



Navigating the transition: Unraveling the EU's different imaginaries for a just future

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ABSTRACT

The European Union has translated the imperative of Just Transition into a comprehensive mix of instruments. In this way, the EU formulates its future visions of a just and sustainable European society. However, researchers have not yet examined the mix of instruments as an object of “making of futures”. To understand these future visions and the practical implications for the implementation of the instrument mix, our paper draws on the concept of imaginaries. Through a typological content analysis of the instruments, we reveal that the instruments are rooted in two distinct imaginaries. The Impact Mitigation Imaginary conservatively seeks to mitigate the negative impacts of transition on the socio-economic status quo. The Social Justice Imaginary, by contrast, progressively aims for a more equitable society during the transition. Considering also the implementation aspects of the instruments, we show that the instrument mix is inconsistent and only partially credible. We conclude that the implementation of the mix shifts the negotiation between progressive and conservative visions of a just and sustainable future to the national level with its own (power) interests. In this process, several implementation challenges may arise.

1. Introduction

The European Union has included the imperative of a Just Transition¹ (JT) in its European Green Deal (EGD). This aligns with the growing international emphasis on this rather ambiguous concept, which has gained particular prominence since the Paris Climate Agreement (Stavis et al., 2019; Wang & Lo, 2021). The EU's reference to JT goes beyond rhetoric and is not a technocratic by-product of the EGD. Instead, translating the JT imperative into a comprehensive mix of instruments² to “leave no one behind” (Commission, 2019) is a cornerstone of the EGD. It is an inherently political act of “making of futures”. The EU combines the 2050 carbon-neutrality target with visions for future European living. This involves finding ways to balance the benefits and burdens of green technologies, energy production and new economic models. It requires prioritising between environmental, social and economic objectives within the “eco-social-growth trilemma” (Mandelli, 2022b). Most importantly, it implies addressing existing injustices and emerging inequalities based on normative principles of justice. In this endeavour, the EU draws on scientific evidence to understand the impacts of

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¹ Acknowledging the tension between transition and transformation (Hölscher et al., 2018), we use “transition” as it is both the most general term, and the one used by the EU.

² In this paper, we understand instruments broadly as legislative initiatives by which the EU intends to implement the EGD (Sabato & Vanhille, 2024, p. 10), without making a primary distinction between their regulatory, economic, informational or procedural character (Howlett, 2022) and/or the governing resources used (Hood, 1986).

the green transition.

The imperative and specific instruments of JT have received considerable scholarly attention. Nevertheless, scholars have not yet analysed the EU's mix of instruments as an object through which the EU's future visions of a just and sustainable European society are represented and implemented. To address this shortcoming, we draw on the concept of socio-technical imaginaries (STI).³ Sheila Jasanoff (2015a, p. 4) defines STIs "[...] as collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology". The concept of STI offers a promising heuristic for identifying and describing the politically constructed future visions in the JT instrument mix.

The aim of this paper is to unpack the JT imaginary(s) that underlie the mix to understand how the EU envisions a just and sustainable society, and what practical implications this has for the implementation of the instrument mix. The STI concept theoretically points to the likelihood of different imaginaries coexisting (Jasanoff, 2015b; Rudek, 2022). This can also be assumed for the EU's instrument mix, because the discourses on the instruments have been conflictual (Crespy & Munta, 2023; Graziano, 2023; Kyriazi & Miró, 2022) and the content of the instruments are corresponding compromises.

Reconstructing the underlying JT imaginary(s) is important to both the critical-emancipatory and the implementation-focused dimensions of future studies (Ahlqvist & Rhisiart, 2015). In the critical-emancipatory dimension, making JT imaginaries visible "reintroduc[es] the political" (Löfbrand et al., 2015), enabling the critique of future visions and the exposure of associated power interests (Beck et al., 2021).

From an implementation dimension, reconstructing JT imaginaries helps to examine the characteristics and relationships between instruments in the mix to identify implementation challenges. Regardless of whether there is one or different complementary or inconsistent imaginaries, the implementation of JT within the European multi-level system requires coordination efforts. This may create gaps, raise questions about resource efficiency or lead to legitimacy problems.

Building on these two complementary dimensions, we ask the following three research questions: **Do the instruments reflect different underlying imaginaries of a Just Transition? What are the resulting characteristics of the instrument mix? What potential implementation challenges may arise?** To answer these questions, we conducted a typological content analysis of the documents that legally codify the JT instruments.

In the following sections, we set up our analytical framework and methodology (2), analyse the EGD instruments focusing on justice aspects of the green transition (3), and discuss the results (4). Finally, we summarise our findings and draw implications for further research (5).

2. Analytical framework and methodology

2.1. State of the art

When studying JT in the EU, one can identify five research strands. The first strand of research consists of (case) studies focused on a specific JT instrument. Authors addressing the Just Transition Fund (JTF) established in 2021 reflect on the rationale for its creation (Graziano, 2023; Kyriazi & Miró, 2022; Leppänen & Lieferink, 2022), critically discuss its design and financial endowment (Cameron et al., 2020; Moesker & Pesch, 2022; Sarkki et al., 2022) and analyse its implementation (Moodie et al., 2021; Stapper, 2023). Other authors (Schumacher et al., 2022; Strambo et al., 2022; Defard & Thalberg, 2022) analyse the design and financing needs of the Social Climate Fund (SCF) established in 2023.

The second strand of research is more concerned with scenario analysis and forecasting the impacts of the envisaged transition. This includes studies on the distributional effects of carbon pricing under the (extended) EU Emissions Trading System (ETS) and revenue recycling to mitigate social impacts (Feindt et al., 2021; Sommer et al., 2022). Other studies focus on the impacts of the transition on energy poverty (Koukoulakis & Uihlein, 2022) and employment (McDowall et al., 2023).

The third strand of research attempts to measure the progress made by Member States or the EU as a whole on JT. For this purpose, the authors either use self-defined JT objectives and indicators (McCauley et al., 2023) or try to derive quantifiable metrics from the EU's JT instruments (Velten et al., 2024).

The fourth strand analyses several JT instruments and EGD-related strategies, focusing on the comparison of the Just Transition Fund and the Social Climate Fund. The papers aim to determine which instruments address which expected impacts of the green transition (Gancheva et al., 2023), to identify gaps in the instrument mix (Akgüç et al., 2022), or to assess the potential of the instrument mix for achieving social justice within the EU (Crespy & Munta, 2023). Only a few attempt to characterise and describe JT instruments (Petmesidou & Guillén, 2022; Sabato & Mandelli, 2024; Mandelli, 2022a; Sabato & Vanhille, 2024), focusing on eco-social welfare approaches, target groups and temporal aspects. These studies conclude that the mix of instruments is mainly reactive and focused on social investments. However, these characterisations do not reveal desired futures, nor do they reconstruct the inherent values of the instruments or compare all relevant instruments.

In the fifth strand, more closely related to the study of futures, studies reconstruct imaginaries in the realm of JT, also in the context of the European multi-level system. However, the existing literature in this area tends to focus on social movements' visions of a just

³ The concept has been developed in science and technology studies. It has already been effectively applied in various JT-related research fields, including the study of energy transitions (Rabiej-Sienicka et al., 2022; Rudek, 2022), energy justice (Buzogány & Scherhauer, 2022; Krüger, Eichenauer, et al., 2022), transformation to sustainability (Adloff, 2024; Knappe et al., 2019).

energy transition and an environmentally friendly future (Buzogány & Scherhauser, 2022; Veenman et al., 2019), as well as on the conflicts within individual Member States (Krüger, 2022; Rabiej-Sienicka et al., 2022).

Therefore, what is needed is a systematic analysis of all the relevant instruments the EU uses to articulate and realise its visions of a just and sustainable future. This will illuminate the EU's visions of a just future in a more differentiated way and show their practical consequences for implementation of the instrument mix. Moreover, it places the existing case studies of individual instruments and the research on implementation in a larger context. Lastly, this will provide a starting point for research on the (power) interests of institutional, political and civil society actors in relation to the EU's visions of the future. The present study aims to fill this gap by answering the following three questions: Do the instruments reflect different underlying imaginaries of a Just Transition? What are the resulting characteristics of the instrument mix? What potential implementation challenges may arise?

2.2. Imaginaries of a just transition

In this subsection we introduce our typology of JT imaginaries. In general, imaginaries consist of descriptions of desired futures in relation to status quo assessments based on specific values (Jasanoff, 2020; Rudek, 2022). To reconstruct and study them, "the most indispensable method [...] is comparison" (Jasanoff, 2015a, p. 24). We therefore conducted a typological content analysis of the JT instruments following Kuckarts (2018, pp. 143–161). This approach allowed us to combine the advantages of deductive and inductive category and type formation. We started with broad codes from the socio-technical imaginary concept and existing efforts to characterise JT instruments.⁴ Through comparison and contrast, we inductively specified the categories, further subdivided them with semantic expressions, and built the attributes based on our data material. This allowed us to develop a comprehensive typology of JT imaginaries.

Our typology consists of three categories by which JT imaginaries can be distinguished, namely "status quo assessment", "objectives" and "distribution principle". In addition to the three typological categories, we identified for each instrument the "policy area",⁵ the "governance mode",⁶ the "financial resources"⁷; and the "measures".⁸ This allowed us to capture the implementation aspects of the instruments. Below we explain our typological categories and the theoretical considerations behind them:

The category "**status quo assessment**" can either consist of assessing the current socio-economic structure as **just** or **unjust**. This category extends existing JT mapping efforts by drawing on socio-technical imaginaries. With this category we emphasise the need for political actors, in our case the EU represented by its institutions, to assess the present in order to imagine desired futures. The concept of transition, which refers to a move from one state to another (Hölscher et al., 2018), underlines this need. Focusing on JT, this category addresses the socio-economic status quo, which is characterised by inherent inequalities in the distribution of wealth, income and opportunities. Inequalities only become injustices when a political actor recognises them as unjust (Heyen, 2022) and decides to address them in an instrument. If the actor does not foresee any action, the actor implicitly assumes that the status quo is just. Although the binary category attributes are obviously a simplification, it is a useful heuristic for clearly distinguishing and highlighting fundamental political choices regarding the status quo in JT imaginaries. A more nuanced differentiation would obscure these choices. We considered an instrument to assess the status quo as broadly just if it uses the semantic expression of *recognising socio-economic inequalities arising from the transition as its scope* (i.e. the thematic boundaries in which the instrument intervenes). We considered an instrument as evaluating the status quo as unjust if it uses the semantic expression of *recognising pre-existing socio-economic inequalities as its scope*.

The category "**objectives**" has **conservative** and **progressive** objectives as attributes. Existing mapping efforts commonly use this category, but with varying attributes. Cigna et al. (2023) distinguish JT instruments by their focus on the eco-social-growth dilemma. This is a very rough distinction and does not identify nuances. Cahill and Allen (2020) and Morena et al. (2018) propose a continuum (status quo, management reform, structural reform, transformation) to assess the transformative potential of JT objectives. As they are equating transformation with systemic change, their approach is too coarse to analyse differences within the EU's instrument mix. Mandelli (2022b) distinguishes between reactive and preventive JT instruments. This effort focuses on the purpose rather than the specific objectives. Nevertheless, we can build on the emphasis on the temporal and change aspect of objectives in the latter two efforts. Inductively, we have identified a dichotomy in our dataset between objectives that aim to mitigate the effects of transition and objectives that offer a positive vision of the future. To capture this dichotomy, we used the conservative/progressive distinction from

⁴ The literature presents various approaches to mapping JT instruments, each emphasising different categories and attributes (Cahill & Allen, 2020; Chan et al., 2024; Cigna et al., 2023; Heyen, 2022; Krawchenko & Gordon, 2021; Morena et al., 2018). We used the categories found in almost all these efforts. In this subsection, we show how our typology is informed by, relates to, and builds on these efforts.

⁵ Policy area means the thematic area in which Member States have authorised the EU to act, e.g. cohesion, environment, energy policy.

⁶ The category "governance mode" refers to implementation forms in instruments and distinguishes between "hard", "harder soft" and "soft governance". Hard governance instruments are legally binding and enforceable at national level, while soft governance instruments are not voluntary and rely on national commitment. Harder soft governance instruments are soft governance instruments that contain harder elements (Knodt, 2023; Knodt & Schoenefeld, 2020).

⁷ The financial resources category refers to the availability of funds for implementation, distinguishing between instruments with and without own financial commitments.

⁸ The category of measures refers to specific actions foreseen for implementation in the Member States. Including further implementation categories, like "target group", would have added unnecessary complexity. We only included categories that added further analytical value. Sample coding for target groups, for instance, showed little difference between instruments. For an overview of all typological and secondary categories with their semantic expressions see the Codebook (see Table 3 in the Appendix).

political theory. Because it highlights the political character and ideological underpinnings of JT objectives and reflects the opposing visions “of what is good and worth achieving” (Beck et al., 2021, p. 144) in the future. Conservative thought entails a more sceptical view of the future, according to which the main political task is to prevent the deterioration of the established and well-trying order of things. Conservative objectives therefore focus on mitigating the impacts of the green transition and maintaining the status quo. Progressive thought, on the other hand, emphasises the political objectives of achieving more fundamental future improvements (Luhmann, 1997, p. 1077; Oakeshott, 1996). We coded an instrument as having conservative objectives if it predominantly contained one or more of the following semantic expressions: *mitigation of social, economic, environmental, health and depopulation impacts of the green transition*. We coded an instrument as having progressive objectives if it predominantly contained one or more of the following semantic expressions: *reduction of pre-existing poverty, equal opportunities of green transition, equal access to essential services*.

The category “**distribution principle**” refers to the principles that guide distributional decisions and ensure fairness during the transition. We distinguish here between a **principle of difference**, which favours those most negatively affected by the transition, and a **principle of equity**, which organizes distribution to achieve greater overall material justice. This category builds on the conceptual work on imaginaries, taking account of the fact that imaginaries are based on values. It further addresses a weakness in current mapping efforts. Existing efforts to identify values in JT instruments focus on the classic distinctions between the three “tenets” of distributional, procedural and recognitional justice developed in the energy justice literature (McCauley, Heffron, & Jenkins, 2013; Wang & Lo, 2021). They examine which tenet an instrument highlights (Chan et al., 2024). However, the distinction between the three tenets remains unclear, because procedural and recognitional justice include distributional elements. Moreover, these tenets are not actually specific principles of justice (Heyen, 2022). Additionally, the EU only vaguely refers to procedural and recognitional justice without specifying principles. Therefore, we focused on distributional justice and identified distributional principles inductively from the dataset. The naming of these principles has been informed by political theory. We considered an instrument to be based on the principle of difference if it has the semantic expression of *prioritising those most affected by the green transition*. We considered an instrument to apply an equity principle if it has the semantic expressions of *prioritising those most in need regardless of the green transition*.

Based on these categories, our typology distinguishes between two imaginaries of JT: the Impact Mitigation Imaginary (IMI) and the Social Justice Imaginary (SJI) (see Table 1). These are polythetic types (Kuckarts, 2018, pp. 150–152). We constructed them on the data material by grouping the instruments into homogeneous groups in terms of their attributes. We named the resulting types according to their constitutive elements. IMI conservatively seeks to preserve the normative quality of what it considers to be a just status quo during the transition by mitigating the impacts of the transition. It prioritises the most negatively affected in its distribution (difference principle). SJI, in contrast, aims to overcome what it perceives as an unjust status quo and seeks to achieve greater overall material justice through the application of an equity principle. These two imaginaries represent two fundamentally different visions of the future. We will further explain and discuss the relationship between them in Section 4.

2.3. Data collection and time frame

In our analysis of just transition instruments, our data corpus consists of the constitutive documents in which the JT instruments are legally codified. These are regulations, directives, decisions, recommendations and opinions (legal acts according to Art. 288 Treaty on the Functioning of the European Union (TFEU)). They differ in their binding force and adoption procedure according to the competences of the EU in the policy area concerned.⁹

We chose legal acts as our data because the EU creates the instruments through them. They reflect the compromises formulated by the European institutions in legal language, and ideally represent the choices of the European public. Governmental documents and legal texts are, unsurprisingly, among the most popular sources for studying imaginaries (Beck et al., 2021; Rudek, 2022). Of course, these condensed texts do not reveal individual positions and the reasons for the compromises that have been taken. For this, we would have needed transcripts of parliamentary debates or stakeholder position papers on the JT instruments in a more discourse-oriented research setting. Given the lack of research on imaginaries in the EU, this would have been a step too far for our exploratory study. Moreover, we would have received a mixture of dominant and alternative imaginaries from individual institutions, organisations and stakeholders. Determining their degree of collectiveness would have been extremely challenging. Thus, legal texts provide the best basis for exploring the collectively shared JT imaginaries of the EU instrument mix and for answering our research questions.

The variety of legal acts in the data corpus stems from the Just Transition (JT) imperative, which cuts across policy areas. In several areas the EU lacks competence and relies on legal acts with a low binding force. Limiting the data selection to specific legal acts would therefore be an artificial constraint.

Defining JT ourselves based on normative research would have also excluded certain JT instruments due to the concept’s ambiguity (Mandelli, 2022b; McCauley & Heffron, 2018; Wang & Lo, 2021). Several of the studies presented in Section 2.1 have fallen into this trap. Instead, we identify JT instruments as those the EU contextualizes as such. The EU employs the terms “just transition”, “fair transition”, “inclusive transition” and “leaving no one behind” interchangeably for this purpose (Commission, 2019).

We used these four terms as search operators in the EURlex portal. This official EU database updates daily and contains all the legal texts and communications from the EU institutions. It allows targeted keyword searches, filtered by time period and type of legal text.

⁹ Regulations and directives are adopted by the Parliament and the Council under the ordinary legislative procedure or by the Council alone under the special legislative procedure. Regulations are directly applicable in the Member States. Directives must be transposed into national law. They give Member States flexibility in how they achieve the objectives set. Decisions are addressed to specific addressees. Recommendations (by the Commission or the Council) and opinions (by the Commission, the Council or the Parliament) are non-binding.

Table 1
Typology.

	Impact Mitigation Imaginary	Social Justice Imaginary
Status quo assessment	Just	Unjust
Objectives	Conservative	Progressive
Distribution Principle	Difference principle	Equity principle

Conveniently, it enables direct access to the documents.

The selected documents had to contain at least one objective that the EU places in the context of JT and a detailed delineation of how this objective should be achieved. We considered both legally adopted instruments and those in the legislative pipeline.

The timeline of our study starts with the announcement of the EGD in December 2019, marking the beginning of the EU's just transition initiatives, and ends in May 2023, when we completed our data collection. Where a legislative act was pending during data collection but adopted during the writing process of the paper, we replaced it with the adopted version to ensure comprehensiveness.

The initial search using the operators returned 141 hits. After removing all the duplicates, cross-referencing, and scanning against our criteria, our final dataset includes 13 legal acts. Many documents only mentioned the Just Transition Fund or referred to Just Transition in a recital without detailing their own objectives or measures. Our dataset includes four regulations, four directives, one decision, and four recommendations. Only one directive was still in legislative process. Seven acts were adopted under the ordinary legislative procedure, five by the Council and one by the Commission (see also [Table 2](#) in the Appendix for an overview of the data corpus).

2.4. Coding

In this study, we used the qualitative data analysis software MAXQDA developed by Udo Kuckartz, to whose typological content analysis approach we draw in this paper. The software provides a suitable toolkit for conducting transparent, methodologically controlled and intersubjectively comprehensible typology construction ([Kuckartz, 2018, pp. 188-190](#)). In contrast to manual coding, MAXQDA enables systematic data management, an iterative process of code generation, category development and attribute identification. The software supports comparing and contrasting the coded segments through matrix displays. Additionally, it provides various tools for visualising results. Our coding process consisted of five steps.

As explained in section 2.2, we began by coding the data material using deductively derived broad codes, namely “objectives”, “distribution principle” and “implementation”. In the second step, we used these coded segments to adjust the broad codes inductively on the data material. Specifically, we further added “status quo assessment”. We divided implementation into four sub-codes: “policy area”, “governance mode”, “financial resources”, and “measures”. We refined all these codes and sub-codes using semantic expressions derived from the data material. We then re-coded the data according to the finer-grained codebook.

In the third step, we interpreted these preliminary findings. We identified “status quo assessment”, “objectives” and “distribution principle” as typological categories according to our research questions. We grouped the semantic expressions into attributes and re-coded the data accordingly. In the fourth step, we formed two polythetic types, respective two JT imaginaries by clustering the cases into homogeneous groups in terms of their attributes.

In the fifth step, we categorised the acts according to their attributes. Given the simplification inherent in typologies, we encountered a few cases where acts had more than one attribute of a category. In these cases, we manually weighted the attributes. We then categorised the acts according to their predominant attributes. For this purpose, we distinguish between the components of a legal act (i.e. recitals, operative parts and annexes) and draw on an observed trend in the use of recitals in the EU. Legal scholarship shows that recitals, originally intended to provide reasons for the adoption of a legal act and aids to interpretation, have expanded significantly. They nowadays include normative statements, which sometimes differ from the operative part and create challenges for interpretation ([den Heijer et al., 2019](#)). However, according to European case law, recitals cannot directly create rights and obligations. Therefore, where attributes differed between the operative part and the recitals, we relied on the operative part for categorisation. The coded attribute in the annex of the legal act served as confirmation. [Table 3](#) in the Appendix contains the codebook with explanations, number of coded segments and coding examples.

Table 4
Categorization of the Instruments.

Impact Mitigation Imaginary	Social Justice Imaginary
– Just Transition Fund (JTF) – Public Sector Loan Facility – InvestEU Programme – Social Climate Fund (SCF) – Emissions Trading System (ETS)	– Energy Efficiency Directive (EED) – Proposal for Energy Taxation Directive (ETD) – Energy Performance of Buildings Directive (EPBD) – Council Decision on guidelines for employment policies – Council Recommendation on ensuring a fair transition towards climate neutrality – Commission Recommendation on energy poverty – Council Recommendation on learning for the green transition and sustainable development – Council Recommendation on vocational education and training

3. Analysis

Our analysis revealed that of the 13 EU's JT instruments, five instruments are rooted in the Impact Mitigation Imaginary, while eight instruments are rooted in the Social Justice Imaginary (see Table 4). As mentioned in Section 2.4, we have levelled out the grey areas in the dataset by manual weighting. To give an overall impression of the dataset and to visually justify the categorisation, we created a document comparison chart (see Fig. 1 in the Appendix). Each row represents a document, divided into 100 equally sized sections for standardisation. Each colour bar on the row indicates the occurrence of an attribute in a section, with the width representing the number of occurrences in that section. The colour patterns visible for each document provide a clear visual indication of the categorisation of an instrument.

In the following two subsections, we explain this categorisation of the instruments by providing a condensed summary of the instruments and by taking a closer look at the attributes of these instruments. Furthermore, we analyse the links between the instruments categorised to the JT imaginaries and the coded implementation aspects of the instruments. For a more structured analysis, we deal with the instruments in the two sections along their policy areas.

3.1. Instruments rooted in the Impact Mitigation Imaginary

It should be noted at the beginning of the section that of the five instruments rooted in IMI, three fall under the remit of cohesion policy and two under environmental competence. The Just Transition Fund (JTF) (Regulation (EU) 2021/1056 JTF), the Public Sector Loan Facility (Regulation (EU) 2021/1229) and the Just Transition Scheme under the InvestEU Programme (Regulation (EU) 2021/523 InvestEU Programme) are cohesion policy instruments. Together, they provide targeted support to regions significantly affected by the green transition, particularly coal regions, to alleviate the effects of the transition.

Each instrument operates within a clearly defined scope, namely “[...] to provide support to the people, economies and environment of territories which face serious socio-economic challenges deriving from the transition process [...] (Art.1 JTF)”. Beyond these “transition challenges” (Recital 5 Public Sector Loan Facility), the three instruments do not foresee any intervention. In other words, the socio-economic status quo is accepted in the three instruments. It is perceived as worth preserving, and we can therefore say that it is seen as broadly just.

The objectives of the three instruments are correspondingly conservative when considering the requirements of the Territorial Just Transition Plans. In these plans, Member States must outline all objectives and measures under the three instruments. They need to identify the social, demographic, economic, health and environmental impacts of the transition in the regions concerned. On this basis, they must explain how the measures will address these impacts and “alleviat[e] the impact of the transition” (Art.11 (2) (g) JTF).

The most affected territories are at the heart of the considerations for distributing support (Art.11 (1) JTF). The instruments give priority to the “[...] regions that are most affected by the transition given their dependence on fossil fuels, including coal, peat and oil shale or greenhouse gas-intensive industrial processes and that have less capacity to finance the necessary investments” (Recital 29 InvestEU Programme). The three instruments thus apply a difference principle.

As the instruments consider the status quo to be broadly just, pursue conservative objectives and apply a difference principle, we can categorise them as rooted in the Impact Mitigation Imaginary. Regarding implementation, the three instruments are economic hard governance instruments with financial resources based on the EU's cohesion competences (Art. 175 TFEU). The JTF operates under shared management, with the Commission approving programmes and adjusting allocations in the event of underperformance (Art.10 (1), Art.13 JTF). The European Commission directly manages the Public Sector Loan Facility (Art.6 (2) Public Sector Loan Facility). The European Investment Bank (EIB) indirectly manages the InvestEU Programme (Art.6 InvestEU Programme). Together, they aim to mobilize €55 billion in investment from 2021 to 2027. The three instruments focus on employment assistance, skills development, investments in social infrastructure (health and long-term care), renewable energy and energy efficiency and mobility infrastructure for the affected territories. They also finance the regeneration of industrial sites, research and local economic development, including support for SMEs and business start-ups.

Turning to the Social Climate Fund (SCF) (Regulation (EU) 2023/955 SCF) and the Emission Trading System (ETS) (Directive (EU) 2023/959 ETS), both instruments are covered by environmental policy. The ETS¹⁰ generates resources, in particular for the Modernisation Fund and Member States, through the trading of emission allowances. The SCF, also funded by ETS revenues, provides support to groups affected by the extension of the ETS.

Both instruments limit their scope to addressing the direct impacts of carbon pricing. The SCF seeks to address “[...]the social impacts of the emissions trading system for buildings and road transport” (Art.3 (1) SCF). The ETS intends to ensure that effective social compensation balances emissions trading (Recital 84 ETS). Despite recognised inequalities in access to energy and transport, the status quo is not seen as requiring intervention, but as broadly just.

Both instruments are conservative in their objectives. They focus on preventing a worsening of the status quo. The requirements for the national Social Climate Plans illustrate this. Member States must essentially demonstrate how the planned measures will mitigate social and economic impacts of the ETS2 and reduce affectedness to carbon pricing (Art.6; Art.16 (3) (a); Annex V SCF). We also identify this language of mitigation in the ETS (Recital 43, 76, 90 ETS).

The ETS and SCF apply a difference principle by prioritising the most affected groups during the transition to ensure that they

¹⁰ In this paper, we use the term ETS to refer to both ETS 1, which covers emissions from the energy sector, energy-intensive industry, maritime transport and aviation, and the new ETS 2. The latter will cover emissions from the buildings and transport sectors.

benefit directly or indirectly from the foreseen measures in socio-economic terms. The ETS applies this principle by requiring Member States to use the resources generated to prioritise groups affected by price increases and job losses due to the green transition and the ETS (Art. 10 (3); Art. 30d (6) ETS). In the SCF, it is said that the distribution “[...] shall benefit households, micro-enterprises and transport users, which are vulnerable and particularly affected by the inclusion of greenhouse gas emissions from buildings and road transport [...]” (Art. 1 SCF).

As instruments that consider the status quo to be broadly just, pursue conservative objectives and apply a difference principle, the Impact Mitigation Imaginary underlies the ETS and the SCF. Regarding the implementation aspects, the SCF and ETS are economic hard governance instruments with significant financial resources based on the EU’s environmental competence (Art. 192 (1) TFEU). The European Commission directly manages the SCF (Art.12 SCF). Member States manage the Modernisation Fund, but investments require the approval of the EIB and the Investment Committee (Art.10d (5), (6) ETS)). Specific purposes outlined in the Directive guide the use of remaining national ETS allocations (Art. 10 (3); Art. 30d (6) ETS). The SCF has up to €65 billion for 2026 to 2032, while the ETS is expected to generate €57 billion for the Modernisation Fund from 2021 to 2030 (Commission, 2023). Regarding measures, the SCF and the ETS focus on energy efficiency, renewable energy projects, energy counselling and investments in mobility infrastructure and mobility participation. Member States may, but are not obliged to, provide temporary income support to mitigate the impacts of the ETS2 (Art.4 (3) SCF). The ETS contains safeguard clauses to protect affected groups from sharp increases in CO2 prices or excessively high ETS 2 entry prices (Art.29a; Art.30k, Art.30h ETS).

3.2. Instruments rooted in the Social Justice Imaginary

Out of the eight instruments rooted in SJI, three fall under energy policy, one under taxation policy, two under employment policy, and two under education policy.

In the area of energy policy, the Energy Efficiency Directive (Directive 2023/1791 EED) sets an EU-wide target to reduce final energy consumption by 2030 and introduces a common definition of energy poverty (Art.2 (52) EED). It includes a catalogue of proposed measures (Art.24 (3) EED) to “prevent or remedy situations in which particular groups are more affected or more at risk of being affected by energy poverty [...] on the basis of their income, gender, health condition or membership of a minority group, and demographics” (Art.24 (4) (d) EED). The EED thus seeks to address pre-transitional inequality in energy access and improve the perceived unjust status quo by reducing energy poverty (Art.24 (4); Recital 23 EED). This progressive objective shall be achieved through targeted support as “a priority among [...] people affected by energy poverty, vulnerable customers, people in low-income households and, where applicable, people living in social housing” (Art.8 (3) EED). The EED promotes the principle of equity in distribution.

The Energy Performance of Buildings Directive (Directive 2024/1275 EPBD) requires Member States to set renovation paths for residential buildings in their national building renovation plans. The aim is to reduce the average energy performance of the national residential building stock. More importantly in our context, the EPBD addresses the challenge of pre-existing energy poverty and its link to the worst-performing buildings (Recital 63, EPBD). The EPBD progressively aims to improve the perceived unjust status quo by reducing energy poverty and ensuring access to energy-efficient housing for all (Art.3 (2) (b) EPBD). Member States shall (Art. 17 (18) EPBD) prioritise financial incentives and support for households identified as vulnerable, irrespective of the transition (equity principle). Like the EED and EPBD, the Commission Recommendation on Energy Poverty (Commission Recommendation (EU) 2020/1563) identifies an unjust status quo and aims to reduce energy poverty (Recommendation 7, 8 *ibid.*). It proposes a principle of equity for the use of national resources available to Member States. The Commission Recommendation (Recital 2, 3 *ibid.*) specifies that everyone should have access to a minimum level of energy for a decent life, in line with the European Pillar of Social Rights.

As instruments that assess the status quo as unjust, pursue progressive objectives, promote an equity principle, the EED, the EPBD and the Recommendation on Energy Poverty are rooted in the Social Justice Imaginary. Regarding the implementation aspects of the instruments the EED, the EPBD and the Recommendation on Energy Poverty are (harder)¹¹ soft governance instruments within the limited energy competences (Art. 194 TFEU). They allow Member States considerable flexibility in the selection, design and implementation of the proposed but non-binding support measures.

In the area of taxation, the ETD proposal (Commission, 2021), intends to align the taxation of energy products and electricity with the EU’s climate neutrality agenda. Under this proposal Member States may reduce the tax amount or exempt vulnerable households from energy taxes for a maximum of 10 years. The proposal defines vulnerability quantitatively for households below 60 % of the national median equivalised disposable income (Commission, 2021, p. 45). This instrument therefore pursues the progressive objective of improving the perceived unjust situation of vulnerable households and achieving greater material justice through distributional exemption of taxes (equity principle). The proposal of ETD is thus rooted in SJI. In terms of implementation, the ETD proposal is a soft governance instrument within the limited competences of the EU in the field of taxation (Art.113 TFEU). Member States can make use of the exemptions but are not obliged to do so. Moreover, the instrument lacks financial resources to offset the loss of tax revenue.

In the field of employment, the Council Recommendation on ensuring a fair transition towards climate neutrality (2022/C 243/04) proposes packages of measures for Member States to achieve a JT. It identifies existing inequalities, their exacerbation and new challenges posed by the transition as its scope. The transition should progressively improve the perceived unjust status quo, reduce energy, transport poverty and overall poverty. It should also create equal opportunities (Recital 8, 11; Recommendation (7) (b), (d)

¹¹ The EPBD makes reporting and monitoring harder by requiring Member States to justify why they are not addressing the Commission’s recommendations in their national renovation plans (Art.3 (6) EPBD).

ibid.). The distribution of the benefits of the proposed measures should ensure more material justice by providing equal access to basic services (Recital 22; Recommendation (3) (g), *ibid.*). Priority should be given to those most in need because of and irrespective of the transition (Recommendation 4, 6, 7 *ibid.*). Thus, the Council Recommendation proposes a distribution principle of equity. The Council Decision on guidelines for the employment policies of the Member States (2022/2296) intends to coordinate the employment policies of the Member States. It again considers the status quo to be unjust and proposes an equity principle for the distribution of the proposed measures (Guidelines 6, 7, 8 *ibid.*). This Council Decision places even greater emphasis on the progressive objectives of combating social exclusion, promoting upward socio-economic convergence and ensuring equal opportunities (Recital 2, 12; Guideline 5, 8 *ibid.*). According to their attributes, these two instruments are rooted in SJI. In terms of implementation, these are soft governance instruments in the field of employment policy. In this area, the EU has limited competences (Art.149, Art.148 TFEU). The instruments make non-binding proposals of measures, that Member States are “encouraged to consider”, are “invited to”, or “shall take into account”. The two instruments do not have their own financial resources.

In the policy area of education, the Council Recommendations on learning for the green transition and sustainable development (2022/C 243/01) and the Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness, and resilience (2020/C 417/01) define key principles for adapting education to the green transition. They propose lists of education-related measures to the Member States. These measures should help to create just, inclusive and peaceful societies in future (Recommendation 3, Council Recommendation on learning for the green transition). Accordingly, the instruments consider the status quo as unjust. The instruments have the progressive objective of “inclusiveness and equal opportunities and [...] achieving resilience, social fairness and prosperity for all” (Council Recommendation a, Recommendation on vocational education and training). Again, the distribution principle of equity is applied, with the instrument suggesting that vulnerable groups should be prioritised in the proposed measures (Recommendation 17, Council Recommendation on vocational education and training). These SJI-rooted instruments are soft governance instruments, given that the EU only has supporting powers in education policy (Art.165; 166 TFEU). Member States are free to implement the measures proposed in the two recommendations. The instruments themselves do not contain any resources for financing or promoting equal opportunities.

Overall, the SJI-rooted instruments propose a comprehensive set of measures to implement their progressive, status quo improving objectives while applying an equity principle. As with the IMI-rooted instruments, the measures range from employment assistance, skills development, direct income support, energy counselling, support for energy efficiency measures, investment in social and mobility infrastructure, support for mobility participation, to research funding and economic development measures. Beyond that, the SJI-rooted instruments also emphasise social, employment and fiscal policy measures. All of them are entirely at national disposition. These include adapting and enforcing workers’ rights to changing working conditions, strengthening unemployment benefit systems, exempting or reducing energy taxes for vulnerable households, and fundamentally reforming the national tax-benefit system.¹²

4. Discussion

With regard to the first research question, our analysis revealed that the EU’s JT instrument mix is rooted in two different JT imaginaries: The Impact Mitigation Imaginary (just status quo assessment, conservative objectives, difference principle) and the Social Justice Imaginary (unjust status quo assessment, progressive objectives, equity principle). Our analysis also showed that the five instruments rooted in IMI are hard governance instruments in areas where the EU has competences. They come with their own financial resources. In contrast, the instruments rooted in SJI are soft governance instruments. They propose measures to Member States in areas where the EU has at best limited competence. They do not provide financial resources. As an ostensible substitute, the SJI-rooted instruments contain numerous references to the use of Member States’ resources, or the resources provided by the IMI-rooted instruments for implementation.¹³

Given this analysis, how can we characterise the JT instrument mix and answer the second research question? Following the common distinction from instrument design research, the instrument mix can be characterised in terms of its comprehensiveness, consistency and credibility.

At first glance, one might be tempted to argue that the 13 JT instruments in the mix are comprehensive. Certain instruments prevent a deterioration of the status quo, while others complement these instruments and even improve the status quo. However this interpretation is too simplistic. If we take the identified attributes seriously and consider them as normative elements of future visions, the grouped instruments pull in opposite directions. One group of instruments aims to maintain the socio-economic status quo, supposed to be just, with no seen need for future change. While the other seeks to alter exactly this status quo, viewed as being unjust. This “working against each other” does not disappear when we look at the targets of the instruments. Both groups of instruments target households and individuals. In short, the instruments undermine each other. According to Rogge and Reichardt’s (2016, p. 1626) definition, they are thus inconsistent.

If we consider the instrument mix to be inconsistent, what does this imply for its credibility, in particular the credibility of the IMI- and SJI-rooted instruments? Following Rogge & Reichardt (2016, p. 1627), we define credibility as the degree to which the implementation of the imaginary is believable and reliable. This requires us to take into account the implementation aspects of the JT

¹² Meaning shifting taxation away from labour towards climate and environmental objectives, reviewing unemployment schemes and modernising the social protection system.

¹³ For example, the Council Recommendation on ensuring a fair transition towards climate neutrality (Recommendation 10 (b)) refers to the JTF and the ETS. The Directive on Energy Efficiency (Art.24 3 (b) EED) refers to the SCF and the ETS for the financing.

instruments we have analysed. IMI-rooted instruments are credible because the EU, through its competence in the relevant policy areas, can control their implementation in the Member States. The measures correspond to the objectives. Moreover, these instruments have their own financial resources.¹⁴ In contrast, the SJI-rooted instruments lack this credibility as they are soft governance instruments that only propose lists of measures to Member States without financial incentives or funding. These factors raise doubts as to whether Member States will undertake the far-reaching national reforms of social and tax systems and employment policies that the SJI-rooted instruments envisage. Especially when one compares them with the measures of the IMI-instruments that come with funding.

We can interpret this inconsistency of the instrument mix, where only IMI-rooted instruments are credible and SJI-rooted instruments are not, either negatively or positively. In a negative sense, it is a form of hypocrisy. The SJI and its instruments are merely symbolic politics. They may have served the fictitious satisfaction of certain interests in the decision-making process. Or we interpret it in a positive way and see the instruments rooted in SJI as a nucleus that can grow. In this case, we would acknowledge that the Social Justice Imaginary has found its way into the mix of instruments despite opposing power structures (Fratini et al., 2019). This inclusion is significant on its own. In addition, it now theoretically has the potential to grow. In this context, Jasanoff speaks conceptually of an embedding that can be followed by the extension of an imaginary (Jasanoff, 2015b).

To answer the third research question, what implementation challenges may arise from this so characterised JT instrument mix? Whether the SJI is a hypocrisy, or a nucleus will largely depend on its implementation by the Member States. This is where the interest of national actors comes into play.

If they want to develop the nucleus, Member States will definitely have to invest additional national resources. Even if they do not consider the “misuse” of European IMI-rooted resources for SJI purposes as problematic, overstressing the resources of the IMI-based instruments becomes inevitable. A total of €177 billion over a period of about 10 years is not enough to achieve progressive objectives in the EU.

If Member States opt for hypocrisy and make little effort to implement the SJI-rooted instruments, expectations of stakeholders will certainly be disappointed. The very existence of the Social Justice Imaginary may raise expectations among vulnerable individuals, households and groups that the transition will noticeably improve their socio-economic situation. However, these improvements are then unlikely to materialise.

Whatever Member States decide to do, they will need to coordinate at the national level, because the negotiation of imaginaries will move to the Member States. The question is whether this is the best use of administrative resources. Given the many demands for a coherent implementation in the instrument mix, Member States and the Commission run the risk of spending a lot of time coordinating something that cannot be implemented consistently. This is far from effective. Moreover, from the perspective of democratic theory, the negotiation of visions of the future should take place at the political rather than the administrative level.

5. Conclusion

Our aim was to unpack the JT imaginary(s) that underlie the instrument mix to understand how the EU envisions a just and sustainable society, and what practical implications this has for the implementation of the mix. We asked whether the instruments reflect different underlying imaginaries of a Just Transition, what the resulting characteristics of the instrument mix are and what potential implementation challenges may arise.

We have shown that this mix is more than a reactive mix of instruments focused on social investment, as current research suggests. In fact, it is rooted in two different Just Transition Imaginaries. There is a dominant, because credibly underpinned, future vision of “business as usual”, whose notion of justice aims to maintain the socio-economic status quo through distribution. In competition with this is the alternative future vision of progressive change, with a conception of justice that aims to reduce socio-economic inequalities through distribution. These two imaginaries, combined with the implementation aspects of the instruments, result in an inconsistent and only partially credible mix. We can interpret the instruments rooted in the SJI either as hypocrisy or as a nucleus. Depending on how the Member States interpret the SJI in the implementation of the instrument mix, this raises several implementation challenges.

The next step is to examine which (power) interests of institutional actors and stakeholders are linked to which future vision. And how political and civil society actors respond to these visions. The research on the discourses on individual instruments (Crespy & Munta, 2023; Graziano, 2023; Kyriazi & Miró, 2022) can provide initial indications. There is also the question of the extent to which these visions influence the transition pathways (Beck et al., 2021; Rudek, 2022). All this needs to be explored at both European and national levels, on which much depends, as we have shown in the discussion. This will certainly require an adaptation of our typology. But our paper demonstrates the usefulness of applying the concept of socio-technical imaginaries to distinguish different visions within an instrument mix.

Finally, we would like to note that our approach of analysing the instrument mix without addressing the process dimension is certainly a shortcoming, given that the EU has adopted the instruments over four years. This means that we cannot comment on changes in the preferred imaginary over time, but we felt that this simplification was necessary to manage the complexity of an exploratory analysis.

¹⁴ Although some authors criticise the adequacy of these resources (Sabato & Vanhille, 2024).

Appendix

Table 2

Overview of the data corpus

Document name	Abbreviation	Legal Category	Legislator	Date	Length (pages)
Regulation (EU) 2021/1056 of the European Parliament and the Council establishing the Just Transition Fund	JTF	Regulation	EP and Council	24.06.2021	20
Regulation (EU) 2021/1229 of the European Parliament and the Council on the public sector loan facility under the Just Transition Mechanism	Public Sector Loan Facility	Regulation	EP and Council	24.07.2021	19
Regulation (EU) 2021/523 of the European Parliament and the Council establishing the InvestEU Programme and amending Regulation (EU) 2015/1017	InvestEU Programme	Regulation	EP and Council	24.03.2021	60
Regulation (EU) 2023/955 of the European Parliament and the Council establishing a Social Climate Fund and amending Regulation (EU) 2021/1060	SCF	Regulation	EP and Council	10.05.2023	51
Directive (EU) 2023/959 of the European Parliament and the Council amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system	ETS	Directive	EP and Council	10.05.2023	69
Directive of the European Parliament and the Council on energy efficiency and amending Regulation (EU) 2023/955 (recast)	EED	Directive	EP and Council	10.03.2023	111
Proposal for a Council Directive restructuring the Union framework for the taxation of energy products and electricity	ETD	Directive	Council	14.07.2021	63
Directive (EU) 2024/1275 of the European Parliament and of the Council on the energy performance of buildings (recast)	EPBD	Directive	EP and Council	08.05.2024	68
Council Decision (EU) 2022/2296 on guidelines for the employment policies of the Member States	Council Decision on guidelines for employment policies	Decision	Council	21.11.2022	11
Council Recommendation on ensuring a fair transition towards climate neutrality (2022)/C 243/04)	Council Recommendation ensuring a fair transition	Recommendation	Council	16.06.2022	17
Commission Recommendation (EU) 2020/1563 on energy poverty	Commission Recommendation on energy poverty	Recommendation	Commission	14.10.2020	7
Council Recommendation on learning for the green transition and sustainable development (2022)/C 243/01)	Council Recommendation on learning for green transition	Recommendation	Council	16.06.2022	9
Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness, and resilience (2020/C 417/01)	Council Recommendation on vocational education and training	Recommendation	Council	24.11.2020	16

Table 3

Overview of the codebook

Codes Level 1: Categories Level 2: Attributes Level 3: Semantic expressions	Long Version and Explanation	Freq- uency	Coding Examples
1 Status quo assessment (type-building category)			
1.1 just			
1.1.1 trans_inequa	Recognising socio-economic inequalities arising from the transition as its scope	46	"This Regulation establishes the Just Transition Fund (JTF) to provide support to the people, economies and environment of territories which face serious socio-economic challenges deriving from the transition process [...]." (Art.1 JTF)
1.2 unjust			
1.2.1 pre_ex_inequa	Recognising pre-existing socio-economic inequalities as its scope	23	"By creating quality job opportunities for everyone while taking measures to alleviate and prevent energy and transport poverty, the green transition can contribute to raising incomes and reducing inequalities and poverty overall. It can thus help tackle pre-existing socio-economic inequalities

(continued on next page)

Table 3 (continued)

Codes Level 1: Categories Level 2: Attributes Level 3: Semantic expressions	Long Version and Explanation	Freq- uency	Coding Examples
			and social exclusion [...]” (Recital 11, Council Recommendation ensuring a fair transition)
2 Objectives (type-building category)			
2.1 cons	Conservative Objectives		
2.1.1 mit_soc	Mitigation of social impacts of green transition	43	“mitigate the impact of the increase in the cost of fossil fuels” (Recital 17 SCF)
2.1.2 mit_eco	Mitigation of economic impacts of green transition	25	“The general objective of the Facility is to address serious [...] economic [...] challenges deriving from the transition towards the Union’s 2030 climate and energy targets and the objective of climate neutrality in the Union by 2050 at the latest [...] (Art.3 (1) Public Sector Loan Facility)
2.1.3 mit_envi	Mitigation of environmental impacts of green transition	14	“A just transition scheme shall be established horizontally across all policy windows. That scheme shall comprise investments that address [...] environmental challenges deriving from the transition process towards the achievement of the Union’s 2030 climate target and its target of achieving climate neutrality by 2050 [...]” (Art.8 (2) InvestEU Programme)
2.1.4 mit_heal	Mitigation of health impacts of green transition	1	“a description of the expected contribution of the JTF support to addressing the [...] health [...] impacts of the transition to a climate-neutral economy of the Union by 2050” (Art. 11 (2) (d) JTF)
2.1.5 mit_depop	Mitigation of depopulation impacts of green transition	1	“a description of the expected contribution of the JTF support to addressing the [...] demographic [...] impacts of the transition to a climate-neutral economy of the Union by 2050” (Art. 11 (2) (d) JTF)
2.2 prog	Progressive Objectives		
2.2.1 red_pov	Reduction of pre-existing poverty (e.g., energy and transport poverty)	57	“a roadmap with nationally established targets and measurable progress indicators, including the reduction of the number of people affected by energy poverty [...]” (Art.3 (2) (b) EPBD)
2.2.2 equal_opp	Equal opportunities of green transition	24	“Member States should foster equal opportunities for all” (Guideline 6, Decision on guidelines for employment policies)
2.2.3 equal_acc	Equal access to essential services (e.g., energy, transport, water, sanitation, financial services, digital communications)	15	“To ensure access to affordable essential services and housing for people and households [...]” (Recommendation 7, Council Recommendation ensuring a fair transition)
3 Distribution principle (type-building category)			
3.1 diff	Difference Principle		
3.1.1 prio_most_aff	Prioritisation of those most affected by the green transition	56	“Those territories shall be those most negatively affected, based on the economic and social impacts resulting from the transition, in particular with regard to the expected adaptation of workers or job losses in fossil fuel production and use and the transformation needs of the production processes of industrial facilities with the highest greenhouse gas intensity.” (Art. 11 (1) JTF)
3.2 equity	Equity Principle		
3.2.1 prio_vulner	Prioritisation of those most in need regardless of green transition	74	“Financial incentives shall target, as a priority, vulnerable households, people affected by energy poverty and people living in social housing [...]” (Art. 17 (18) EPBD)
4 Implementation (secondary categories)			
4.1 policy area			
4.1.1 cohe	Cohesion Policy (Instrument has its legal basis in Art. 174–178 TFEU)	3	“Having regard to the Treaty on the Functioning of the European Union, and in particular the third paragraph of Article 175” (Citing Clause JTF)
4.1.2 envi	Environmental Policy (Instrument has its legal basis in Art. 191–193 TFEU)	2	“Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof” (Citing clause ETS)

(continued on next page)

Table 3 (continued)

Codes Level 1: Categories Level 2: Attributes Level 3: Semantic expressions	Long Version and Explanation	Freq- uency	Coding Examples
4.1.3 ener	Energy Policy (Instrument has its legal basis in Art. 194 TFEU)	3	"Having regard to the Treaty on the Functioning of the European Union, and in particular Article 194(2) thereof" (Citing clause EPBD)
4.1.4 taxa	Taxation Policy (Instrument has its legal basis in Art. 110–113 TFEU)	1	"Having regard to the Treaty establishing the European Community on the Functioning of the European Union, and in particular Article 113" (Commission, 2021, p.19)
4.1.5 empl	Employment Policy (Instrument has its legal basis in Art. 145–150 TFEU)	2	"Having regard to the Treaty on the Functioning of the European Union, and in particular Article 148(2) thereof" (Citing Clause, Council Decision on guidelines for employment policies)
4.1.6 educ	Education Policy (Instrument has its legal basis in Art. 165–166 TFEU)	2	"Having regard to the Treaty on the Functioning of the European Union, and in particular Articles 166 and 165 thereof" (Citing Clause, Council Recommendation on vocational education and training)
4.2 gov	Governance	36	"The JTF resources shall be programmed for the categories of regions where the territories concerned are located, on the basis of territorial just transition plans established in accordance with Article 11 and approved by the Commission as part of a programme or a programme amendment." (Art.10 (1) JTF)
4.2.1 hard	Hard governance (legally binding and enforceable at national level)		
4.2.2 harder soft	Harder soft governance (soft governance that contain harder elements)		
4.2.3 soft	Soft governance (non-binding, non-enforceable)	31	"In its national building renovation plan, each Member State shall take due account of any recommendations issued by the Commission on the draft national building renovation plan. If the Member State concerned does not address a recommendation or a substantial part thereof, it shall provide reasons to the Commission and shall make those reasons public." (Art.3 (6) EPBD) "HEREBY RECOMMENDS THAT MEMBER STATES, in full respect of the principles of subsidiarity and proportionality, and acknowledging varying degrees of autonomy of education and training institutions, according to national circumstances [...]" (Council Recommendation on vocational education and training)
4.3 EU_resourc	Financial ressources	26	"A maximum amount of EUR 65 000 000 000 for the period from 1 January 2026–31 December 2032 in current prices shall be made available [...] for implementation of the Fund." (Art. 10 (1) SCF)
4.3.1 EU_resourc_Yes	Instrument contains own financial commitments		
4.3.2 EU_resourc_No	Instrument contains no own financial commitments	26	"Supporting the Member States' efforts for the implementation of this Recommendation [...] through funding from the relevant Union funds and programmes (the Next Generation EU (Recovery and Resilience Facility and REACT-EU), European Social Fund+, SURE, European Regional Development Fund, InvestEU, Erasmus+, Horizon Europe, Interreg, Digital Europe, Just Transition Mechanism, the European Agricultural Fund for Rural Development, the Modernisation Fund)." (Recommendation 35, Council Recommendation on vocational education and training)
4.4 meas	Measures	46	"[...] The JTF should also cover the upskilling and reskilling, including training, of the affected workers, irrespective of whether they are still employed or have lost their job due to the transition (Recital 13 JTF)
4.4.1 skills_dev	Skills development (education, vocational training, lifelong learning, up- and reskilling)		
4.4.2 work_rights	Workers' Rights (Regulatory measures to enforce or strengthen workers' rights)	7	"Ensure the effective implementation and enforcement of existing rules on working conditions, in particular concerning occupational health and safety, work organisation and involvement of workers, in order to safeguard fair working conditions and job quality in the transition [...]" (Recommendation 4 (f), Council Recommendation ensuring a fair transition)
4.4.3 empl_ass	Employment assistance (placement services, job subsidies, counselling, job search programs)	20	"job-search assistance to jobseekers" (Art.8 (2) (I) JTF)
4.4.4 unempl_ben	Unemployment benefits	4	"Member States should provide the unemployed with adequate unemployment benefits of reasonable duration, in line with their contributions and national eligibility rules." (Guideline 7, Council Decision on guidelines for employment policies)

(continued on next page)

Table 3 (continued)

Codes Level 1: Categories Level 2: Attributes Level 3: Semantic expressions	Long Version and Explanation	Freq- uency	Coding Examples
4.4.5 direct_inco	Direct income support (unlike unemployment benefits, support is not linked to unemployment status)	15	"The Plan may include national measures providing temporary direct income support to vulnerable households and vulnerable transport users to reduce the impact of the increase in the price of fossil fuels [...]" (Art.4 (3) SCF)
4.4.6 tax_red	Tax reduction and exemption	2	"reductions in the level of taxation, which shall not go below the minima [...], to energy products used as heating fuel and electricity (Commission, 2021, p. 45)
4.4.7 invest_soc_infra	Investment in social infrastructure (health, long-term care, childcare, etc.)	15	"investments in [...] social infrastructure, including care facilities" (Recital 16 Public Sector Loan Facility)
4.4.8 reform_tax_bene	Fundamental reform of the national tax-benefit system	10	"[...] adapt taxation systems in view of the challenges arising from the transition towards climate neutrality, notably by shifting the tax burden away from labour and reducing the tax wedge for low and middle income groups towards other sources contributing to climate and environmental objectives, preventing and mitigating regressive impacts, preserving the progressive character of direct taxation and safeguarding the financing of adequate social protection and investment measures, especially those targeted towards the green transition" (Recommendation 6 (a), Council Recommendation on ensuring a fair transition)
4.4.9 renew_ener	Support for public and private investment in the generation, transport, and storage of affordable clean energy	29	"investments in renewable energy in accordance with Directive (EU) 2018/2001 of the European Parliament and of the Council" (Art.8 (2) (e) JTF)
4.4.10 ener_eff	Support for public and private investment in energy efficiency (e.g., retrofitting of housing stock)	40	"measures intended to improve energy efficiency, district heating systems and insulation, to support efficient and renewable heating and cooling systems, or to support the deep and staged deep renovation of buildings in accordance with Directive 2010/31/EU of the European Parliament and of the Council, starting with the renovation of the worst-performing buildings;" (Art. 10 (3) (h) ETS)
4.4.11 ener_counsel	Energy counselling (information and advice on cost-effective measures and investments and the support available)	13	"Member States should raise awareness among vulnerable households, vulnerable micro-enterprises and vulnerable transport users by providing targeted, accessible and affordable information, education and advice on cost-effective measures and investments, and available support, including through energy audits of buildings, as well as tailored energy consultations or tailored mobility management services." (Recital 22 SCF)
4.4.12 invest_mob_infra	Investments in sustainable mobility infrastructure (public transport, charging stations, cycle paths)	21	"the development of sustainable and safe transport infrastructures and mobility solutions [...]" (Annex 2 (2) Invest EU Programme)
4.4.13 part_mobility	Support for participation in sustainable mobility (e.g. financial support for the purchase of private mobility solutions, or for the use of public transport).	15	"provide access to zero- and low-emission vehicles and bicycles, while maintaining technological neutrality, including financial support or fiscal incentives for their purchase [...]" (Art.8 (f) SCF)
4.4.14 research_fund	Research funding	7	"investments in research and innovation activities, including by universities and public research organisations, and fostering the transfer of advanced technologies;" (Art. 8 (2) (c) JTF)
4.4.15 reg_sites	Regeneration, restoration, and renaturation of former industrial sites	4	"investments in regeneration and decontamination of brownfield sites, land restoration and including, where necessary, green infrastructure and repurposing projects, taking into account the 'polluter pays' principle;" (Art.8 (2) (i) JTF)
4.4.16 loc_eco_dev	Local economic development (support for SMEs, tourism, etc.)	16	"productive investments in SMEs, including microenterprises and start-ups, leading to economic diversification, modernisation and reconversion;" (Art.8 (2) (a) JTF)
4.3.17 safe_clause	Safeguard clause (e.g. Intervention in the pricing of the ETS, postponement of the start of the ETS 2 in the event of excessive prices)	7	"Postponement of emissions trading for buildings, road transport and additional sectors until 2028 in the event of exceptionally high energy prices" (Art.30 (k) ETS)

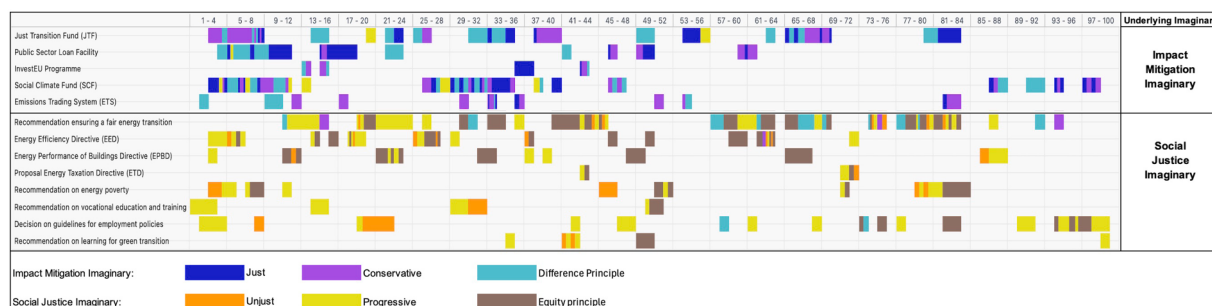


Fig. 1. Document Comparison Chart.

CRedit authorship contribution statement

Michèle Knodt: Conceptualization, Methodology, Supervision, Writing – review & editing. **Veith Selk:** Conceptualization, Methodology, Writing – review & editing. **Niklas Klüh:** Conceptualization, Data curation, Investigation, Methodology, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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