policies may rely on the support of CVAs, recent events suggest that climate change policies won’t be adopted without a certain degree of realignment of CFAs. As studies have shown, voters are highly responsive to price signals from decarbonization policies, as showed in the case of energy prices in the Netherlands (Voeten, 2024) or the ban on polluting cars in Milan (Colontone et al., 2023). Policy resistance and political mobilization by CVAs also translated in anti-climate parties recently winning major national elections (e.g. US election in 2024, Argentine election in 2023, the Netherlands in 2023, etc.).

This context raises the question as to the conditions under which climate forcing asset holders, widely defined as those industries, workers, and citizens, holding climate forcing assets, **may be realigned to consent to climate policies, even when these come at short-term costs for their individual position in climate politics?**

* 1. **Realigning climate forcing players: How policy features affect different motives**

A key finding from the climate policy literature is that the design of climate policy may sway CFAs to vote against their immediate climate interests, in the hope of making other gains. In particular, a rich literature on Just Transition policies has shown that, when climate policies tend to receive stronger support from the fossil fuel communities when these are associated with compensatory programmes. While a rich debate exists on the what ‘Just Transition’ policies actually include, two approaches can essentially be distinguished. These views notably distinguish themselves in their conception of (i) the *micro-drivers of* behavioural change (ii) the *function* played by policy interventions; and (iii) the desirable *features* of social policies associated to climate policies.

* + 1. ***Egotropic motives***

A dominant view in the scholarship focuses on the role of ***egotropic motivations*** in individual realignment. In this perspective, Just Transition interventions are essentially conceived as a barter between theoretically pre-established social groups: Decarbonization policies will create clearly identifiable ‘losers’. In this game-theoretical environment, social policies are viewed as ***compensation tools*** for the economic costs imposed on 'climate-forcing asset holders’.

* + 1. ***Sociotropic motives***

However, emerging research performed on the US context has also shown that individual realignment may also rest on motivations of a more sociotropic nature (Gazmarian, 2024). Decarbonisation may economically affect certain individual and sectors more than others, but its main social risks will reside in the wider social and political implications of CFA stranding. In this view, Just Transition interventions should be perceived as impacting local ecosystems. Social policies, in turn, should be viewed as capacitation tools that should contribute to revitalizing the social capital of most vulnerable places.

* + 1. **Expected contribution**

A first contribution of this project seeks to assess the *relative role* of egotropic vs. sociotropic preferences Just Transition interventions in the European context. Yet, we also know too little today, about the extent to which these motivations may be mobilized by different actors to prompt a re-evaluation of the preferences of CFAs.

In this study, we hypothesise that while the content of just transition policies certainly affect climate policy consent by CFAs, this effect will be mediated by the position expressed by representative bodies holding a sufficient level of credibility in the eyes of these actors.

1. **Realigning CFAs: Power Resources in the Jobs vs. Climate dilemma**

Just Transition policy interventions do not happen in a vacuum. In the process of adoption, political actors can cue the publics through various policy frames with the aim to shape preferences, and mobilise, for example, sociotropic over egotropic inclinations.

Trade unions are a player at the crossroad of the just transition: Unions are often involved in decisions linked to closure, consolidation, or greening of climate forcing firms. Besides, unions often act as locally-embedded, political intermediaries, making them directly exposed to concerns linked to upholding the social capital of places affected by climate change.

Today, the literature is divided on the role of unions in climate change mitigation policies. Unions often fear job losses from pro-climate reforms (additional sources). However, evidence also shows that unions may consent to ambitious climate policies when these are accompanied by strong compensatory mechanisms (Kalt, 2021; Thomas & Doerflinger, 2020).

Of particular interest to this study is the fact that union’s position may also affect the position of CFA regarding the adoption of climate policies. As Bolet et al. (2023) have shown, the role of unions in the negotiation and acceptance of just transition policies was critical in the phasing out of Spain coal mines. In this study, the authors show that in contexts when union density is high, these can effectively shape workers and community preferences towards the acceptance of just transition packages.

As of today, however, the channels through which just transition packages may shape preferences remain largely undefined.

In this study, we posit that unions may dramatically change perception of climate policy interventions, yet that this effect may occur via three different pathways:

1. First, it cannot be excluded that unions act as a *responsive player*, comforting 'climate-forcing asset holders’ in their resistance to decarbonization policies.
2. Alternatively, unions may choose to act as *responsible player*, identifying the (social) conditions under which realignment of CFAs towards climate goals would be considered acceptable. In this case, we expect that these may act either by following either
   1. an ***insider-oriented logic*** (tailoring workers’ support via dedicated policies); or
   2. a ***public-seeking logic*** (targeting the whole local population via community investments).
3. **Empirical Strategy: A survey experiment assessing the ‘trade union effect’ in climate policy realignment of CFA**
   1. **Project focus**

To assess the validity of our claims, we field a survey experiment which would foresee a substantive decarbonization. For that,

Specifically, we envisage the hypothetical case of a major restructuring of national companies that would seek to reduce the company’s carbon footprint in ways that would asymmetrically impact local environments heavily relying on a CFA industry.

* 1. **Population, sampling strategy and case selection**

The role of unions in shaping preferences for just transition policies depends on (a) the *strength* of unions within specific sectors (as measured by the collective bargaining coverage), (b) the extent of their *institutional* embeddedness (that is their influence on policymaking), and (c) the characteristics of the targeted population.

To investigate these dimensions, we accordingly adapt our study population and sectoral focus accordingly. We conduct a comparative study of two countries—France and Germany—where unions play distinct roles in the bargaining process.

For each country, we target a representative sample of the main population of interest that is likely to backlash when decarbonization policies are implemented, namely: workers in CFA industries.

* 1. **Administration of the survey**

The survey will be administered online via the Qualtrics platform and distributed through unions representing workers in the targeted sectors. Where possible, we will also collaborate with the HR departments of major companies to disseminate the survey.

To encourage participation, the survey will include an incentive: respondents will be entered into a lottery to win a €100 voucher.

We aim to recruit a sample of 1,500 workers from industries likely to be impacted by the energy transition.

1. **Hypotheses**

|  |  |  |
| --- | --- | --- |
|  |  | |
|  |  |  |
|  |  |  |
|  |  |  |

* 1. **Expectations** 
     1. **Effect of different policy designs**

The first (baseline) aim of this project is to assess the publics relative preferences on Just Transition interventions appealing either to egotropic vs. sociotropic motivations.

Appeal to each of these cognitive inclinations will be assessed by testing individual preferences on trade-offs typically involved in various attributes conventionally featuring in Just Transition policies.

***RQ 1: Are just transition policy tools contributing to the individual realignment of CFA workers?***

We posit that:

* **H1. Just transition policy tools have an effect on the individual realignment of CFA workers (***H0: Just transition policy tools have no effect on the individual realignment of CFAs)*

We further refine these expectations by considering the effect of different features. Drawing the literature, we expect that

*Job loss compensation*

* H1a. **Just transition policy tools have an effect on the individual realignment of CFA workers**
  + **H1a.** We expect free-retaining program to increase support for the just transition policy.
  + **H1b.** We expect Job-guarantee scheme and retirement programs to lead to higher level of support compared to extended unemployment benefits.
* **H2. Socio-tropic preferences matter for the support of just transition policies.** When just transition policies contain community investment programs, the level of support for such policy increases.
  + 1. **Effect of union support**

The second, critical, aim of this project is to assess the role played by unions in mobilizing the sociotropic vs. egotropic inclinations of their members.

Above, we theorised a number of mechanisms whereby which unions may affect individual inclinations in ways which could contribute to collective realignment towards CMOs (see section 3): When they act as a *responsible player*, we argued, unions can positively change perception of climate policy interventions. In the latter case, responsibility may take the form of an ‘insider-oriented’ or a ‘public-seeking logic’.

As a baseline assumption, we posit that:

* **H3.** When unions support a just transition arrangement, workers of affected industries are more likely to support the policy.

We further specify these expectations with regards to the nature of the union support:

* **H3a.** When unions support a just transition arrangement, workers of affected industries are more likely to support the policy.
* **H3b.** When unions support a just transition arrangement, workers of affected industries are more likely to support the policy.

To be validated, our empirical test should invalidate the rival hypothesis according to which:

* *H0:* When unions support a just transition arrangement, this support has no effect on the support of climate policy workers of affected industries.
  + 1. **~~Heterogenous effect linked to workers’ status~~**

~~The role of the unions in shaping just transition policy preferences may depend on a) the strength of union, b) how unions are institutionally embedded in the negotiation system with the national government and c) the targeted population. We also expect affected workers and non-affected workers in affected communities to respond differently to unions policy position.~~

* **~~H4. Heterogeneous effect~~**
  + **~~H4a.~~** ~~We expect the effect of H1a. And H1b. To be higher among the most vulnerable workers.~~
  + **~~H4b.~~** ~~We expect the effect of H2. To be lower among the most vulnerable workers.~~
  + **~~H4c.~~** ~~We expect the effect of H3 to be higher among workers that are particularly vulnerable to the policy.~~
  + **~~H4d.~~** ~~We expect the effect of unions to be higher in H3 in context where union role is stronger.~~
  + **~~H4e.~~** ~~We expect the effect of unions to be smaller when job-guarantee programs are coupled with community investments programs.~~

1. **Operationalisation**



* 1. **The conjoint experiment**

Broadly speaking our research is concerned with the following question: Under which conditions are workers willing to accept a major personal loss (in the form of current job security) in exchange for a broader collective goal (climate policy)?

In this conjoint experiment, we aim to assess which policy features of a just transition deal would lead workers in carbon-emitting industries to **consent to a climate policy package**, even at the cost of a likely negative impact on their current employment status.

* + 1. **Approach**

Respondents are presented with **pairs of hypothetical policy packages** (conjoint profiles) and asked to evaluate them.

In line with best practices in conjoint experimentation (Druckman & Green, 2021), we collect multiple measures of respondents’ preferences:

1. First, they are asked to choose **which of the two policy profiles they prefer** (forced choice).
2. Second, following Blankenship et al. (2022), we ask **how strongly they prefer one over the other** on a **3-point scale** (weakly, moderately, or strongly).

This dual measurement strategy allows us to assess both **discrete preference *ordering*** and **preference *intensity*** across profiles.

* + 1. **Prompt**

**Prompt**

To address global warming, the government has adopted a five-year plan to reduce emissions in high-polluting sectors by phasing out fossil fuels.

As a result, your company expects to reduce its workforce by 30% over the coming years. To limit the social costs of this transition, the government proposes a compensation and support plan for affected workers.

You will now see two hypothetical transition packages. Each proposal is defined by several features. Please select the one that you would find more acceptable in light of the expected employment impact.

* + 1. **Attributes**
       1. Financial compensation

|  |  |  |
| --- | --- | --- |
| **Levels** | **Label** | **Source / real-world examples** |
| a) No additional compensation | *You receive only standard unemployment benefits.* | **Baseline condition** in many EU settings when no deal is struck  [2021 Sines (Portugal) fired power plant closure](https://www.sciencedirect.com/science/article/pii/S030142152500165X?utm_source=chatgpt.com): In 2021, Portugal closed its last two coal-fired power plants—Sines and Pego—as part of its commitment to climate change mitigation. Many of the workers in Sines primarily relied on standard unemployment benefits, with limited additional compensation or support mechanisms in place. |
| b) Lump sum (mandatory redundancy payment or negotiated severance payment) | You receive a one-time compensation equal to approximately three months of your previous salary. | |  | | --- | |  |   [Poland 2024 closure of coal and lignite-fired power plants and mines](https://balkangreenenergynews.com/polish-coal-industry-workers-to-receive-eur-300-million-amid-closures/?utm_source=chatgpt.com): collective labor agreements ***envisage severance payments***.  [Spain 2018 coal mines closure agreements](https://www.industriall-union.org/spanish-coal-unions-win-landmark-just-transition-deal?utm_source=chatgpt.com): Younger miners will receive a redundancy payment of €10,000, as well as 35 days’ pay for every year of service.  Miners with asbestosis will receive an additional payment of €26,000. (See also: <https://www.industriall-union.org/sites/default/files/uploads/documents/2018/SPAIN/spanish_plan_for_coal_eng_oct_2018.pdf>) |
| c) Monthly income bridge | |  | | --- | |  |   You receive a monthly allowance equal to around half of your previous salary, for up to 12 months. | [Poland 2024 closure of coal and lignite-fired power plants and mines](https://balkangreenenergynews.com/polish-coal-industry-workers-to-receive-eur-300-million-amid-closures/?utm_source=chatgpt.com): Employees are entitled to one-year severance payment, which they can choose instead of the severance payments foreseen in the applicable collective labor agreements. |
| d) Early retirement | If aged 55+, you can retire early with approximately 70% of your full pension until the official retirement age. | **Germany Coal Exit Deal 2020–2038:** Under Germany's coal phase-out plan, workers aged 58 and above are eligible for early retirement schemes, receiving financial compensation for up to five years until they reach the official retirement age. Pension reductions due to early retirement are offset by direct payments to the statutory pension insurance. **Spain 2018 coal mines closure agreements**: The 2018 agreement to close most of Spain's coal mines included early retirement schemes for miners over 48 years old or with 25 years of service, allowing them to retire with approximately 70% of their full pension until reaching the official retirement age. |

* + - 1. Job support

|  |
| --- |
|  |
|  |
|  |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  | | --- | |  | |  |  |  |  |  | | --- | --- | --- | | |  | | --- | |  | |  | | |











|  |
| --- |
|  |
|  |
|  |
|  |

|  |  |  |
| --- | --- | --- |
| |  | | --- | |  | |  | |



|  |  |  |
| --- | --- | --- |
| **Levels** | **Label** | **Source / Real-world examples** |
| a) No additional support | |  | | --- | |  |   *You have access to the standard public employment services available in your country.* | |  | | --- | |  |   **Baseline condition most EU countries** where PES (Public Employment Services) are available to all citizens. |
| b) Job matching assistance | |  | | --- | |  |   *You receive tailored job offers based on your qualifications and previous experience.* | |  | | --- | |  |   France Travail growing practices |
| c) Personalized job support | |  | | --- | |  |   *You receive individualised support from a personal employment advisor or career coach.* | Spain's approach to the coal phase-out involved individualised support for workers as part of the so-called ‘**Just Transition Agreements’** |
| d) Job transition guarantee | *You receive a job guarantee for a limited duration period, either in the public or private sector.* | [Transition companies](https://de.wikipedia.org/wiki/Transfergesellschaft?utm_source=chatgpt.com) in Germany |

* + - 1. (Re-)training support

|  |  |  |
| --- | --- | --- |
| **Levels** | **Label** | **Source / Real-world examples** |
| a) No training offered | You are not offered any (re-)training program as part of the transition. | |  | | --- | |  |   **Baseline condition** |
| b) Basic training (entry-level) | |  | | --- | |  |   You receive short-term training or apprenticeship to help you secure a job in low-skilled services (e.g., logistics, care work). | |  | | --- | |  |   TBD |
| c) Intermediate training | You receive vocational-style upskilling that builds on your existing skills to help you shift to a lower-carbon industrial or technical sector. | TBD |
| d) Advanced qualification | You are provided with funding for long-term education to shift to a skilled profession (e.g., technician, engineer). | TBD |

* + - 1. Location of the new activity

|  |  |  |
| --- | --- | --- |
| **Levels** | **Label** | **Source / Real-world examples** |
| a) Same municipality | |  | | --- | |  |   Your new activity is located at the same place as your previous employment. | |  | | --- | |  |   **Baseline condition** in most countries where relocation is voluntary and unsupported.  Blankenship et al. (2022) |
| b) Neighbouring region | |  | | --- | |  |  |  | | --- | |  |   Your new activity is located in a nearby municipality or within commuting distance. | |  | | --- | |  |   TBD |
| c) Other region | Your new activity requires moving to another region within the same country. | TBD |
| d) Anywhere in the country | |  | | --- | |  |   You must relocate to a distant region for the new activity. | TBD |



* + - 1. Community investment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Levels** | **Label** | **Source / Real-world examples** | | |
| a) No investment | |  | | --- | |  |   No additional government investment is targeting the local community. | |  | | --- | |  |   **Baseline condition for an un-managed transition.** | | |
| b) Green job-creating investment | |  | | --- | |  |  |  | | --- | |  |   The government invests in renewable industries to attract or retrain workers. | |  | | --- | |  |   In [Asturias](https://www.transicionjusta.gob.es/content/dam/itj/files-1/Documents/Noticias/common/220707_Spain_JustTransition.pdf?utm_source=chatgpt.com), in the Suroccidente JTA action area, the Institute has allocated more than 77 million euro to support business projects, municipal infrastructures and three major environmental restoration works for mining operations. In addition to the environmental restoration of degraded areas in Buseiro, Cerredo and Tormaleo, with a total outlay of 82.4 million, 10 projects have been funded for sanitation, water supply and lighting infrastructures, energy efficiency measures in industrial estates and the construction of mini-warehouses to provide facilities for companies on a temporary basis. The installation of a plant for the drying and thermal treatment of wood as a source of renewable heat has also received funding. | | |
| c) Local infrastructure upgrading | The government funds improvements to local infrastructure, such as transport or broadband connectivity. | See e.g., EU Just Transition Fund projects in Poland and Eastern Germany (mobility, digital access). | | |
| d) Welfare services investment | Investment in local schools, hospitals, or childcare to improve public services. | [EU JTF investments in Ireland](Laois,%20Offaly,%20Longford%20and%20the%20Municipal%20Districts%20of%20Ballinasloe%20(Co%20Galway),%20Athy%20and%20Clane-Maynooth,%20(Co%20Kildare).) foresee financial support to “the delivery of education, skills, and training and the associated social care infrastructure, for the purposes of supporting participation in skills training and employment” | | |



* 1. **The vignette experiment**

To test Hypotheses 2 and 3, we implement a vignette experiment. The design follows a factorial structure in which we vary both the policy mix and the stance of the labor union. Each scenario corresponds to an ideal type of union, as outlined in the table below.

Individual realignment causes? Sociotropic / egotropic? Macro-dimensions?

|  |  |  |
| --- | --- | --- |
|  | **D2. Unions’ position** | |
| **D1. Policy mix** | **D2A.** **Against** | **D2B. In favor** |
| **D1A.** Decarbonization + Job guarantee | Vignette 1 | Vignette 2 |
| **D1B.** Decarbonization + job guarantee + Community development | Vignette 3 | Vignette 4 |

**We devise the following scenario.**

To fight global warming, politicians are considering policies to move away from fossil fuels and reducing sectors that have large emissions. Those politicians suggest to adopt a [**D1A.** *Job guarantee scheme for all workers impacted by the policy*, **D1B.** *Job guarantee scheme for all workers impacted by the policy complemented with community development infrastructure: education and health centers*]. [**D2A.** *Labor Unions have expressed their opposition to the policy*, **D2B.** *Labor Unions have expressed their support for the policy*]. How likely or unlikely would you be to support such a policy?

1. **Measurement strategy**

For the vignette experiment, we use the following dependent variables

* **Main outcome -** How much do you support such a policy? 0 = Strongly oppose, 10 = Strongly support
* *(for exploratory mechanisms only)* How likely would you join a union meeting? 0 = Very Unlikely, 10 = Very likely
* *(for exploratory mechanisms only)* How likely would you contact your union representative to express your opinion? 0 = Very Unlikely, 10 = Very likely

For the conjoint experiment we use two main dependent variable as advised by Druckman and Green (2021):

* **Main outcome** – a dummy indicating the preferred policy
* (*secondary outcome for robustness check)* Respondents are asked to determine how strongly they feel about their preference from 1-3 similarly to Blankenship et al. (2022).
  1. **Statistical analysis**

To test Hypothesis 1, we use insights from the conjoint experiment. We estimate the Average Marginal Component Effect (AMCE) by calculating the average effect of an attribute, averaged over the joint distribution of the remaining attributes (Hainmueller, Hopkins, and Yamamoto 2014). We cluster standard errors at the respondent level, since each subject makes multiple comparisons across which residuals are likely to be correlated. We will focus the analysis on the Free Retraining Program and Worker Support attributes.

To test Hypothesis 2, we will use both the vignette and the conjoint experiment. For the vignette, the main estimand is the Average Treatment Effect (ATE) of the Community Investment condition on support for climate policy. We estimate this quantity by (i) calculating the difference in means between the D1b and D1a groups, (ii) employing a bivariate Ordinary Least Squares (OLS) regression, and (iii) employing a multivariate OLS regression that controls for age, sex, race, education, income, and partisan identification, following the approach of Gazmararian (2024). For the conjoint, we will use the same test as in Hypothesis 1, focusing on the Community Investment attribute.

To test Hypothesis 3, we will again use both the vignette and the conjoint experiment. For the vignette, the main estimand is the Average Treatment Effect (ATE) of the Union condition on support for climate policy. We estimate this quantity by (i) calculating the difference in means between the D2b and D2a groups, (ii) employing a bivariate Ordinary Least Squares (OLS) regression, and (iii) employing a multivariate OLS regression that controls for age, sex, race, education, income, and partisan identification, again following Gazmararian (2024). For the conjoint, we will use the same test as in Hypothesis 1, focusing on the Union attribute.

* 1. **Power**

For the conjoint experiment, assuming an effect size of 0.03, 1,500 respondents, four tasks per respondent, and a maximum of three levels per attribute, we expect to achieve 80% power. With a larger effect size of 0.05—commonly used in power analyses on this topic (see Gazmararian 2024)—we reach 80% power with only 500 respondents. Power calculations were conducted using the following tool: <https://mblukac.shinyapps.io/conjoints-power-shiny/>.

For the vignette experiment, we benchmarked values using data from the survey experiment embedded in Gazmararian’s study. Assuming a treatment effect size of 0.1, a standard deviation of 0.5 for the outcome variable, and a power target of 80%, we estimate a required sample size of approximately 1,500 respondents (750 per group). Power calculations were conducted using the EGAP online power calculator: <https://egap.shinyapps.io/power-app/>.

1. **Conclusion / expected contribution**

Overall, the project may help us identify public support for stereotypical Just Transition pathways.

We aim contribute to the literature on climate politics aiming at deepening our understanding of the acceptance of just transition policies. Our study echoes Colgan et al. (2021) proposition that decarbonization success depends on how and when interests mobilize. Unions may take an important role in realigning interests by actively reducing the relative power of climate-forcing assets vis-a-vis climate vulnerable assets which may ultimately participate in a flipping mechanism where individual or communities’ assets shift from being dominated by climate forcing assets to climate neutral, or vulnerable assets. We bring empirical evidence and shade lights to show how unions may enable or hinder such processes.

At this stage, we could – for example, consider whether empirical evidence would support an analytical distinction between:

* **An individual compensation path**
* **A group-securisation path**
* **A collective capacitation path**

Our findings should further help us engage with the rich Just Transition literature on discussions linked to 1) desirable policy mix to facilitate the re-alignment of CFAs; 2) cognitive orientations at play in individual decision-making on Just Transition policies; 3) political drivers of / mechanisms of power resource mobilization in shaping individual realignment.

1. **References**

Birch, Sarah. “Political Polarization and Environmental Attitudes: A Cross-National Analysis.” Environmental Politics 29, no. 4 (June 6, 2020): 697–718. <https://doi.org/10.1080/09644016.2019.1673997>.

Guber, Deborah Lynn. “A Cooling Climate for Change? Party Polarization and the Politics of Global Warming.” American Behavioral Scientist 57, no. 1 (January 1, 2013): 93–115. https://doi.org/10.1177/0002764212463361.

Kono, Daniel Yuichi. “Compensating for the Climate: Unemployment Insurance and Climate Change Votes.” Political Studies 68, no. 1 (February 1, 2020): 167–86. <https://doi.org/10.1177/0032321719836066>.

Maestre-Andrés, Sara, Stefan Drews, and Jeroen van den Bergh. “Perceived Fairness and Public Acceptability of Carbon Pricing: A Review of the Literature.” Climate Policy 19, no. 9 (October 21, 2019): 1186–1204. <https://doi.org/10.1080/14693062.2019.1639490>.

Vona, Francesco. “Job Losses and Political Acceptability of Climate Policies: Why the ‘Job-Killing’ Argument Is so Persistent and How to Overturn It.” Climate Policy 19, no. 4 (April 21, 2019): 524–32. <https://doi.org/10.1080/14693062.2018.1532871>.

**References**

Baute, Sharon. “The Distributive Politics of the Green Transition: A Conjoint Experiment on EU Climate Change Mitigation Policy.” Journal of European Public Policy 0, no. 0 (n.d.): 1–29. <https://doi.org/10.1080/13501763.2024.2304609>.

Beiser-McGrath, Liam F., and Thomas Bernauer. “How Do Pocketbook and Distributional Concerns Affect Citizens’ Preferences for Carbon Taxation?” The Journal of Politics 86, no. 2 (April 2024): 551–64. <https://doi.org/10.1086/727594>.

Bolet, Diane, Fergus Green, and Mikel González-Eguino. ‘How to Get Coal Country to Vote for Climate Policy: The Effect of a “Just Transition Agreement” on Spanish Election Results’. American Political Science Review, 4 December 2023, 1–16. <https://doi.org/10.1017/S0003055423001235>.

Colantone, Italo, Livio Di Lonardo, Yotam Margalit, and Marco Percoco. ‘The Political Consequences of Green Policies: Evidence from Italy’. American Political Science Review 118, no. 1 (February 2024): 108–26. <https://doi.org/10.1017/S0003055423000308>.

Gazmararian, Alexander F. “Fossil Fuel Communities Support Climate Policy Coupled with Just Transition Assistance.” Energy Policy 184 (January 1, 2024): 113880. <https://doi.org/10.1016/j.enpol.2023.113880>.

Henriks, Sofia, Niklas Harring, and Nils Droste. “Voters Do Not Punish Their Government for Climate Policies under Favorable Conditions.” Environmental Politics 0, no. 0 (n.d.): 1–24. <https://doi.org/10.1080/09644016.2024.2373606>.

Schaffer, Lena Maria. “Who’s Afraid of More Ambitious Climate Policy? How Distributional Implications Shape Policy Support and Compensatory Preferences.” Environmental Politics 33, no. 4 (June 6, 2024): 567–90. <https://doi.org/10.1080/09644016.2023.2247818>.

Srivastav, Sugandha, and Ryan Rafaty. “Political Strategies to Overcome Climate Policy Obstructionism.” Perspectives on Politics 21, no. 2 (June 2023): 640–50. <https://doi.org/10.1017/S1537592722002080>.

Voeten, Erik. ‘The Energy Transition and Support for the Radical Right: Evidence from the Netherlands’. Comparative Political Studies, 11 March 2024, 00104140241237468. <https://doi.org/10.1177/00104140241237468>.

Vormedal, Irja, and Jonas Meckling. “How Foes Become Allies: The Shifting Role of Business in Climate Politics.” Policy Sciences 57, no. 1 (March 1, 2024): 101–24. <https://doi.org/10.1007/s11077-023-09517-2>.

**References on unions**

Kalt, T. (2021). Jobs vs. climate justice? Contentious narratives of labor and climate movements in the coal transition in Germany. Environmental Politics, 30(7), 1135-1154.

Thomas, A., & Doerflinger, N. (2020). Trade union strategies on climate change mitigation: Between opposition, hedging and support. European Journal of Industrial Relations, 26(4), 383399.

Thomas, Adrien. “Framing the Just Transition: How International Trade Unions Engage with UN Climate Negotiations.” Global Environmental Change 70 (September 1, 2021): 102347. <https://doi.org/10.1016/j.gloenvcha.2021.102347>.

Stevis, Dimitris, and Romain Felli. “Global Labour Unions and Just Transition to a Green Economy.” International Environmental Agreements: Politics, Law and Economics 15, no. 1 (March 1, 2015): 29–43. <https://doi.org/10.1007/s10784-014-9266-1>.

Jordhus-Lier, David, Judith Marguerite Henriksson, Camilla Houeland, Genver Quirino, and Ingrid Andrea Holland. “Anchoring a Just Transition: The Ambivalent Roles of Norwegian Trade Unions.” Energy Research & Social Science 114 (August 1, 2024): 103619. <https://doi.org/10.1016/j.erss.2024.103619>.

Normann, Håkon E., and Silje M. Tellmann. “Trade Unions’ Interpretation of a Just Transition in a Fossil Fuel Economy.” Environmental Innovation and Societal Transitions 40 (September 1, 2021): 421–34. <https://doi.org/10.1016/j.eist.2021.09.007>.

Meadowcroft, James, and Daniel Rosenbloom. “Governing the Net-Zero Transition: Strategy, Policy, and Politics.” Proceedings of the National Academy of Sciences 120, no. 47 (November 21, 2023): e2207727120. <https://doi.org/10.1073/pnas.2207727120>.