**PRE-ANALYSIS PLAN**

**Realigning climate-forcing players**

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

Rens Chazottes, Robin Huguenot-Noël

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**Introduction**

Concerns are growing about the political backlash surrounding the distributional consequences of climate policies in a context where anti-climate political parties are winning elections (e.g. US election in 2024, Argentine election in 2023, the Netherlands in 2023, etc.).

Voters across the globe can be divided between 'climate-forcing asset holders’ (CFA), that are primarily negatively affected by decarbonization policies and ‘climate vulnerable asset holders’ (CVA) that are mostly negatively impacted by climate change (Colgan, Green, and Hale, 2021). Studies have shown that voters are highly responsive to price signals from decarbonization policies, as seen in examples like the rise in energy prices in the Netherlands (Voeten, 2024) and the ban on polluting cars in Milan (Colontone et al., 2023). These political dynamics may be counterbalanced in favorable economic conditions (Henriks et al., 2024) or when adequate compensation is provided (Bolet et al., 2023).

As a result, there has been increasing attention to public opinion regarding just transition policies. Studies indicate that fossil fuel communities would support climate policies if they were paired with just transition assistance (Gazmarian, 2024). Four key policy dimensions—sectoral scope, social spending, financing, and cross-country distribution—shape public support for these policies (Baute, 2024). Acceptance of redistributive schemes varies across contexts, with U.S. Democrats generally opposing such schemes, while German citizens are more supportive (Beiser-McGrath & Bernauer, 2024). Information interventions about coal's decline have also shifted preferences in favor of supporting the clean energy transition (Gazmarian, 2024). Rather than viewing public opinion as an immutable barrier to climate action, studies show that 66% of fossil fuel community residents would endorse climate policies if accompanied by just transition assistance (Gazmarian, 2024).

Public opinions have been underlined to affect significantly the formulation of public policy by legislators (Burstein, 2003), especially to their core supporters (Barbera et al., 2019). Nevertheless, the channels through which such preferences may shape just transition packages remain unclear. Bolet et al. (2023) suggests that the roles of unions in the negotiation and acceptance of just transition policies was critical in the phasing out of Spain coal mines. They hypothesize that when union density was high, they could effectively shape workers and community preferences by accepting just transition packages.

We aim to assess this claim by determining how and when unions shape workers and communities' preferences towards just transition assistance. Are unions an essential ally in shaping climate forcing asset holders?

To do so, we develop a vignette / conjoint experiment targeting workers of the aeronautic industry and coal mines, affected communities, and a representative sample of the national population of France, Germany, and Poland. We chose such settings because blablabla.

Overall, we 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.

1. **Assessing preferences for the Just Transition: Cognitive orientations as missing link**

The concept of Just Transition has gained traction across climate policy and social policy scholarship. It is widely acknowledged that climate-mitigating policies need to be complemented by social policies. In particular, ‘just transition’ policies are expected to help mitigate the social costs of the transition and pave the way for new, desirable ways of ‘organizing the commons’ in these turbulent times.

However, when looking at the means to achieve this ‘Just Transition’, different, individually-coherent, perspectives concur today. These views notably distinguish themselves in their conception of (i) the individual triggers of change (ii) the role of just transition interventions; and (iii) the what should be the main feature of social policies associated to climate policies.

On the one hand, an ***'egotropic school'*** focuses on the role of egotropic preferences 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’.

On the other hand, a ***‘sociotropic school’*** emphasizes the importance of sociotropic preferences in individual realignment. In this view, Just Transition interventions are perceived as impacting local ecosystems: 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 it creates. In response, social policies are conceived as capacitation tools that should contribute to revitalizing the social capital of most vulnerable places.

Just Transition packages are, by nature, multidimensional. This feature has prompted some scholars to assess individual support for different ‘just transition’ policy packages by means of conjoint experiments involving different climate and social policy attributes. As of today, relative preferences among the publics on these two alternative visions regarding the role of social policy in the climate transition however remain underexplored.

1. **Mobilising inclinations for the Just Transition: Unexplored power resource mobilization pathways**

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. Organised groups play an important part in this process, as they can help widen political mobilization, by widening the scope of envisaged policy options and shape perceived chances of success of reforms – in a positive feedback loop reinforcing the likelihood of individuals supporting collective action (Korpi 1985).

Trade unions are a player at the crossroad of the just transition: They first represent a critical political and economic intermediary in climate-mitigating policies. Unions are often involved in decisions linked to firms’ restructuring pressured by mega-trends (from decarbonization to digitalization) and accordingly play a crucial role in the closure, consolidation, or greening of major CFAs. In this context, unions may decide to use the structural, institutional, and ideational power resources to follow the views and interest of their members. Yet unions are also locally-embedded, political intermediaries’ which make them particularly well placed to contribute to efforts aimed at upholding the social capital of places affected by climate change.

Notwithstanding these factors, limited attention has so far been drawn to the role unions may play in mobilizing either egotropic or sociotropic inclinations of the general population in the transition towards CMOs.

1. **Contributions and Expectations**

The first contribution of this project is to assess the publics preferences on Just Transition interventions appealing either to egotropic vs. sociotropic. 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. Are policies targeting non-egotropic interests also contributing to the individual realignment of CFAs? We hypothesize that:

* **H1. Egotropic preferences matter for the support of just transition policies.**
  + **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.

The second contribution of this project is to assess the role played by unions in mobilizing the sociotropic vs. egotropic inclinations of their members. For this, we theorise a number of mechanisms whereby which unions may affect individual inclinations in ways which could contribute to collective realignment towards CMOs: Unions, we posit, can dramatically change perception of climate policy interventions by predominantly acting either as a (i) responsive player, comforting 'climate-forcing asset holders’ in their resistance to decarbonization policies; or as (ii) responsible player, identifying the (social) conditions under which realignment of CFAs towards climate goals may be considered acceptable.

Unions’ actions as a responsible player may vary in the scope of policy interventions they defend. Specifically, we identify two plausible responsible actions. First, unions may follow an **insider-oriented logic**, seeking to garner support for climate-mitigation policies exclusively among workers by defending those employees most directly affected by the consequences of climate mitigation policies. Policies supported by unions in this perspective may, for instance, take the form of job securisation schemes or other retraining policies. Second, unions may alternatively adopt a **public-seeking logic**, with the aim to garner support for climate-mitigation policies across the general population by supporting wider access by the local population to a range of community services, ranging from better sanitation to public housing, etc.. According to which mechanisms is trade union support for just transition policies most likely to contribute to (non-egotropic?) individual realignment of CFAs? We expect the following:

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

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. **Empirical Strategy** 
   1. **Population / sampling strategy**

The role of unions in shaping preferences for just transition policies may depend on (a) the strength of unions within specific sectors, (b) the extent of their institutional embeddedness, and (c) the characteristics of the targeted population. To investigate these dimensions, we 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. Additionally, we focus on sectors likely to be significantly affected by decarbonization efforts: manufacturing, heavy industry (including chemicals and materials), the automobile sector, and the aviation sector.

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.

This strategy enables us to reach a sample of engaged workers—those most likely to be early movers and potentially among those bearing the greatest costs in resisting decarbonization policies.

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. **The vignette experiment design**

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.

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

**We device 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. **The conjoint experiment**

To further assess the relative importance of egotropic and sociotropic preferences, as well as the role of unions, we include a conjoint experiment in the study design. Respondents are first asked about their opinions on just transition policies, after which they complete the conjoint experiment.

**Prompt**

To address global warming, policymakers are considering strategies to transition away from fossil fuels and reduce emissions from high-polluting sectors. You will be presented with two hypothetical policy proposals, each defined by several attributes. Please select the one that best aligns with your preferences.

|  |  |  |
| --- | --- | --- |
| **Attributes** | **Levels** | **Source** |
| Employment impact | a) 10% job reduction  b) 20% job reduction  c) 30% job reduction | Own |
| Worker Support | a) Extended Unemployment Benefits  b) Job Guarantee: extended unemployment benefits until a job is found  c) Early-retirement program | Inspired by Gazmararian (2024) |
| Free Retraining Program | a) None  b) For green job only | Inspired by Gazmararian (2024) |
| New job location | a) Same department  b) neighborhood department  c) another region | Blankenship et al. (2022) |
| Community Investment | a) Health sector development  b) New schools buildings  c) Public transport infrastructure | Inspired by Gazmararian (2024) |
| Union support | a) A majority of the unions support  b) Some unions support  c) A majority of the unions are against | Own |

* 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/>.

**Conclusion**

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

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