

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Futures

journal homepage: www.elsevier.com/locate/futures

When two movements collide: Learning from labour and environmental struggles for future Just Transitions

Becca Wilgosh^{a,b,c,*}, Alevgul H. Sorman^{c,d,e}, Iñaki Barcena^{a,c}

^a University of the Basque Country (EHU/UPV), Leioa, Spain

^b Concordia University, Montreal, Canada

^c Ekopol Research Group, The Basque Country

^d The Basque Centre for Climate Change (BC3), Leioa, Spain

^e IKERBASQUE, Basque Foundation for Science, Bilbao, Spain

ARTICLE INFO

Keywords:

Just transition
Unions
Labour movement
Environmental justice
Transformation

ABSTRACT

The term ‘Just Transition’ (JT) emerged from the 1970s North American labour movement to become a campaign for a planned energy transition that includes justice and fairness for workers. There is diversity in the JT narratives and ambitions that different actors put forward regarding its aims and strategies. This article critically reviews academic and grey literature on the JT in the Global North and South Africa to examine how labour, advocacy, private sector, and governmental actors frame and formulate the JT, and how narrative patterns across actors can signal transformative justice. Highlighting the JT’s origins, we fill a gap in transition literature by reintroducing the labour perspective into an analysis of affirmative and transformative justice, and propose an original theoretical framework that unites scholarship in environmental and labour studies. JT proposals are examined through an analysis of the actors, approaches, and tensions across five key themes: *depth & urgency*, *scale & scope*, *identity & inclusion*, *material equity*, and *participation & power*. Finally, we synthesise trends in our findings in relation to prominent JT discourses in the literature – Green Growth, Green Keynesianism, Energy Democracy, and Green Revolution – and discuss the transformative potential of JT alliances and coalitions going into the future.

Abbreviations: ACTU, Australian Council of Trade Unions; AOSIS, Alliance of Small Island States; CAN, Climate Action Network; CEE, climate, energy, and environmental; CFMEU, Construction, Forestry, Mining and Energy Union (Australia); CJA, Climate Justice Alliance (USA); CLC, Canadian Labour Congress; COSATU, Congress of South African Trade Unions; CSIS, Center for Strategic and International Studies; EBRD, European Bank for Reconstruction and Development; ETUC, European Trade Union Commission; ETUI, European Trade Union Institute; FotE, Friends of the Earth; IEN, Indigenous Environmental Network (USA); GJI, Green Jobs Initiative; ILO, International Labour Organization; IMF, International Monetary Fund; IPBES, Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services; ITUC, International Trade Union Confederation; JT, Just Transition; JTA, Just Transition Alliance (USA); JTC, Just Transition Centre; JTRC, Just Transition Research Collaborative; LNS, Labor Network for Sustainability (USA); MG, Movement Generation; NDCs, Nationally Determined Contributions; PA, Paris Agreement; PCS, Public and Commercial Services Union (UK); RSF, Robert Schuman Foundation; TCFD, Task Force on Climate-Related Financial Disclosures; TNI, Transnational Institute; TUAC, Trade Union Advisory Committee; TUC, Trade Union Congress (UK); TUCA, Trade Union Confederation of the Americas; TUED, Trade Unions for Energy Democracy; UNEP, United Nations Environment Programme; UNFCCC, United Nations Framework Convention on Climate Change; WHO, World Health Organisation; WWF, World Wildlife Foundation.

* Corresponding author at: Department of Geography, Planning and Environment, Henry F. Hall Building, 1455 De Maisonneuve Blvd. W., Montreal, Quebec, Canada, H3G 1M8.

E-mail addresses: rwilgosh001@ikasle.ehu.eus, wilgosh.b@gmail.com (B. Wilgosh).

<https://doi.org/10.1016/j.futures.2022.102903>

Received 30 June 2021; Received in revised form 22 December 2021; Accepted 5 January 2022

Available online 12 January 2022

0016-3287/© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

“The real choice is not Jobs or the Environment. It is both or neither”

- Brian Kohler (1996)

Communications, Energy and Paperworkers Union of Canada

1. Introduction

Across scientific literature, policy, and advocacy, the Just Transition (JT) is a vehicle for united future visions of economic and climate action. It offers potential resolutions for the so-called ‘environment vs. jobs dilemma’, the conflicting demands of economic production and ecosystem protection. Originating among trade unions (Young, 1998), the JT began as a call to protect workers in polluting industries whose livelihoods were jeopardised by environmental policy. As the concept grows in popularity and is adopted internationally, it acquires multiple meanings to become an umbrella term for climate, energy, and environmental justice (CEE justice, per Heffron & McCauley, 2018), and “leaving no one behind” when pursuing low-carbon transitions (European Commission, 2020b, 2020c; Mascarenhas-Swan, 2017; Smith, 2017). In its most radical iterations, the JT is framed as a fundamental challenge to capitalist growth imperatives (Barry, 2019). As worsening climate disasters and the Covid-19 pandemic layer further crises upon existing inequalities, Kohler’s (1996) call for a vision that addresses labour and environmental struggles remains as relevant as ever.

The trends in framing and elaborating the JT are a central indicator of the concept’s future transformative potential. Among these multiple JT visions, recent policy narratives demonstrate a reductive, depoliticised and ahistorical tendency wherein CEE justice is addressed primarily through sustainable growth and green jobs programs (Iberdrola, n.d.; Prospect, 2020; UNFCCC, 2016). This framing of justice through the lens of employment, and the continued commodification of nature, raises the question of whether such a limited approach is sufficient to protect and include the diverse people affected. The majority of literature on CEE and transition justice either overlooks labour and power relations entirely (Nightingale, 2018; Stirling, 2014b), or lacks nuanced descriptions of union framing (Jenkins et al., 2020). Heffron and McCauley’s (2018) popular critical review categorises academic JT approaches but does not politicise them. Others, like Velicu and Barca (2020), offer a politically robust, historical view of climate justice and systemic subalternisation, but limit their analysis of union approaches to the ILO and ITUC. This article seeks to fill this research gap by refusing to look at CEE justice without nuancing labour; by centring the JT’s labour approaches in our justice analysis while building upon foundational Environmental Justice theory.

Existing multi-scalar and multi-actor JT mapping that informs our research, from The Labor Network for Sustainability and Strategic Practice (LNS, 2016), The Just Transition Research Collaborative (JTRC, 2018:12), and the Just Transition Initiative (JTI, 2020:7-8), relies primarily on expert interviews with academics and activists to uncover and analyse JT understandings, framings, and narratives. These reports reflect on how the JT has both unified and divided environmental and labour movements, and suggest frameworks for examining aspects of distribution, social inclusion, and the scope of reforms. Their accounts flesh out JT visions, as do many labour scholars that delve into variable union approaches to environmentalism (Goods, 2013; Hampton, 2015; Stevis & Felli, 2015; Tomassetti, 2020; Uzzel & Rätzsch, 2013). Heading into the future, a combined understanding of how key bottom-up actors – unions and CEE justice advocates – frame the JT relative to other actors, and their influence over policy, is vital for addressing the political will behind energy transitions, the speed and depth of those transitions and, crucially, their socio-environmental justice outcomes.

To explore the potential trajectory of the JT, we pose the question: how can policy framings of Just Transition and their key proponents, labour and environmental actors, guide the way towards more inclusive and transformative approaches to energy transitions? First, we discuss the historical trajectory of the JT from this dual labour-environment perspective and present our methodology – a critical review of influential academic literature and mainstream public documents from five actors of interest (research, governments, unions, advocacy, and the private sector), to compile, categorise and extrapolate their approaches. Then, we differentiate the JT’s limited (affirmative) and expansive (transformative) characteristics to provide the backbone of our theoretical framework. Our analysis is guided by the concept of ‘transformative justice’, distinguishing approaches that go beyond superficial distribution, participation and recognition to address the structural sources of inequality and oppression. We present a spectrum of political discourses and analyze emerging JT narratives based on the framing of each actor. Next, we examine the results of our review across five themes (*depth & urgency, scale & scope, identity & inclusion, material equity, and participation & power*) through which we highlight key examples of how actors conflict and converge over the various limited and expansive elements of the JT. We conclude by discussing the future implications of these trends, the prevalence of ‘green jobs’ narratives among private and governmental actors, and the push and pull between transformative justice and collective power among labour and environmental groups. While we aim to provide a descriptive analysis of existing JT pathways, focusing on labour and environmental movements, Burke’s article in this issue (Burke, 2022) elaborates post-growth policy visions for broadening JT planning to cover informal and care work.

2. Background & approach

2.1. Historical arc of the JT

The term JT emerged from North American trade union struggles over job safety and community health in the 1970s and ‘80s (Young, 1998).¹ During this period, environmental justice movements contested disproportionate wealth accumulation and unequal benefits of

¹ We begin in the 1970s but acknowledge that organised labour through and beyond unions is a force that has shaped social regulation and the global political economy during several centuries (Silver & Arrighi, 2001).

environmental services, while the burden of pollution and toxic waste dumping fell primarily upon marginalised communities (Bullard, 1990; Dobson, 1998; Martinez-Alier, 2003; Schlosberg, 2007; Walker, 2009). For unions, a long period of decline, from the post-war ‘Golden Age’ of steady growth and job security to price shocks, neoliberal privatisation, and workfarism (Peck & Theodore, 2000), fostered defensiveness around jobs and wages amid widespread losses (Azzellini & Kraft, 2017). The ‘environment vs. jobs’ dilemma describes the perceived conflict of interest between environmentalists, who demanded toxic plant closures, and unions, who protested the disregard for their jobs, prompting fears that environmental policy would leave workers chronically underemployed (Rätzl & Uzzell, 2011).

Tony Mazzocchi, of the Oil, Chemical and Atomic Workers union in the United States, is seen as a central figure who linked workers’ concerns to those of the environmental justice movement (Morena et al., 2020). When the Ciba-Geigy chemical facility in New Jersey was closed in the mid-1980s, Mazzocchi helped negotiate income protection for plant workers, uniting the respective fights for livelihoods and safe communities (Sweeney & Treat, 2018). This inspired the ‘Superfund for Workers’ (Mazzocchi, 1993), an imagined public body that would finance income support, public employment, and education for all displaced workers alongside the existing Superfund for environmental cleanup. Mazzocchi drew parallels to past government initiatives like the 1944 GI Bill supporting ex-soldiers after WWII. Others cite earlier programs in Canada and Europe as JT precursors, like the 1960s Canadian uranium mining dispute (Galgóczi, 2020), and the 1951 European Coal and Steel Community’s *Fund for the training and redeployment of workers* (RSF, 2020). Known for promoting educational programs and budding alliances with environmental groups, including Greenpeace (Eisenberg, 2018; Leopold, 2007), in 1997 Mazzocchi and other labour leaders joined to found the *Just Transition Alliance*, a coalition of “frontline workers”, through associated unions, and “fenceline communities”, through community and environmental groups (JTA, n. d.).

What followed was an intense period of globalisation, automation, and financialisation that exacerbated inequality in the Global North and left unions playing catch up (Azzellini & Kraft, 2017). As the North American JT wave declined in the mid-2000s, large federations – notably the International Trade Union Confederation and Trade Union Advisory Committee (ITUC and TUAC, 2010) – adopted JT as part of a climate change strategy that proactively addressed the impact on workers (Stevis & Felli, 2020; Sweeney & Treat, 2018). Contemporary climate justice movements and research (Bickerstaff et al., 2013) call attention to how frontline communities and lower income groups, particularly in the Global South, suffer the direct consequences of climate change. This struggle advanced the need for a collective response with differentiated responsibilities, and led to systematic, transformative discourses that challenge the paradigm of economic growth. Recently, the emerging domain of Energy Justice (Jenkins, McCauley, Heffron, Stephan, & Rehner, 2016; Sovacool & Dworkin, 2014) has also delineated tools and narratives that seek alternative, more democratic and participatory approaches towards energy systems and decision-making. Although environmental and climate justice movements historically materialised as parallel strands to labour movements and organisations, their shared concern for unequal access and overburden of harms is a common denominator that both struggles aim to organise, resist and reclaim (Sweeney, 2012).

As environmental justice movements evolve and expand into climate and energy (i.e. CEE justice), the Just Transition has concurrently shifted in focus from polluting industries to greenhouse gases and energy mixes, while workers remain a central concern. In 2015, the JT agenda was adopted into the PA preamble (UNFCCC, 2015), and the International Labour Organisation published their “Guidelines for a just transition” (ILO, 2015), two events to be considered monumental successes for the international struggle for worker recognition in climate action (ITUC, 2017).

2.2. Methodology

To assess the evolution of Just Transition narratives among key proponents in the Global North, we conducted a critical review of online publications in English with a strategic geographical scope. We aimed to examine the JT iterations put forward in both academic work and ‘grey literature’, meaning we included all documents identified in our search regardless of commercial publication or peer-review. Therefore, government papers, organisational reports, and strategy or promotional documents published online by a variety of actors were considered and categorized. We only excluded unrelated pages² and articles published by newspapers or other online editorials.

Our search was conducted using Google and Google Scholar. While Google is an unconventional search engine for scholarly research, it was suited to our goal of sampling dominant actor narratives – those likely to be highly ranked and viewed in search results – regardless of publication type. The ability to manipulate Google results based on device location and date via the ‘Range’ function (detailed further below) made it ideal for identifying search-optimised grey literature with a wider temporal and geographic scope. Google Scholar (GS) was selected as a complimentary search engine for its similar ability to follow historical trends and to retrieve highly referenced materials across the web (Zientek, Werner, Campuzano, & Nimon, 2018). In comparison to the ranking and precision of other databases, GS is not an ideal primary search engine for systematic reviews (Gusenbauer & Haddaway, 2019; Halevi, Moed, & Bar-Ilan, 2017). However, there is agreement that GS is “the most comprehensive” database (Gusenbauer, 2019:177; Martín-Martín, Thelwall, Orduna-Malea, & Delgado López-Cózar, 2021:871) due to its size and broad citation retrieval across document types and subject categories (Martín-Martín, Orduna-Malea, Harzing, & Delgado López-Cózar, 2017; Martín-Martín, Orduna-Malea, Thelwall, & Delgado López-Cózar, 2018), particularly in retrieving grey literature (Haddaway, Collins, Coughlin, & Kirk, 2015; Halevi et al., 2017).

² Unrelated documents include those that do not mention sustainable production and/or climate change (e.g. political transitions), those that were inaccessible or generic (e.g. link trees leading to a large number of tagged articles), geographical outliers (we excluded one English article from China), and sources whose author was not identifiable.

For our critical review we determined that capturing variable and influential sources from many actors was desirable and did not demand the precision of a systematic review or meta analysis.

Using the search string “just transition”³ we collected 118 unique documents that were categorised by actor, location, and date (Wilgosh, Sorman, & Barcena, 2021), which are outlined below. An additional 7 highly-cited documents were identified by snowballing, totalling 125 sources. Duplicated results were excluded, as were 53 unrelated pages. Due to the personalisation bias of Google’s search engine, a virtual private network (VPN) was introduced for a more strategic and geographically diverse search.⁴ The VPN allowed us to change the location of the device to four select countries: United Kingdom, Canada, Australia, and South Africa.⁵ These countries were chosen to promote continental variability in the Global North, with the deliberate addition of South Africa due to the country’s key contributions to earlier JT movements and scholarship. We collected the first four pages of non-duplicated, present-day search results in each location, and used Google’s “Range” function from 1990 to 2010 to capture the first four pages of earlier sources in each location.⁶ We also applied the range function to Google Scholar to capture a greater number of references published before the Paris Agreement (1990–2014).

The review advanced in three consecutive steps.⁷ Following initial screening, citations and metadata were recorded (Wilgosh et al., 2021). Then, each documents’ definition of ‘just transition’ was summarised or quoted, noting inter-actor references and observations of their framing and stated strategies. Finally, analytical notes were recorded in reference to our framework and research questions. Based on the reference lists of the literature reviewed, the majority of highly cited documents were returned in the initial search.

The actors identified (see Fig. 1) can be categorised into six groups based on their self-described purpose and/or legal registration, as follows:

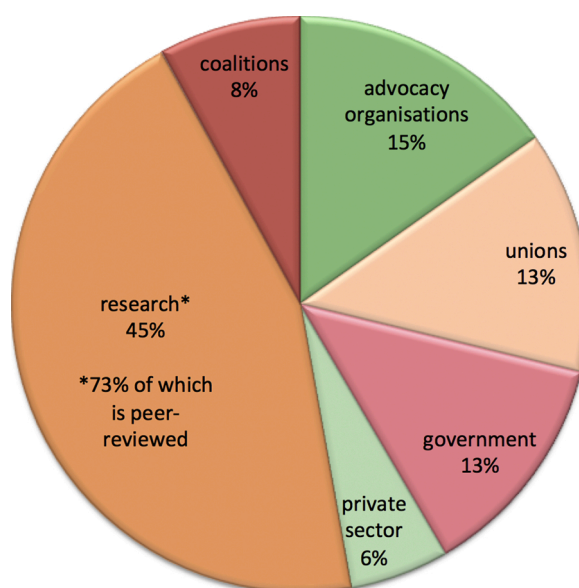


Fig. 1. Reference breakdown by actor.

a *Research* – work published by academic journals, university institutes, think tanks, and consultants. Of the research included in this review, 75% was peer reviewed.

b *Advocacy organisations* – groups of people acting collectively to make political demands through campaigning, raising funds or awareness, distributing information, leading petitions and protests, and engaging in mutual aid or community service. The central focus of the organisations identified was primarily CEE justice and labour issues, but some are dedicated to Indigenous rights, human rights, and social justice more broadly.

³ We opted to search for the phrase “just transition” in order to narrow the subject of study to verbatim uses, while recognising that many related approaches may exist in practice but not in name.

⁴ We took additional precautions to reduce Google’s search engine biases such as clearing cookies and search history, and downloading a new web browser unlinked to any Google account.

⁵ The United States was purposefully excluded as a search location because it was already overrepresented in the data.

⁶ The Range function retrieved mostly duplicated older documents from all locations, so the VPN appears to have had a reduced impact when used on a smaller set of available results.

⁷ While not a Systematic Review, we followed the ROSES protocol (Haddaway, Macura, Whaley, & Pullin, 2017) as guidelines to define the search and exclusion criteria, formulate an assessment framework (limited vs. expansive, outlined in Section 2.1), and record and interpret observations and metadata.

- c *Unions* – formal worker organisations, typically with a membership structure and designated staff, or umbrella associations representing many unions. Our search identified unions from the energy sector, public sector, and engineering and technology sectors. The majority of union actors identified were federations.
- d *Private sector* – companies and multinational corporate networks and initiatives, including non-profits oriented towards the private sector and not engaged primarily in advocacy or service provision, such as development banks/funds.
- e *Government* – governments or governmental bodies at the municipal, territorial, national, or regional level, including high-level multilaterals like the United Nations.
- f *Coalitions* – any collaboration between the above actor groups. We found co-publications between unions and organisations, unions and government, unions and private sector, organisations and research groups, organisations and private sector, and private sector research.

The location data was recorded in non-mutually exclusive categories (country, region, or international) based on the precise scope of each publication (Fig. 2). With the deliberate exception of South Africa, all of the publications reviewed are from Europe, North America, Australia and New Zealand. We also acknowledge the limitation of our language bias. In addition to the geographical scope, our search has returned references in English only.

The range of publication dates was from 1996 to 2021 (Fig. 3), which is logical considering the term was coined in the mid-1990s. We also observe that, allowing for the influence of online-only methods and search engine optimisation, there is a relative increase in JT sources following 2015, coinciding with the JT's appearance in the PA preamble and ILO Guidelines.⁸

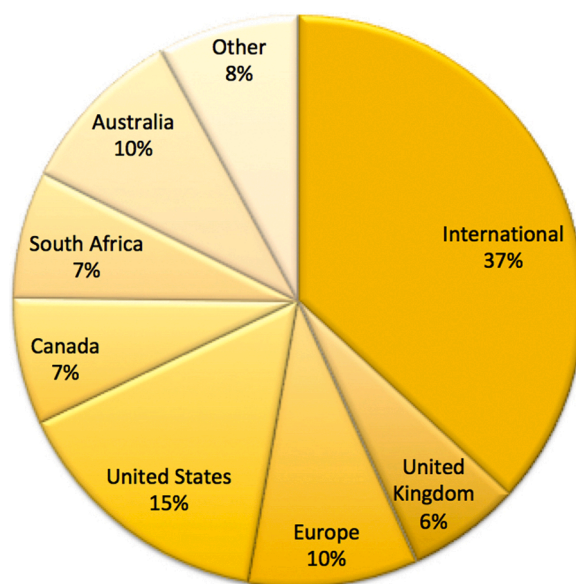


Fig. 2. Reference breakdown by location.

3. Theoretical framework

Among existing academic work on the JT, unions, and CEE justice collected through our review and beyond, we find insights on how to characterise and critique the various JT definitions. In this section we outline limited and expansive JT approaches and situate them in relation to broader theorised discourses that encapsulate political approaches to energy transition and transformation.

3.1. Limited vs. expansive justice characteristics

As the Just Transition concept has grown in popularity, its proliferation among a wider variety of actors has resulted in a plurality of meaning, leaving the definition broad and open to interpretation (Healy & Barry, 2017; Morena, Krause, & Stevis, 2020; Snell, 2018; Stevis & Felli, 2015; Uzzel & R athzel, 2013).

JT scholars use varied terminology to describe a similar dual phenomenon: the emergence of a limited approach, which follows the status quo of market-based solutions and employment patterns, and an expansive approach, which aims to be more inclusive and

⁸ We confirmed this observation and the corresponding accuracy of our dataset distribution using Google's Ngram function to chart mentions of "just transition" across publications over time.

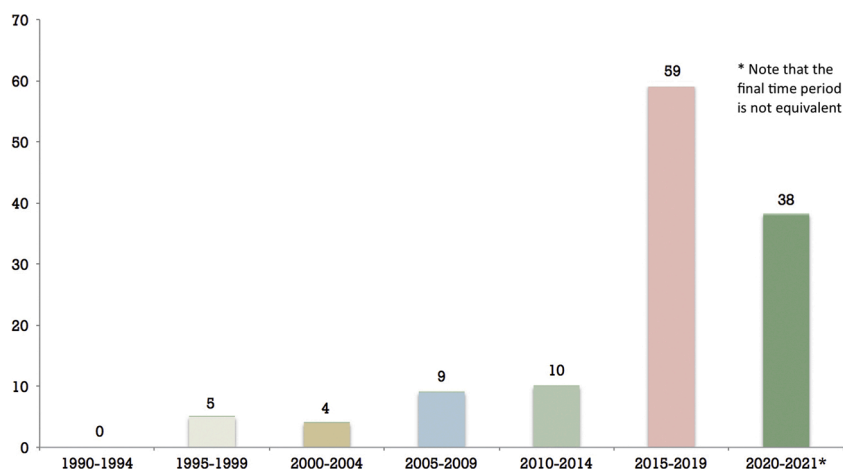


Fig. 3. Reference breakdown by date of publication.

structurally transformative (Harrhill & Douglas, 2019; Healy & Barry, 2017; Rosemberg, 2010). Similarly, we find the distinction between ‘transition’ and ‘transformation’ in energy transition literature. Stirling (2014a) defines transition as a closed process managed by institutional elites, those designed at the national level to the exclusion of the local, and transformation, which incorporates marginalised visions both localised and bottom-up (Jasanoff & Kim, 2015). Further, Fraser’s (1995) prominent theory in CEE justice distinguishes between ‘affirmative’ remedies to injustice that address distributional issues, like jobs and resources, and ‘transformative’ remedies that seek to restructure the whole system that causes injustices.

Adopting Fraser’s justice theory, Stevis and Felli (2015) note how affirmative approaches, those that seek justice within the boundaries of the status quo (see also Evans & Phelan, 2016; Goods, 2013), align with so-called Business Unionism, wherein unions leave political structures unchallenged and cooperate in economic growth to secure benefits for their members (Cock, 2018; Moody, 1997). Alternatively, transformative approaches align with Social Unionism, in which unions recognise that workers’ rights are affected by the conditions of society as a whole, and thus confront broader issues that undermine social justice (Waterman, 1993). Kenfack (2019) also applies Fraser’s theory to distinguish affirmative political realists from transformative system-changers in the Portuguese One Million Climate Jobs Campaign.

To structure our analysis we offer five themes across which limited and expansive JT elements can be categorised for the purpose of analysis. Their core attributes are illustrated in Table 1. These themes draw upon the popular Environmental Justice Framework (Fraser, 1995, 1999; Schlosberg, 2001, 2007) and its constructive criticisms. Distribution, representation, and procedural justice inform *material equity*, *participation*, and *inclusivity & identity* respectively. Others have raised the need to integrate notions of time and space (Heffron & McCauley, 2018) and a critical theory of power (Svarstad & Benjaminsen, 2020) for a more globally inclusive analysis, sensitive to the urgency of climate action, and that accounts for the accumulation of resources and power among elites.

These key distinctions guide how we unpack actor JT narratives in the literature in the following sections of our analysis: the extent to which JT visions propose to achieve urgent and actionable transformations to tackle the deepening climate crises; how to assess the efficacy of JT scale and scope in practice; the consideration of marginalised identities, North-South relations, and history of inequality; inclusion or representation of marginalised groups’ needs and demands; and how collective and collaborative strategies offer powerful alternatives to the status quo and expand justice considerations. We revisit these concepts in Section 4 during our analysis of empirical findings.

3.2. Spectrum of just transition discourses

Within the theoretical framework and literature, detailed visions of the JT’s decarbonisation pathways (depth, urgency and scale) and the ‘who and how’ of inclusivity (scope, equity, identity, and participation) are interconnected and co-influential. While Section 3.1 and Table 1 outline important axes of discussion in JT literature, in Section 3.2 and Fig. 4 we draw upon the work of labour scholars who theorise how the environment-labour nexus forms part of broader political economic discourses that lay the ideological boundaries for how wealth and power is organised and distributed. Death (2014:6) names “four discourses of the green economy” whose patterns are reinforced by the observations of others (Goods, 2013; Hampton, 2015; Rätzel & Uzzell, 2011; Stevis & Felli, 2015; Tomassetti, 2020). Building on this work, we highlight five key Just Transition discourses:

- 1 *Reactionary Discourses* respond to economic and social threats as they arise. These are cautious attempts to protect the status quo while problem-solving towards climate resilience, which Death (2014) calls Green Resilience. For workers, this involves passive approaches that prioritise job protection over environmental or climate action (Goods, 2013), and centres neoliberal values of individualism, competition, and free market solutions (Hampton, 2015). There is no deliberate mechanism for inclusivity or proactive decarbonisation, so this discourse precludes the possibility of a JT that is anything but rhetorical.

Table 1
Limited vs. Expansive Approaches to JT.

Limited (Affirmative) Approaches	Expansive (Transformative) Approaches
Depth & Urgency	
<ul style="list-style-type: none"> • Transition as an automatic process driven by opportunities for economic growth and innovation, led by capital interests responding to market incentives (Adkin, 2017). • Diversification, net zero, and low-carbon energy mixes that expand fossil fuels and delay post-carbon futures (Cha, 2020; Sweeney & Treat, 2018). 	<ul style="list-style-type: none"> • Immediate structural changes to the global energy system as a sustainability and justice imperative (Healy & Barry, 2017). • “Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet” (UNFCCC, 2015).
Scale & Scope	
<ul style="list-style-type: none"> • Worker-Focused (Sweeney & Treat, 2018). • Exclusive, reinforces colonial relationships within and between societies through expansionism, extractivism, dispossession (Pulido & De Lara, 2018). • Anthropocentric. An extractive economy that commodifies nature (Movement Generation, 2016b; IPBES, 2017). 	<ul style="list-style-type: none"> • ‘Societal shift’ (Sweeney & Treat, 2018). • Globally decolonial and anti-racist, without “nation-bound definitions of peoplehood and nature” (Pulido & De Lara, 2018). • Intrinsic relational values of nature. A living, regenerative economy (Movement Generation, 2016b; IPBES, 2017).
Identity & Inclusivity	
<ul style="list-style-type: none"> • One-size-fits-all scientific and technical change, linear development (Jasanoff, 2018). • Defensive of privileges, unionisation and employment patterns (Cock, 2018). • Business Unionism (Stavis & Felli, 2015), just transitions for unionised workers. 	<ul style="list-style-type: none"> • Gives voice to historically marginalised peoples. Locally and culturally specific. (Jasanoff, 2018). • Unites fragmented social identities experiencing exclusion uniquely in solidarity (Moody, 1997). • Social Unionism (Stavis & Felli, 2015), community alliances (Snell & Fairbrother, 2010).
Material Equity	
<ul style="list-style-type: none"> • Compensation for losses and injustices, a license to operate unjustly (Velicu & Barca, 2020). • “The justice of markets”: competition to influence distribution of private property (Gough, 2010: 130) • Distribution of benefits via employment, the creation of decent work, green jobs (ILO, 2015). 	<ul style="list-style-type: none"> • Challenges social relations that produce and maintain inequalities (Velicu & Barca, 2020). • Production and distribution based on relations of respect, solidarity and cooperation (Gough, 2010). • Energy and wealth owned and controlled by decentralised democratic communities (Adkin, 2017).
Participation & Power	
<ul style="list-style-type: none"> • Consultation without co-creation or equal partnership in decision making (Galende-Sánchez & Sorman, 2021). • Symbolic, top-down (Turnhout et al., 2020). • Union negotiation and social dialogue limited to institutionalised channels, to the exclusion of other working people (Sweeney & Treat, 2018). 	<ul style="list-style-type: none"> • Democratic system restructuring and collective ownership of the commons (Kishimoto et al., 2020). • International and bottom-up solidarity and labour-environment-community alliances for broad representation and collective “social power” (Sweeney & Treat, 2018).

- 2 *Green Growth and Green Jobs Discourses* promote ecological modernisation (Hampton, 2015) with employment and environmental reform through market incentives. Change sought in this discourse is minimalist and reformist (Goods, 2013), leaving underlying power relations and productive structures fully intact. Technological advancement frames the low-carbon transition as a profitable, win-win opportunity (Death, 2014). Market-led change is indirect or voluntary in nature as opposed to being compelled by binding regulation, to avoid hindering economic growth and job creation. However, governments may guide markets towards more sustainable and inclusive outcomes, and provide basic services like health and education (Räthzel & Uzzell, 2011). Stakeholder consultation may inform job quality, quantity, and diversity for the promotion of fair employment, yet remains a top-down, informative practice. Jobs are the primary mechanism for inclusivity and support is employment-dependent through schemes like temporary income replacement, compensation, retraining, relocation, and reskilling. This discourse pertains to Business Unions that accept climate action provided that benefits like income security and workplace health and safety are won simultaneously (Moody, 1997; Stavis & Felli, 2015).
- 3 *Green Keynesian Discourses* centre sustainable development managed through a system of government intervention, regulation, and social guarantees. Death (2014) describes the realignment of development patterns with ‘sustainability’ through targeted stimulus, strategic taxation, public sector employment, and a strong welfare system. Ideologically aligned with liberal welfare states, this discourse emphasises representative democracy and affords a greater political role for workers and citizens (Fraser, 1995). It includes more participatory and inclusive methods like social dialogue and tripartite negotiation to promote equitable distribution. Räthzel and Uzzell describe a ‘mutual interests’ union discourse that includes “workers’ immediate interests [...] to resolve the contradiction between jobs and environment by entering into a horizontal dialogue” (2011:1221), and Stavis and Felli say these “shared solutions” (2015:36) result from compromises between trade unionists and international institutions, accommodating structural and institutional reform.

- 4 *Public Ownership and Energy Democracy Discourses* feature collective ownership and control of energy systems for rapid and deep decarbonisation, balancing the interests of entire populations through direct participation (Burke & Stephens, 2017). As opposed to social dialogue, collective union-community “Social Power” (Sweeney & Treat, 2018:3) influences decision-making and seeks to remove the energy grid from market forces. Energy Democracy is potentially transformative across multiple aspects: it changes energy from a commodity to a communal right, shifts power from representative institutions to citizens themselves, and situates related employment creation fully within the public domain. While Energy Democracy discourses are broad and inclusive, implementation (thus far) tends to be limited in scale and scope, like municipalisation in dense urban hubs. Scaling up or expanding forms of localised control to deepen and accelerate decarbonisation on a global scale is a mounting challenge requiring immense political and logistical organisation.
- 5 *Green Revolution Discourses* call for the complete restructuring of political and social relations to break away from growth imperatives and the systematic exploitation of nature and historically marginalised groups (Death, 2014:6). Green Revolution rejects contemporary capitalist production and aims to reconceptualise or decommodify the human-nature relationship (Goods, 2013). Common among Eco-Socialist⁹ and Radical Ecology visions, the aim of reconfiguring class relations through sweeping, large-scale changes in ownership and production (Hampton, 2015) addresses political economic processes that create and reproduce inequality and injustice. Clearly transformative by definition, such alternative visions are defined by their positionality as ‘beyond’ or ‘outside’ the existing system or structure, and thus refer to a broad range of possibilities that can be ambiguous or immaterial, and do not always account for every aspect of inclusivity. While still quite a utopian discourse, experimental implementations exist, such as Transition Towns and localised currencies (Newell & Mulvaney, 2013), yet suggest similar limitations in scale for project-based alternatives. Rätzl and Uzzell (2011) find that although Social Movement Unionism unites identities beyond ‘workers’ to propose alternative forms of production and distribution, the innate value of nature rarely enters union discourses – a finding we share – thus limiting slightly the *Social Power* approach.

Transformative justice requires not just deep restructuring or universal inclusivity alone, but rather the combination that grants all people, representing diverse socio-economic positions, the power to influence future alternative energy systems. Fig. 4 depicts how each discourse addresses inclusivity and the approximate potential for deep and rapid decarbonisation and restructuring.

In Fig. 4, some discourses overlap. For instance, Green Growth may share features of market fundamentalism with Reactionary approaches or tend further toward Green Keynesianism through the use of market incentives like subsidies and taxes. Similarly, while Energy Democracy is an alternative against privatisation and market-determined distribution, it remains compatible with ‘green jobs’ in the public sector and may ultimately share Keynesian visions of managed, sustainable growth. While transformative justice is desirable, we do not imply that Green Revolution Discourses are necessarily better situated to mobilise transformative change. Like Velicu and Barca (2020), we consider ‘shared solutions’ limited for their reproduction of the wage relation, i.e. the need to expand work and thus economic growth and exploitation, yet they pose a comparably inclusive alternative to hegemonic Reactionary Discourses that frame jobs and ecological health as incompatible (Evans & Phelan, 2016).

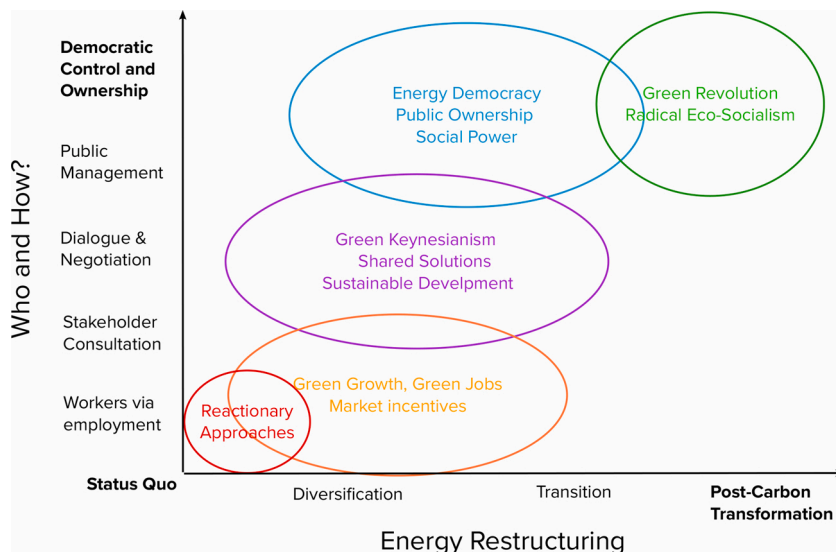


Fig. 4. Discourses of the Just Transition.

⁹ However, not all Eco-Socialist visions seek to restructure capitalist social relations and reject commodification, but rather seek more equitable redistribution and direct democratic participation, and thus may be better compared to Green Keynesianism or Energy Democracy (Löwy, 2005).

4. Discussion of empirical findings

We present the findings of our review across five themes, as outlined in Section 3.1, followed by a discussion of actor positions within the prominent JT discourses from Section 3.2, and the interplay between key actors' future visions.

4.1. Key themes of JTs

4.1.1. Depth & urgency

Decarbonisation pathways are subject to tension between short-term, achievable, stepwise policies and the long-term need to arrive at a zero-carbon future on a habitable planet. Private sector and governments tend to focus on initial steps with low-carbon or net-zero aims, while those advocacy groups and unions with the most radical zero-carbon views may struggle to formulate actionable plans.

Despite the boom of interest in the JT following its first appearance PA preamble, the non-binding nature of the agreement allows for ambiguity regarding the timeline of the transition and how to put it into practice. While the PA places an emphasis on urgency (see Table 1), it calls for "a just transition of the workforce [...] in accordance with nationally defined development priorities" (UNFCCC, 2015). The recent NDC Synthesis Report (UNFCCC, 2021) shows that current national climate ambition is far from complying with PA goals despite strengthening commitments. Accordingly, key governmental examples in our review demonstrate gradual JT plans with limited first steps and narrow longer-term solutions. Canada's Energy Resource Council claims that the continued production of 'cleaner' oil and gas will usher in new infrastructure projects, create jobs and growth, and "help garner public support in Canada, renewing the reputation of Canadian oil and gas abroad" (Task Force, 2018:29). In Europe, despite plans to eliminate coal by 2030, "11 out of 18 EU coal-countries do not have a Paris-compatible plan to phase out coal" (Gündüzyeli & Moore, 2020:1). With some exceptions, like the members of the Climate Vulnerable Forum and AOSIS who see JT as a fundamental human right due to their uninhabitable territories and sinking islands (Hirsch, Matthess, & Fünfgelt, 2017), states' voluntary approaches are far from sufficient.

Among the private sector and multilateral organisations, the 'diversification' of the energy mix is a very prevalent JT narrative. Diversification – the expansion into renewable energy and/or switch to 'cleaner' fossil fuels or 'transition fuels' – is typically framed as driven by market incentives and self-interest, consistent with the idea of transition as a voluntary economic opportunity (EBRD, 2020; European Commission, 2020b, 2020c; GJI, 2008; UNFCCC, 2016). Italian energy giant, Eni's JT plan focuses on transitory fuels "with an increase in gas and biofuel share, as well as the production and marketing of biomethane" (2019:10). Likewise, Italy's coal phase-out will be achieved primarily by increasing electricity generation from gas (Gündüzyeli & Moore, 2020). These steps lower emissions (Galgóczy, 2019), but have concerning environmental implications and significantly delay post-carbon targets by creating lock-ins in investment and technology. Stranded assets drive powerful private actors to block carbon reduction before the full anticipated return on investment is achieved (Ward, 2020), or sue governments for millions in compensation when they enact climate policy (CAN, 2021).

The tension regarding depth and urgency also occurs in unions and advocacy groups. From unions' perspective, ensuring that "workers, their rights, their welfare and their future" (ACTU, 2016:2) are protected in the energy transition is a key concern (FotE Europe, 2020). Therefore, some unions mirror government and private actors, prioritising the immediate need to ensure income for workers over long-term planning for deep decarbonisation. Prospect (2020) calls for a "balanced" low-carbon energy mix using the argument of diversification. IndustriALL (2019) emphasises new technology to limit greenhouse gas emissions. Australian union CFMEU calls for nuclear power stations to replace coal, externalising the transition to other domains (Briggs & Mey, 2020). Transformative justice requires that a solid commitment to protect workers be integral to any rapid decarbonisation plan. PCS (2017), the public sector union of the UK, unequivocally calls for a zero-carbon economy with fossil fuels "[kept] in the ground" (2017:14). However, for those advocating for fundamental changes in energy use and generation, immediate policy objectives may result problematic (LNS, 2016). There are alternative union initiatives that call for collective solutions (e.g. TUED), prioritising a decisive shift in power that breaks with hegemonic industry practices and stepwise reforms (Sweeney, 2012).

CEE justice groups have longer-term visions and refer more often to carbon-free or post-carbon futures. They are more likely to frame the JT as a "transformation" (FotE Europe, 2020; Nadel, 2019). However, the tension between depth and urgency remains present as the path to these alternative visions is unclear, and immediate strategies tend to be gradual and/or localised. Greenpeace emphasises a healthy planet that "can sustain life for generations to come", but recognises the "huge amount of work to be done in creating cleaner transport, building renewable energy, insulating homes and restoring nature" (Greenpeace, n.d.). Movement Generation (2016a) offers an elaborated vision of a Regenerative Economy rooted in liberation and restoration, to be achieved by developing and expanding self-governance practices. GroundWork and Life After Coal call for building a brand new energy system (Hallowes & Munnik, 2017). Strategies range from gradual with long-term pay-offs – e.g. Movement Generation helping to elect political candidates in California who favor transformative justice (Mascarenhas-Swan, 2017) – to immediate and dramatic steps to ditch carbon, like FotE Europe (2020) campaigns to stop governments and banks from financing fossil fuels.

4.1.2. Scale & scope

Stevis and Felli (2020) demonstrate the different configurations of scale and scope encountered in JT strategies. These range from *narrow scale* and *narrow scope*, like coal workers in a single mine who benefit from the context-specificity, facilitating active participation, to *broad scale* and *broad scope*, such as a global JTs for all fossil fuel workers and communities, a more universal and inclusive transition narrative with larger potential impacts.

In our review of the JT literature, we encounter a wide range of scale and scope. The narrow scale and narrow scope emphasises the closure of one mine at a time, such as Western Australia's JT plan to work with coal communities to develop a strategic focus that

reflects local realities (Collie Delivery Unit, 2020). The Scottish Government (2020) Transition Commission demonstrates narrow scope and broad scale, including a diverse set of stakeholders specialising in Scottish path-dependencies in the formation of national JT strategy. Unions representing workers in a particular sector, like mining, energy, and related manufacturing, tend to take a broad scale with a narrow scope, focusing on all the affected workers and communities in that sector (ACTU, 2016; IndustriALL, 2019). Whereas union federations and environmental organisations often highlight the universal concerns of citizen welfare, and address spheres beyond energy – a broad scale and broad scope (Hallowes & Munnik, 2017; LNS, 2016; Mascarenhas-Swan, 2017; Sabato & Fronteddu, 2020).

It is vital to acknowledge that “no single scale or scope is inherently better from the point of view of justice or democracy” (Steviss & Felli, 2016:40). A just global energy transition requires large-scale commitments and actions alongside context specificities. We see positive examples that combine local justice mechanisms with clear national policy action, for instance New Zealand’s coal phase-out in the Taranaki region features localised planning of a JT roadmap by team of community organisations alongside the national decision to ban offshore oil and gas exploration (Venture Taranaki, 2019). Similarly, the larger environmental organisations and union federations that take a broad scale and scope narratively also have member organisations fighting for justice in local cases, backed up by national and international solidarity networks (CLC, 2000; CJA, n.d.; FotE Europe, 2020; IEN, 2022; Sweeney and Treat, 2018).

4.1.3. Identity & inclusivity

Expansive approaches to inclusivity in the JT entail context specificities, materialities, and place-based principles (Brown et al., 2019; CJA, n.d.) that account for multiple and divergent identities as opposed to limited one-size-fits-all agendas. Perhaps counter-intuitively, a “fair treatment for all” strategy may fail to account for “divergent identities, interests and priorities [...] poorly addressing the already racialized, patriarchal and militarized political-economic patterns of controlled access to resources” (Velicu & Barca, 2020:2–3). The balance between scale and scope remains relevant here. Transformative justice requires centring power and material differences between classes, genders, races, abilities, forms of work, and ways of life. These are complex relations best accounted for by advocacy organisations’ JT visions in our review, and largely overlooked or oversimplified by other actors including unions.

The group most obviously affected by energy transition is fossil fuel workers. They have been the central focus of early JT discussions, and continue to be for many unions as discussed in Section 4.1.2. In practice, unions do successfully represent their workers directly in negotiations over mine or plant closures where they operate. A landmark JT deal between unions and the Spanish Government will grant €250 million to mining regions over the next decade, covering environmental restoration, early retirement, and re-skilling schemes for nearly 1000 workers in eight companies (Gobierno de España, 2020; Nelson, 2018). Yet this deal only privileges those with access to social safety nets and the organisational practice of unionism. In the Global North, government JT programs benefit majority white, male workers in manufacturing, construction and infrastructure (Mertins-Kirkwood & Deshpande, 2019; Steviss & Felli, 2016). The challenge of accommodating diverse social identities is not only relevant to justice, but also to mobilisation. Sanz-Hernández (2020) examines opposition to transition in mining communities due to their strong emotional connection to coal production. Bankwatch, a grassroots environmental network in Europe, highlights the complicated process of addressing such individual and collective coal identities in negotiations (Mustata, 2020).

In numerous policy documents advocating similar clean-up, compensation, and re-employment strategies (De Schutter, 2020; EBRD, 2020; Emden & Murphy, 2019), we see diversity elements like culture, race, and gender mentioned as buzzwords (Crowe & Li, 2020; Sabato & Fronteddu, 2020), but left unaddressed through specific action, risking forced erasure and homogeneity as divergent viewpoints are assimilated into the dominant discourse of majority groups (Barry, 2019). Documents across actors mention “gender” or “women” as discussion points for inclusivity (Eni, 2019; ILO, 2015; LNS, 2016), but lack the proposed action and strategies that would genuinely promote gender equality and justice beyond “assurances” of women’s access to jobs and training (Kang, 2019; Mertins-Kirkwood & Deshpande, 2019), such as acknowledging and leveraging women’s prominent role in the home, environment, and public sector, and in energy democracy organising (Allen, Lyons, & Stephens, 2019; Ross, 2013). The majority of domestic and care work that supports productive activities is performed by women, who are subject to gendered social and cultural expectations that render this work invisible and un(der)paid (Federici, 2009). Only PCS (2017) calls for a JT that recognises the social value of care work and conservation.

Similarly, the people most vulnerable to extractive supply chains are often the same populations that engage in work that is excluded from the typical calculation of economic activities, and thus from regulation, job security, social safety nets, and access to unionisation (Cock, 2018; CSIS, 2020). Expansive JTs should therefore account for affected workers beyond formalised positions, to include informal work, and peripheral and precarious labour that follow lines of intersectional marginalisation (Arnold & Bongiovi, 2013; Harriss-White, 2010). Several union documents used the phrase “affected workers and communities” (ACTU, 2016; CLC, 2000; IndustriALL, 2019) in their framing of the JT; a concept of particular interest, since community members are not necessarily formalised workers or union members. In terms of action, the Transnational Institute calls for a JT that follows examples like Nigeria, where citizens and workers in the formal and informal sectors united against the IMF-supported Structural Adjustment Programmes in the late 1980s (TNI, 2020).

Further, concerns for racialised, gendered, indigenous and otherwise excluded groups often appear grouped together (Cartwright, 2018; Mertins-Kirkwood & Deshpande, 2019) as opposed to recognising their experiences of environmental destruction and the active role marginalised groups have played in the foundational struggles for environmental justice (Bullard, 1990; Cole & Foster, 2001). For example, as South Africa debates a JT for workers, historical injustices are perpetuated as many black people continue to live in the most polluted neighbourhoods, on degraded land adjoining extractive industries, and without adequate access to basic services (Cock, 2018). The Indigenous Environmental Network (IEN, n.d.) explicitly highlights how climate and environmental injustice follow

colonial patterns, and demands a JT according to their principles of deep ecology: rejecting property rights and the commodification of nature to focus instead on regenerative and meaningful work for all (Bennett, 2010).

Finally, transformative justice requires a plurality of rights within and across national boundaries. Emissions, energy production and trade relations all have international implications and repercussions due to globalisation and uneven development. Many dirty extraction jobs have already been exported to the Global South, where the people most impacted by crises and restructuring often do not have access to robust government programs and social safety nets.¹⁰ COSATU (2011), the largest trade union of South Africa, demands that the Global North pay for the JT in the South as part of their climate debt. Movement Generation's conceptualisation of the international extractivist economy and intersectional exploitation (Movement Generation, 2016a; Mascarenhas-Swan, 2017) provides a detailed picture of the "degradation, dispossession and destruction" that energy transition policy in one geographical boundary can have on another (Sovacool, 2021:1).

4.1.4. Material equity

The distributional patterns of material goods and resources, as well as environmental benefits and detriments, has been a central concern of environmental and labour movements alike dating back to their inception (Azzellini & Kraft, 2017; Schlosberg, 2007). As such, transformative justice depends on how JT approaches propose to promote material, and primarily financial, equity.

The most limited JT approaches to equity centre targeted investment, following patterns of market distribution through trade and employment. As ecological modernisation expands the green economy, government narratives suggest wealth creation will benefit everyone. In January 2020, the European Commission announced the *Just Transition Mechanism* as part of the European Green Deal, which dedicated 100 billion euros to investment and job creation. However, no money was explicitly earmarked for direct income assistance or social welfare (European Commission, 2020b, 2020c). Further, the Green Deal features "risk sharing for public and private investors" (European Commission, 2020a), in which taxpayer money is used to guarantee the profitability of green projects without making funding conditional upon community benefit or quality jobs for workers. Rather than challenging the paradigm, some unions (e.g. ACTU, 2016; ETUC, 2015) respond by demanding compensatory payments for workers. In Alberta, the government paid for worker income support and retraining, but also compensated companies for stranded assets using public money and carbon tax revenues, funded primarily by taxpayers and energy consumers (Vriens, 2018).

There are examples among all actors of various job-centric narratives that consider the type of jobs created: their location, quality, pay, and who will have access to them (ETUC, 2015; FotE Europe, 2020; GJI, 2008; Greenpeace, n.d.; Iberdrola, n.d.; Prospect, 2020; Robins, Brunsting, & Wood, 2018). The ACTU highlights how, absent government intervention, "only one third of workers find equivalent full time work following their retrenchment, while one third move into lower quality jobs (lower wage, lower job status or into part-time and casual work) and one third are locked out of the labour force altogether" (2016:2). In this regard, the ILO's Guidelines are an influential document quoted widely by others. They promote a two-pronged approach: their Decent Work Agenda, alongside "strong, sustainable and inclusive growth and development" (2015:4). Intervention in job creation is a relative expansion compared to private investment, however the underlying distributive mechanism of employment is limited and incentives to promote growth conflict with desirable social and environmental outcomes. TUC argues that governments should place conditions upon private contracts and investments to require a certain amount of jobs, income, and tax contributions (Page, 2020).

Situating jobs and income within a robust public system of welfare and economic management has been central to the JT since its origin. Mazzocchi's Superfund for Workers (1993), while focused on new jobs as an ultimate destination, called for unconditional and long-term income support for workers alongside public employment in infrastructure and environmental clean-up.¹¹ We observe that the public sector and social safety nets remain central concerns for unions and advocacy groups alike (IndustriALL, 2019; Maher, 2018; Rosemberg, 2010). Some proposals counteract risks to precarious labour by extending financial support from fossil fuel workers to all workers, or even disconnecting income assistance from unemployment entirely (Marais, 2018). The Canadian Labour Congress demands the provision of restored, expanded and enhanced systems of employment insurance qualifying 40 % more workers (CLC, 2000), and GroundWork and Life After Coal call for basic income (Hallowes & Munnik, 2017). Such combinations of addressing particular needs (e.g. support for displaced workers) with general needs (all those impacted by economic restructuring), portend to be more transformative than typical social welfare systems because they are proactive and respond to the needs of both labour and the public (Stevis & Felli, 2015).

Finally, environmental activists and select unions address questions of redistribution in ownership through the reversal of privatisation. In South Africa, shareholder activist organisation *Just Share* resists privatised decarbonisation (Davies, 2019), and COSATU (2011) demands that "the Commons, natural and energy resources [to be] brought and kept under public ownership, securing their public preservation and administration with social control". PCS (2017) calls for the creation of publically-owned sectors similar to the National Health Service in the UK, to protect nature, create high quality public jobs, and to frame people's right to a clean environment as equivalent to the right to health and education. Reparations (Routledge, Cumbers, & Derickson, 2018), i.e. the redistribution of both resources and power to account for historical violence, domination, and genocide (including the return of sovereignty over Indigenous lands) appears in the JT visions of IEN (n.d.), Honor the Earth (n.d.), CJA (n.d.), and MG (Mascarenhas-Swan, 2017). While achieving the most radical proposals may seem improbable, the JT narratives put forward by advocacy groups offer the most expansive approach to inclusivity and equity.

¹⁰ According to the ILO, in the Global South informal or informalised labour accounts for the majority of work, from 53.8% of total employment in the Americas to 85.8% in Africa (ILO, 2018; Mezzadri, 2019).

¹¹ Mazzocchi originally called for life-long income and benefits for laid-off nuclear and toxic workers (Leopold, 2007; Eisenberg, 2018).

4.1.5. Participation & power

Regarding the restructuring of governance mechanisms and underlying power imbalances that “systematically disadvantage some groups of people vis-à-vis others” (Fraser, 1995:72), transformative justice demands that collective and alternative visions are able to affect outcomes. ‘Meaningful’ inclusion or participation is a popular JT narrative (Farrell, 2012; Sabato & Fronteddu, 2020) that raises the question of who can actually influence the results of such procedures.

We consider stakeholder consultation with caution given its potential to symbolically legitimise otherwise top-down decision-making. Dialogues between governments and key stakeholders, such as representatives from business, trade unions, local or regional governments, and voluntary organisations, inform many JT strategies (ETUC, 2015; ILO, 2015; LNS, 2016; Robins, Brunsting, & Wood, 2018; Rosemberg, 2010; Task Force, 2018). Participants are encouraged to express their opinions and share their expertise, however they typically have no direct control or accountability mechanism in the final decision (Arnstein, 1969; Galende-Sánchez & Sorman, 2021; Schlosberg, 2001). While consultation may result in broader visions, decision-making in the name of stakeholders (as opposed to co-produced) risks reproducing in-built power constellations (Turnhout, Metze, Wyborn, Klenk, & Louder, 2020), especially when led by the economic and political elite (Williams, 2018). Among research and policy documents alike, we observe a common assumption that powerful actors will make the best possible decisions provided they have sufficient information.

For unions, private, and governmental actors, the language of “social dialogue” between “partners” (Galgóczy, 2020; Gereluk & Royer, 2002; Iberdrola, n.d.; Ward, 2020) is also frequent. The influence of trade unions’ legacy and the ILO and ITUC/TUAC (ILO, 2015; JTC and B Team, 2018) on JT narratives is notable. A foundational part of the ILO’s tripartite structure since the 1930s, social dialogue demarcates the institutionalised systems of negotiation between unions, employers, and governments. This seat at the table is hard-won for workers, and it empowers them through active participation in shaping decisions. However, all three tripartite actors are able to limit the range of possible outcomes, and this pressure to produce cooperative solutions precludes transformative action (Steviss & Felli, 2015). As Daub notes, negotiation rarely takes place between equal partners, and is shaped by “broader social structures and relations of power that constrain ‘the range of actions that are possible’ (Fine, 1992:89)” (2010:120). Vague mentions of social dialogue in JT plans suggest that it also risks becoming a hollow buzzword. For instance, reference to social dialogue is increasingly a requirement demanded by climate-friendly investors through financial disclosure systems like the TCFD and CDP (JTC and B Team, 2018).

Given the strong role unions have in defining and negotiating the JT on behalf of workers, our findings support further examination of their expansion from narrow membership concerns into ‘Social Unionism’ (Moody, 1997; Ross, 2013). As we discussed in Section 4.1.4, a handful of unions frame the JT as a matter of public good (CLC, 2000; IndustriALL, 2019; PCS, 2017). Alliances between unions and the public – particularly at-risk communities – are also part of early JT approaches, as in the JTA (n.d.; Kohler, 1996). In South Africa, linkages connecting communities to workers in mining, transport, and manufacturing were essential to the creation and expansion of democratic practice in the liberation movement (Williams, 2018). Likewise, COSATU says the labour movement must play “a decisive role in fighting for an alternative development model for our societies, grounded in people’s needs, on solidarity, on economic democracy and on a fair distribution of wealth” (2011:37). Visions of alternative development models imply transformative change, however the methods behind ‘meaningful’ participation or collaboration are once again relevant. How social unions negotiate their alliances with grassroots groups (LNS, 2016), expand their membership to the public (PCS, 2017), or engage in stakeholder discussion (Vriens, 2018), are underdeveloped considerations among the documents in our review that deserve further inquiry.

The most radical narratives of social transformation and alternative imaginaries aim to empower workers and communities in a post-carbon world. Transformative justice necessitates a provocative agenda, and could take the form of challenging capital-labour social relations (Velicu & Barca, 2020) by addressing ownership. Progressive actions like energy remunicipalisation and food sovereignty have emerged to contest the hierarchical and exploitative forms of globalised production (Routledge et al., 2018). In recent decades, Energy Democracy emerged as a novel path for democratisation and public ownership of energy as a right and a common good, and there are examples of such decentralised renewable energy generation in action, typically located nearby consumption nodes (Kishimoto, Steinfert, & Petitjean, 2020).

In JT narratives we find key features of energy restructuring and the democratisation of energy provision promoted by unions (TUED, COSATU, and PCS) and advocacy organisations (TNI, IEN, and CJA/MG). Approaches range from (i) resisting – developing no further fossil fuels (Martinez-Alier, 2003; Sweeney and Treat, 2018); (ii) socialising production to distribute benefits and collective management at different scales (Kishimoto et al., 2020); (iii) providing universal access to energy services to meet basic needs and overcome energy poverty (Mascarenhas-Swan, 2017; Movement Generation, 2016a); and (iv) rethinking alternative energy futures, from transforming attitudes to consumption to advancing principles of sufficiency (Angel, 2016; IEN, n.d.). The struggle for transformation via national public ownership uniquely advanced by PCS calls for a “much more enlightened economic system—one that closes deep inequalities, strengthens and transforms the public sphere, generates plentiful, dignified work and radically reins in corporate power” (2017:13). While management through government services cannot be equated to bottom-up democratic control, PCS pushes their state-based approach closer to energy democracy by demanding greater accountability and hands-on participation for the public.

4.2. Mapping actor discourses

Reflecting on the thematic findings discussed in Section 4.1, we qualitatively map the approximate tendencies in how actors frame the JT within each theorised discourse from Section 3.2. Fig. 5 represents how select influential actors¹² propose to include working people and/or the public in the JT, and the transformative potential of their proposed JT plan to achieve post-carbon structural change. While Fig. 5 positions actors in a static manner, we acknowledge that sample narratives are limited to bounded, simplified snapshots that will shift over time, especially as the JT gains popularity and actors increasingly interact and co-produce definitions. Moreover, JT discourses can be regarded as boundary objects (Clark, Van Kerkhoff, Lebel, & Gallopin, 2016) with moving targets. They are malleable and can be interpreted distinctly by different observers. Therefore, Fig. 5 serves to illustrate group tendencies across the discourses in our review, without suggesting that these positions are conclusive or static.

4.3. Cross-actor trajectories

The sources uncovered in our review suggest that large governmental and private sector actors, bottom left and centre in Fig. 5, tend to adopt Green Growth and Green Keynesian narratives with a heavy focus on opportunities for energy diversification and globalised sustainable development. If they outline a strategy for including workers and communities beyond the assumption of job creation, it is typically through consultation or negotiation with established unions. Their approaches to material equity fall within the boundaries of market-based solutions with varying degrees of social protection and compensation. When additional worker support is included, it tends to be tied to company compensation and the public pays rather than benefits. These relatively limited, affirmative justice approaches are predictable considering how the fundamental structures of the capitalist economy and its underlying imperatives of profit and growth have long been untouchable by political systems (Wood, 1995). Heading into the future, the 2008 financial crisis and subsequent corporate bail-outs, private stimulus, and social austerity are a likely model for how powerful decision-makers will shape the JT and future climate mitigation strategies in the absence of substantial opposition.

The ILO in particular, over the course of two decades (Galgóczi, 2018; Gerehuk & Royer, 2002; GJI, 2008; ILO, 2015, 2016, 2017; UNEP, WHO, & ILO, 2007), remains a champion of tripartism and is laser-focused on ‘shared solutions’ like social dialogue and decent, green jobs. While the pressure to expand welfare systems and workers’ rights is relatively expansive, the lack of transformative visions or nuanced strategies for participation beyond establishment tripartite institutions suggests that the ILO’s JT plan will fail to challenge the current crisis of non-binding carbon reduction commitments and will exclude the majority of marginalised groups from meaningful participation. As the organisation most widely-cited by other actors, the ILO is a powerful force that could limit future JTs to worker-centric market expansionism.

While not a uniform group, the most transformative future JT visions uncovered in this review, on the upper right of Fig. 5, are those elaborated by CEE justice and advocacy groups. Notably, radical visions from women, communities of colour, Indigenous peoples, and the Global South reflect the systematic marginalisation of these groups in decision-making and through colonial relations over generations. They use language of deep social transformation, including democratic power and reparations for past injustices within and between countries. However, in practical terms, the depth and scale of these idealistic JT approaches may be limited by

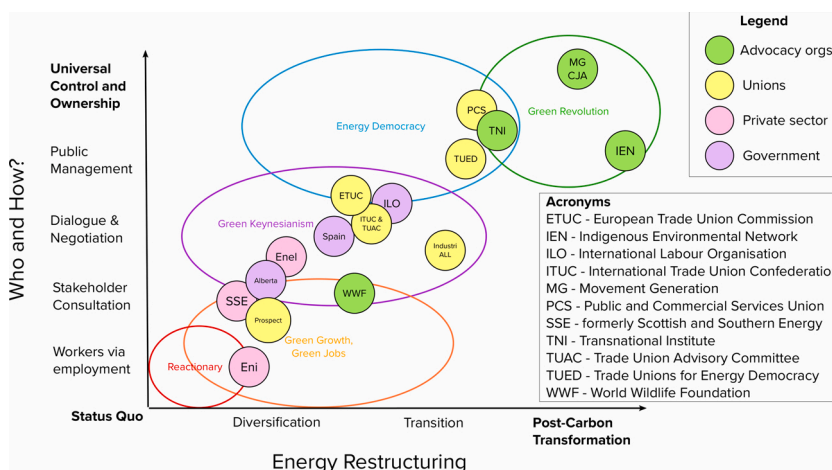


Fig. 5. Key actors mapped across JT discourses.

¹² We aimed to select actors that are influential, widely cited, and that (when considered together) represent the range of perspectives found within a particular actor group.

localism, the struggle to create stepwise paths towards transformation, and the means to claim structural power. Environmental groups are frequently forced to prioritise defense and resistance over proactive justice concerns – occupying land, forming blockades, pursuing legal action as violent colonial expansion continues (Gobby, 2020). Further, activism aimed at influencing formal political structures is limited in transformative power due to the boundaries of ideology and elite interests (Daub, 2010; Fine, 1992; Routledge et al., 2018). In some cases, CEE justice strategy does not go beyond raising awareness of alternative JTs (Mustata, 2020).

Trade unions occupy the central area of Fig. 5. We found examples of Green Growth, Green Keynesianism, and Energy Democracy discourses among the union documents reviewed. The large, institutionalised unions like ITUC and ETUC are aligned with the vision of the ILO. Some unions focus on securing jobs, retraining, and settlements for their workers. However, in support of Stevis and Felli's (2015) observations of Business and Social Unionism, our findings suggest that while labour narratives are often defensive or job-focused, this trend is not uniform. We identified examples of unions and federations – most notably the international TUED network (Sweeney and Treat, 2018), South Africa's COSATU (2011), and the UK's public sector union (PCS, 2017) – that challenge the doctrine of economic growth and propose JTs that expand collective ownership led by broad-based unions alongside communities and including irregular workers.

The coalescence of these unions and CEE justice groups around ideas of public ownership and energy democracy seems a promising development, both in terms of united future JT vision and practical implementation from local to national scales. Unions are expanding and strengthening the climate justice agenda within their institutional channels (Alter Summit et al., 2021). Formerly defensive workers are increasingly persuaded to embrace environmentalism as a labour issue. The largest private sector union representing fossil fuel workers in Canada, Unifor, recently aligned itself with the advocacy group Environmental Defence and came out in favour of a JT, demanding that the government commit to more ambitious climate targets (Singh & Hopton, 2021). Further, engagement with transformative CEE justice could push more unions to expand their 'membership' to include the concerns of broader society, and particularly differentiated vulnerabilities as an inherent part of all workers' rights (Moody, 1997). In Scotland, FotE and WWF's wide-reaching coalition with unions¹³ demands green jobs, social benefits, and public and community ownership of energy with localised production clusters (2017). In South America, TUCA exchanges information and strategies with environmental, women's and peasant organisations,¹⁴ building trust and working towards a common vision of labour that values human and non-human life (TNI, 2020). Also, TUED's unified vision of 'Social Power' presents a union-organisation alliance pathway that is more transformative than the typical tripartite 'shared solutions' (Sweeney and Treat, 2018).

Where unions and advocacy groups form such coalitions, the push-and-pull between structural power and radical vision appears complimentary. The justice movements could benefit from the strategic position of unions in relation to production, their financial resources (like strike funds), and their membership numbers – at least, from those social unions willing to break from the boundaries of industrial bargaining to take on issues of political economic regulation. Further, unions' ability to coordinate worker strikes along supply chains, threatening supply and/or transport and unilaterally putting pressure on profit incentives (Williams, 2018), poses a powerful strategic addition to political mobilisation of candidates and voters. The precise form these alliances take is varied. The JTA, one of the longest standing formal JT coalitions, counts IEN and CJA as members. PCS has included Student Climate Strike solidarity as part of localised industrial action for a living wage (Cruz, 2019), while the formalised CJA network of unions and organisations coordinates cross-country strikes and protests alike (CJA, 2020). Vitality, these relationships push both actors to combine labour and CEE justice demands, inoculating working people against counter-messaging that threatens job losses and capital flight (TNI, 2020). It "is not Jobs or the Environment. It is both or neither" (Kohler, 1996).

While still far from being a fortified and unified vision, the expanding Just Transitions has managed to bring labour movements and CEE justice struggles closer together over time, narratively and sometimes also into formal alliances. "[A]lliances, sometimes the product of long years of hard work, rely on the development of shared languages of contention [...] which enable the messy but practical business of confronting the institutions and cultural power of global elites" (Barker, Cox, Krinsky, & Nilsen, 2013:29). Coalitions across size and scale, institutional and activist bodies help to "amplify and strengthen the voices" behind environmental issues (Alter Summit et al., 2021). Labour and environmental movements each contribute a vital element of expansive transition justice. Organisations combining diverse identities and interests around CEE justice push the JT beyond workers, especially beyond unionised workers, expanding the narrative of *who* must be considered. Unions, through their institutional position and established collective power offer advanced instruments for *how* transformation might be achieved. The recent flourishing of movement-based resistance and the re-convergence of fragmented struggles (Barker et al., 2013) around the ownership and control of land and resources (including energy) is the strongest pathway towards an alternative future that prioritises human and non-human wellbeing (Gobby, 2020).

4.4. Limitations of approach

Our review focused on English-speaking nations predominantly in the Global North. To some extent this facilitates their comparison: they share linguistic characteristics, most are big emitter countries, they have representative democracies with similar economic trends, and they represent originators and early adopters of the JT concept. However, the OECD country perspective is over-represented in our analysis. Based on the prevalence of decolonial and alternative development movements originating in the

¹³ Scottish Trade Union Congress (STUC), Communication Workers Union Scotland, Public and Commercial Services (PCS) Union Scotland, Unite Scotland, and Unison Scotland.

¹⁴ For example, with Friends of the Earth Latin America and the Caribbean (ATALC), World March of Women (WMW) and Latin American Coordinator of Rural Organisations (Coordinadora Latinoamericana de Organizaciones del Campo) - La Via Campesina (CLOC-LVC).

Global South, a broader geographical and linguistic analysis may have uncovered more transformative views and alliances.

Similarly, due to the nature of our methods, we uncovered mainly mainstream and search-optimised examples of JT visions. We are aware that further transformative visions exist, for example among Radical Ecologists, who may be smaller and more localised and/or communicate and organise using different channels. Additionally, the review has not captured sources that take no verbatim position on the JT. As such, we cannot expect to have identified reactionary approaches nor can we compare them in quantity or influence to those that appear here.

While we identified as wide a range of sources as possible, many of them referenced one another meaning that the vision set out by the most influential actors was often repeated, thus reducing the nuance from which to draw. That said, these repetitions shed light on the discursive influence of certain big actors, namely UNFCCC, ILO, ETUC/ETUI, ITUC, TUED, and CJA.

5. Conclusions

In this article we examine the role of labour and environmental movements (and their subsequent iterations, climate and energy justice organisations) in formulating and advancing the Just Transition, and the competing claims, visions and objectives of other actors on the road toward more transformative justice in low-carbon energy restructuring. We establish the JT's labour and environmental roots and scrutinise academic and grey literature to examine – through their narratives, framings, and implementations – the future JT plans put forward by the private sector, government, unions, and advocacy groups. We find that across five central themes (*depth & urgency, scale & scope, identity & inclusion, material equity, and participation & power*), labour and environmental organisations that promote the JT, both together and separately, offer more transformative visions than other actors for “how” post-carbon restructuring should be carried out and “who” should be included.

The prevalence of Green Growth strategies among government and private actors suggests that the JT's union roots in negotiation, strong social safety nets, and robust public employment (Mazzocchi, 1993) have been eroded through the process of internationalisation, resulting in a preference for investment, innovation, and ecological modernisation as seen in the European Green Deal. While some union and multilateral approaches like social dialogue and public support are moderately more expansive, they comprise affirmative, not transformative, remedies to injustices. Other union narratives result diverse: while some center jobs, we also observe transformative visions in democratic practice, public management and international solidarity. This is particularly notable when unions connect with CEE organisations, the actor group with the most radical and inclusive JT visions of intersectional forms of oppression and exclusion.

On the one hand, the JT, through its combination of economic and environmental concerns and its potential for alliance-building, represents a trajectory toward deeper and faster decarbonisation by accommodating the demands of those formerly in opposition to energy transition. The alignment of and alliances between formerly conflicting groups is itself an accomplishment and an important step towards a more democratic transition and future. Alliances create a more unified and well-positioned front to demand action from governments and restructure ownership. They also push unions to expand representation into the networks of advocacy groups and their broader priorities. The international uptake of the JT concept is itself a relative expansion in democratic participation and a move towards future transformative justice.

That said, the transformative potential of the JT is limited when increasingly shaped and controlled by powerful actors, as institutionalised JT narratives appear to preserve the status quo. As an organising term, the JT could be losing its transformative connotations as it becomes more mainstream (TNI, 2020), presenting a challenge for unified JT mobilisation. Some actors appear to be abandoning the term for its job-centric connotations, opting instead for different nomenclature (LNS, 2016). These nuances in language are quite prevalent across academic literature as well, with the differentiation made between “transitions” and “transformations” (Fazey et al., 2018; FotE Europe, 2021). Also, other more radical initiatives (e.g.: Bizi <https://bizimugi.eu/> and Attac France <https://france.attac.org/>) are moving towards non-conformist terminology and use expressions such as “metamorphosis” to denote desired changes.

Whether or not “Just Transition” remains the rhetorical axis around which campaigns organise, or new terminology is adopted to refer to the labour-environment nexus (JT in meaning if not in name), we argue that alliances and solidarity between organised groups will be the strategic and ideological force that drives inclusive and deeply restructured decarbonisation futures. We observe that CEE justice perspectives and advocacy, strengthened by like-minded labour networks and their strikes and collective bargaining, can serve as actionable approaches towards more expansive JT pathways. As crises augment injustices, the potential of unified struggles against status quo patterns of power and distribution will be necessary counter-currents in tackling these unprecedented challenges of climate change and rising inequality in this globalised era.

Authorship statement

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere.

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data availability

Our open-access dataset is available via Zenodo at <https://doi.org/10.5281/zenodo.5794358>.

Declaration of Interest Statement

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

Acknowledgement

Thank you to Matthew Burke, Timmo Krüger, Eva Eichenauer, and Ludger Gailing. Alevgul H. Sorman would like to acknowledge the PARIS REINFORCE project from the European Union's Horizon 2020 research and innovation programme under grant agreement No 820846 and the María de Maeztu excellence accreditation MDM-2017-0714 of BC3.

References

- ACTU. (2016). *A just Transition for coal-fired electricity sector workers and communities [policy discussion paper]*. Retrieved from. Australian Council of Trade Unions <https://www.actu.org.au/our-work/policy-issues/actu-policy-discussion-paper-a-just-transition-for-coal-fired-electricity-sector-workers-and-communities>.
- Adkin, L. (2017). Crossroads in Alberta: Climate capitalism or ecological democracy. *Socialist Studies/Études Socialistes*, 12(1), 2. <https://doi.org/10.18740/S4BP7H>
- Allen, E., Lyons, H., & Stephens, J. C. (2019). Women's leadership in renewable transformation, energy justice and energy democracy: Redistributing power. *Energy Research & Social Science*, 57, Article 101233. <https://doi.org/10.1016/j.erss.2019.101233>
- Alter Summit, Plus jamais ça, CGT, GLL/ReAct, FTQ, CGT-B, ... CSA Sénégal. (2021). Coalitions & alliances –Synthesis. *Conference workshop document, from the international trade union forum on ecological and social transitions [online]*. June, Retrieved from https://forumsyndeco.org/synthese-ateliers/Coalitions_FR_ESP_ENG.pdf.
- Angel, J. (2016). *Strategies of energy democracy*. Retrieved from. Rosa-Luxemburg-Stiftung https://www.rosalux.de/fileadmin/rls_uploads/pdfs/sonst_publicationen/strategies_of_energy_democracy_Angel_engl.pdf.
- Arnold, D., & Bongiovi, J. R. (2013). Precarious, Informalizing, and Flexible Work: Transforming Concepts and Understandings. *American Behavioral Scientist*, 57(3), 289–308. <https://doi.org/10.1177/0002764212466239>
- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216–224. <https://doi.org/10.1080/01944366908977225>
- Azzellini, D., & Kraft, M. G. (Eds.). (2017). *The class strikes back: Self-organised workers' struggles in the twenty-first century*. Leiden, Boston: Brill.
- Barker, C., Cox, L., Krinsky, J., & Nilsen, A.G. (2013). Marxism and Social Movements: An Introduction. *Marxism and Social Movements (Historical Materialism Book Series, Volume 46, pp. 1–37)*. Brill, https://doi.org/10.1163/9789004251434_002.
- Barry, J. (2019). Green republicanism and a 'Just Transition' from the tyranny of economic growth. *Critical Review of International Social and Political Philosophy*, 1–18. <https://doi.org/10.1080/13698230.2019.1698134>
- Bennett, J. (2010). *Vibrant Matter: A Political Ecology of Things*. Duke University Press.
- Bickerstaff, K., Walker, G., & Bulkeley, H. (Eds.). (2013). *Energy justice in a changing climate: Social equity and low-carbon energy*. Zed Books Ltd.
- Briggs, C., & Mey, F. (2020). *Just transition: Implications for the corporate sector and financial institutions in Australia*. Retrieved from. Sydney: Prepared by ISF for Global Compact Network Australia and National Australia Bank https://unglobalcompact.org.au/wp-content/uploads/2020/10/2020.10.28_Just-Transition-Report_Final.pdf.
- Brown, K., Adger, W. N., Devine-Wright, P., Anderies, J. M., Barr, S., Bousquet, F., ... Quinn, T. (2019). Empathy, place and identity interactions for sustainability. *Global Environmental Change*, 56, 11–17.
- Bullard, R. D. (1990). Race, class, and the politics of place. In R. D. Bullard (Ed.), *Dumping in dixie: Race, class, and environmental quality* (3rd ed., pp. 21–36). Routledge. <https://doi.org/10.4324/9780429495274-2>.
- Burke, M. J. (2022). Post-growth policies for the future of just transitions in an era of uncertainty. *Futures*, 136(102900). <https://doi.org/10.1016/j.futures.2021.102900>. In this issue.
- Burke, M. J., & Stephens, J. C. (2017). Energy democracy: Goals and policy instruments for sociotechnical transitions. *Energy Research & Social Science*, 33, 35–48. <https://doi.org/10.1016/j.erss.2017.09.024>
- CAN. (2021). *Analysis of the EU proposal to change the definition of economic activity in the energy sector as part of the modernisation of the energy charter treaty*. Retrieved from. Climate Action Network Europe https://caneurope.org/content/uploads/2021/02/Analysis-of-the-COM-proposal-for-ECT-modernisation-on-the-Definition-of-Economic-Activity-in-the-Energy-Sector_February-2021.pdf.
- Cartwright, J. (2018). *Toward a just transition*. Retrieved from. World Resources Institute: Expert Perspectives <https://www.wri.org/climate/expert-perspective/toward-just-transition>.
- Cha, J. M. (2020). A just transition for whom? Politics, contestation, and social identity in the disruption of coal in the Powder River Basin. *Energy Research & Social Science*, 69, Article 101657. <https://doi.org/10.1016/j.erss.2020.101657>
- Clark, W. C., Van Kerkhoff, L., Lebel, L., & Gallopin, G. C. (2016). Crafting usable knowledge for sustainable development. *Proceedings of the National Academy of Sciences*, 113(17), 4570–4578.
- CLC. (2000). *Just transition for workers during environmental change*. Retrieved from. Canadian Labour Congress <https://digital.library.yorku.ca/yul-1121737/just-transition-workers-during-environmental-change>.
- Climate Justice Alliance (CJA) (n.d.). What do we mean by just transition? Climate Justice Alliance: Communities United for a Just Transition. Retrieved from: <https://climatejusticealliance.org/just-transition/>.
- Climate Justice Alliance (CJA). (2020). *International workers' day—Frontline communities and workers are building the regenerative economy*. Retrieved from. Climate Justice Alliance: Communities United for a Just Transition <https://climatejusticealliance.org/mayday/>.
- Cock, J. (2018). The climate crisis and a 'just transition' in South Africa: An eco-feminist-socialist perspective. In V. Satgar (Ed.), *The climate crisis: South African and global democratic eco-socialist alternatives* (pp. 210–230). Wits University Press.
- Cole, L. W., & Foster, S. R. (2001). *From the ground up: Environmental racism and the rise of the environmental justice movement*. New York University Press.
- Collie Delivery Unit. (2020). *Collie's just transition plan*. Retrieved from. Western Australian Government, Department of the Premier and Cabinet <https://www.wa.gov.au/government/publications/collies-just-transition-plan>.

- COSATU. (2011). *A just transition to a low-carbon and climate resilient economy*. Retrieved from. COSATU policy on climate change https://www.sagreenfund.org.za/wordpress/wp-content/uploads/2017/05/Naledi_A-just-transition-to-a-climate-resilient-economy.pdf.
- Crowe, J. A., & Li, R. (2020). Is the just transition socially accepted? Energy history, place, and support for coal and solar in Illinois, Texas, and Vermont. *Energy Research & Social Science*, 59, Article 101309. <https://doi.org/10.1016/j.erss.2019.101309>
- Cruz, L. (2019). *Fighting for a living wage on a liveable planet—Support the Climate Strike 20 September*. Retrieved from. Public and Commercial Services Union (PCS) <https://www.pcs.org.uk/news/pcs-blogs/luis-cruz/fighting-for-a-living-wage-on-a-liveable-planet-support-the-climate-strike>.
- CSIS. (2020). *Just transitions: Progress to date and challenges ahead*. Retrieved from. The Center for Strategic and International Studies <https://www.csis.org/analysis/just-transitions-progress-date-and-challenges-ahead>.
- Daub, S. J. (2010). Negotiating sustainability: Climate change framing in the communications, energy and paperworkers union. *Symbolic Interaction*, 33(1), 115–140. <https://doi.org/10.1525/si.2010.33.1.115>
- Davies, T. (2019). *A just transition: An activist's perspective*. Retrieved from. Just Share: Investor power for a fairer South Africa <https://justshare.org.za/media/news/a-just-transition-an-activists-perspective>.
- De Schutter, O. (2020). *Report on the "just transition" in the economic recovery: Eradicating poverty within planetary boundaries*. Retrieved from. OHCHR: Special Rapporteur on extreme poverty and human rights <https://www.ohchr.org/en/Issues/Poverty/Pages/CallforsubmissionsJustTransition.aspx>.
- Death, C. (2014). The green economy in South Africa: Global discourses and local politics. *Politikon*, 41(1), 1–22. <https://doi.org/10.1080/02589346.2014.885668>
- Dobson, A. (1998). *Justice and the environment: Conceptions of environmental sustainability and theories of distributive justice*. Clarendon Press.
- EBRD. (2020). *What is the EBRD's green economy transition approach?*. Retrieved from. European Bank for Reconstruction and Development <https://www.ebrd.com/what-we-do/get.html>.
- Eisenberg, A. (2018). Just transitions. *Southern California Law Review*, 92(202). <https://ssrn.com/abstract=3281846>.
- Emden, J., & Murphy, L. (2019). *A just transition: Realising the opportunities of decarbonisation in the north of England*, 11 March, Retrieved from. The Institute for Public Policy Research <https://www.ippr.org/research/publications/a-just-transition>.
- Eni. (2019). *For a just transition*. Retrieved from <https://www.eni.com/assets/documents/eng/just-transition/2019/Eni-for-2019-eng.pdf>.
- ETUC. (2015). *Józef Niemiec: What is just transition, and why do we all need to get behind it?*. Retrieved from. European Trade Union Confederation https://www.etuc.org/sites/default/files/speech/files/what_is_just_transition.pdf.
- European Commission. (2020a). *Just transition mechanism: Making sure no one is left behind: The European green deal*. Retrieved from https://op.europa.eu/publication/manifestation_identifier/PUB_NA0219964ENN.
- European Commission. (2020b). *A European green deal: Proposal for a regulation of the European parliament and of the council establishing the just transition fund*. Retrieved from https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.
- Evans, G., & Phelan, L. (2016). Transition to a post-carbon society: Linking environmental justice and just transition discourses. *Energy Policy*, 99, 329–339. <https://doi.org/10.1016/j.enpol.2016.05.003>
- Farrell, C. (2012). A just transition: Lessons learned from the environmental justice movement. *Duke Forum for Law and Social Change*, 4(45), 45–63.
- Fazey, I., Schöpke, N., Caniglia, G., Patterson, J., Hultman, J., Van Mierlo, B., ... Wyborn, C. (2018). Ten essentials for action-oriented and second order energy transitions, transformations and climate change research. *Energy Research & Social Science*, 40, 54–70. <https://doi.org/10.1016/j.erss.2017.11.026>
- Federici, S. (2009). The reproduction of labor power in the global economy. *Conference presentation at the crisis of social reproduction and feminist struggle*.
- Fine, G. A. (1992). Agency, structure, and comparative contexts: Toward a synthetic interactionism. *Symbolic Interaction*, 15(1), 87–107.
- FotE Europe. (2020). *Just transition*. Retrieved from. Friends of the Earth Europe <https://www.foeeurope.org/just-transition>.
- FotE Europe. (2021). *Climate justice and energy: Fossil fuels*. Retrieved from. Friends of the Earth Europe <https://friendsoftheearth.eu/climate-justice-and-energy/fossil-fuels/>.
- FotE Scotland. (2017). *Joint statement on just transition*. Retrieved from. Friends of the Earth Scotland and the Just Transition Partnership <https://foe.scot/resource/joint-statement-just-transition/>.
- Fraser, N. (1995). From redistribution to recognition? Dilemmas of justice in a 'post-socialist' age. *New Left Review*, 1(212), 68–93.
- Fraser, N. (1999). Social justice in the age of identity politics: Redistribution, recognition and participation. In L. Ray, & A. Sayer (Eds.), *Culture and economy after the cultural turn*. London: Sage.
- Galgóczi, B. (2018). *Just transition towards environmentally sustainable economics and societies for all*. Retrieved from. ILO, Bureau for Workers Activities (ACTRAV) https://www.ilo.org/wcmsp5/groups/public/-ed_dialogue/-actrav/documents/publication/wcms_647648.pdf.
- Galgóczi, B. (2019). *Towards a just transition: Coal, cars and the world of work*. Retrieved from. Brussels: ETUI aisbl <https://www.etui.org/sites/default/files/19%20Towards%20a%20just%20transition%20Galgoczi%CC%81%20EN%20Web%20version.pdf>.
- Galende-Sánchez, E., & Sorman, A. H. (2021). From consultation toward co-production in science and policy: A critical systematic review of participatory climate and energy initiatives. *Energy Research & Social Science*, 73(101907). <https://doi.org/10.1016/j.erss.2020.101907>
- Galgóczi, B. (2020). Just transition on the ground: Challenges and opportunities for social dialogue. *European Journal of Industrial Relations*, 26(4), 367–382. <https://doi.org/10.1177/0959680120951704>
- Gereluk, W., & Royer, L. (2002). *Sustainable development of the global economy: A trade union perspective*. ISBN 92-2-112940-112943. Geneva: International Labour Office (ILO) <http://www.ilo.int/public/english/protection/ses/download/docs/sustain.pdf>.
- Gobby, J. (2020). *More powerful together: Conversations with climate activists and indigenous land defenders*. Fernwood Publishing.
- Gobierno de España. (2020). *El Gobierno, los sindicatos y las compañías titulares de centrales térmicas de carbón firman un acuerdo para consolidar las bases de los Convenios de Transición Justa [Government Press Release]*. Retrieved from. Acuerdo Tripartito <https://www.miteco.gob.es/es/prensa/ultimas-noticias/el-gobierno-los-sindicatos-y-las-compa%C3%B1%C3%ADas-titulares-de-centrales-t%C3%A9rmicas-de-carb%C3%B3n-firman-un-acuerdo-para-consolidar-las-bases-de-los-convenio/tcm:30-508737>.
- Goods, C. (2013). A just transition to a green economy: Evaluating the response of Australian unions. *ABL*, 39(2), 13–33.
- Gough, J. (2010). Workers' strategies to secure jobs, their uses of scale, and competing economic moralities: Rethinking the 'geography of justice'. *Political Geography*, 29(3), 130–139. <https://doi.org/10.1016/j.polgeo.2010.02.005>
- Green Jobs Initiative (GJI). (2008). *Green Jobs: Towards decent work in a sustainable, low-carbon world*. Retrieved from. UNEP, ILO, IOE, and ITUC https://www.ilo.org/wcmsp5/groups/public/-ed_emp/-emp_ent/documents/publication/wcms_158727.pdf.
- Greenpeace (n.d.). What is a just transition? Retrieved from: <https://www.greenpeace.org.uk/challenges/just-transition/>.
- Gündüzyeli, E., & Moore, C. (2020). *Just transition or just talk?*. Retrieved from. Ember and Climate Action Network Europe <https://caneurope.org/content/uploads/2020/09/2020-Just-transition-1.5.pdf>.
- Gusenbauer, M. (2019). Google Scholar to overshadow them all? Comparing the sizes of 12 academic search engines and bibliographic databases. *Scientometrics*, 118(1), 177–214. <https://doi.org/10.1007/s11192-018-2958-5>
- Gusenbauer, M., & Haddaway, N. R. (2019). Which academic search systems are suitable for systematic reviews or meta-analyses? Evaluating retrieval qualities of Google Scholar, PubMed, and 26 other resources. *Research Synthesis Methods*, 11(2), 181–217. <https://doi.org/10.1002/jrsm.1378>
- Haddaway, N. R., Macura, B., Whaley, P., & Pullin, A. (2017). *ROSES for systematic review protocols. Version 1.0*. <https://www.environmentalevidence.org/roes>.
- Haddaway, N. R., Collins, A. M., Coughlin, D., & Kirk, S. (2015). The role of google scholar in evidence reviews and its applicability to grey literature searching. *PloS One*, 10(9), Article e0138237. <https://doi.org/10.1371/journal.pone.0138237>
- Halevi, G., Moed, H., & Bar-Ilan, J. (2017). Suitability of Google Scholar as a source of scientific information and as a source of data for scientific evaluation—Review of the Literature. *Journal of Informetrics*, 11(3), 823–834. <https://doi.org/10.1016/j.joi.2017.06.005>
- Hallowes, D., & Munnik, V. (2017). *The destruction of the highveld*. Retrieved from. groundWork & Life After Coal https://groundwork.org.za/reports/gW_Report_2017.pdf.
- Hampton, P. (2015). *Workers and Trade Unions for Climate Solidarity: Tackling climate change in a neoliberal world* (1st ed.). Routledge. <https://doi.org/10.4324/9781315732220>

- Harrhill, K., & Douglas, O. (2019). Framework development for 'just transition' in coal producing jurisdictions. *Energy Policy*, 134, Article 110990. <https://doi.org/10.1016/j.enpol.2019.110990>
- Harris-White, B. (2010). Work and wellbeing in informal economies: The regulative roles of institutions of identity and the state. *World Development*, 38(2), 170–183. <https://doi.org/10.1016/j.worlddev.2009.10.011>
- Healy, N., & Barry, J. (2017). Politicizing energy justice and energy system transitions: Fossil fuel divestment and a "just transition". *Energy Policy*, 108, 451–459. <https://doi.org/10.1016/j.enpol.2017.06.014>
- Heffron, R. J., & McCauley, D. (2018). What is the 'just transition'? *Geoforum*, 88, 74–77. <https://doi.org/10.1016/j.geoforum.2017.11.016>
- Hirsch, T., Matthes, M., & Fünfgelt, J. (2017). *Guiding principles & lessons learnt for a just energy transition in the global south*. Retrieved from. Friedrich-Ebert-Stiftung https://www.brot-fuer-die-welt.de/fileadmin/mediapool/blogs/Fuenfgelt_Joachim/just_energy_transition_in_global_south_final.pdf.
- Honor the Earth (n.d.). The green path: A just transition. Retrieved from: <http://www.honorearth.org/green-newdeal>.
- Iberdrola (n.d.). The just transition, fundamental for achieving climate goals and generating prosperity. Retrieved from: <https://www.iberdrola.com/social-commitment/just-transition>.
- IEN (n.d.). Indigenous principles of just transition. Indigenous environmental network. Retrieved from: <https://www.ienearth.org/justtransition/>.
- ILO. (2015). *Guidelines for a just transition towards environmentally sustainable economies and societies for all*. Retrieved from. International Labour Office Publications http://www.ilo.org/wcmsp5/groups/public/—ed_emp/—emp_ent/documents/publication/wcms_432859.pdf.
- ILO. (2016). *The ILO's strategic plan for 2018–2021*. Retrieved from. International Labour Office, Strategic Programming and Management Department, Financial and Administrative Section https://www.ilo.org/wcmsp5/groups/public/—ed_norm/—relconf/documents/meetingdocument/wcms_531677.pdf.
- ILO. (2017). *A just transition to a sustainable future: Next steps for Europe*. Retrieved from. International Labour Organization http://www.oit.org/wcmsp5/groups/public/—europe/—ro-geneva/—ilo-brussels/documents/publication/wcms_614024.pdf.
- ILO. (2018). *Women and men in the informal economy: A statistical picture*. Retrieved from. International Labour Office https://ilo.userservices.exlibrisgroup.com/discovery/delivery/41ILO_INST:41ILO_V2/1252879760002676?lang=en.
- IndustriALL. (2019). *A just transition for workers: A trade union guide*. Retrieved from. IndustriALL Global Union http://www.industrial-union.org/sites/default/files/uploads/documents/Just_Transition/a_just_transition_-_english.pdf.
- IPBES. (2017). *Contrasting approaches to values and valuation: Value monism vs. Value pluralism in policy*. Retrieved from. Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services <http://ipbes.net/contrasting-approaches-values-valuation>.
- ITUC. (2017). Just transition—Where are we now and what's next?. *A guide to national policies and international climate governance (ITUC CLIMATE JUSTICE FRONTLINE BRIEFING)*. International Trade Union Confederation. Retrieved from https://www.ituc-csi.org/IMG/pdf/ituc_climate_justice_frontline_briefing_2017.pdf.
- ITUC, & TUAC. (2010). *A just transition: A fair pathway to protect the climate [Flyer in English]*. Retrieved from. International Trade Union Confederation and Trade Union Advisory Committee <https://www.ituc-csi.org/IMG/pdf/01-Depliant-Transition5.pdf>.
- Jananoff, S. (2018). Just transitions: A humble approach to global energy futures. *Energy Research & Social Science*, 35, 11–14. <https://doi.org/10.1016/j.erss.2017.11.025>
- Jananoff, S., & Kim, S.-H. (Eds.). (2015). *Dreamscapes of modernity: Sociotechnical imaginaries and the fabrication of power*. The University of Chicago Press.
- Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. *Energy Research & Social Science*, 11, 174–182. <https://doi.org/10.1016/j.erss.2015.10.004>
- JTA (n.d.). What is just transition? Just Transition Alliance. Retrieved from: <http://jtalliance.org/what-is-just-transition/>.
- Jenkins, K., Sovacool, B. K., Blachowicz, A., & Lauer, A. (2020). Politicising the Just Transition: Linking global climate policy, Nationally Determined Contributions and targeted research agendas. *Geoforum*, 115, 138–142. <https://doi.org/10.1016/j.geoforum.2020.05.012>
- JTC, & B Team. (2018). *Just transition: A business guide*. Retrieved from. The Just Transition Centre (JTC) and the B Team <http://bteam.niceandserious.com/assets/reports/Just-Transition-A-Business-Guide.pdf>.
- JTRC. (2018). *Mapping just transition(s) to a low-carbon world*. Retrieved from. Just Transition Research Collaborative, United Nations Research Institute for Social Development (UNRISD) [https://www.unrisd.org/unrisd/website/document.nsf/\(httpPublications\)/9B3F4F10301092C7C12583530035C2A5?OpenDocument](https://www.unrisd.org/unrisd/website/document.nsf/(httpPublications)/9B3F4F10301092C7C12583530035C2A5?OpenDocument).
- Just Transition Initiative (JTI). (2020). *Just transition concepts and relevance for climate action: A preliminary framework*. Retrieved from. Center for Strategic and International Studies (CSIS) and the Climate Investment Funds (CIF) <https://justtransitioninitiative.org/a-framework-for-just-transitions/>.
- Kang, K. (2019). *What does an inclusive just transition look like?*. Retrieved from. Citizens for Public Justice <https://cpj.ca/what-does-inclusive-just-transition-look/>.
- Kenfack, C. E. (2019). Just Transition at the Intersection of Labour and Climate Justice Movements: Lessons from the Portuguese Climate Jobs Campaign. *Global Labour Journal*, 10(3). <https://doi.org/10.15173/glj.v10i3.3631>
- Kishimoto, S., Steinfurt, L., & Petitjean, O. (2020). *The future is public: Towards democratic ownership of public services*. Retrieved from. Transnational Institute (TNI) <https://www.tni.org/en/futurespublic>.
- Kohler, B. (1996). Sustainable development: A labor view. December *Presentation at persistent organic pollutants conference* <https://www.sdearthtimes.com/et0597/et0597s4.html>.
- Labor Network for Sustainability and Strategic Practice (LNS). (2016). *Just transition*. Retrieved from https://labor4sustainability.org/files/Just_Transition_Just_What_Is_It.pdf.
- Leopold, L. (2007). *The man who hated work and loved labor*. Chelsea Green Pub. Company.
- Löwy, M. (2005). What is ecosocialism? *Capitalism Nature Socialism*, 16(2), 15–24. <https://doi.org/10.1080/10455750500108237>
- Maher, T. (2018). *A new approach in Australia to just transition*. Retrieved from. World Resources Institute: Expert Perspectives <https://www.wri.org/climate/expert-perspective/new-approach-australia-just-transition>.
- Marais, H. (2018). The employment crisis, just transition, and the universal basic income grant. In V. Satgar (Ed.), *The climate crisis: South African and global democratic eco-socialist alternatives* (pp. 70–106). Wits University Press. <https://doi.org/10.18772/22018020541>.
- Martinez-Alier, J. (2003). *The Environmentalism of the poor: A study of ecological conflicts and valuation*. Edward Elgar Publishing.
- Martín-Martín, A., Orduna-Malea, E., Harzing, A.-W., & Delgado López-Cózar, E. (2017). Can we use Google Scholar to identify highly-cited documents? *Journal of Informetrics*, 11(1), 152–163. <https://doi.org/10.1016/j.joi.2016.11.008>
- Martín-Martín, A., Orduna-Malea, E., Thelwall, M., & Delgado López-Cózar, E. (2018). Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *Journal of Informetrics*, 12(4), 1160–1177. <https://doi.org/10.1016/j.joi.2018.09.002>
- Martín-Martín, A., Thelwall, M., Orduna-Malea, E., & Delgado López-Cózar, E. (2021). Google scholar, microsoft academic, scopus, dimensions, web of science, and openartitions' COCI: A multidisciplinary comparison of coverage via citations. *Scientometrics*, 126(1), 871–906. <https://doi.org/10.1007/s11192-020-03690-4>
- Mascarenhas-Swan, M. (2017). The case for a just transition. In D. Fairchild, & A. Weinrub (Eds.), *Energy democracy* (pp. 37–56). Island Press/Center for Resource Economics. https://doi.org/10.5822/978-1-61091-852-7_3.
- Mazzocchi, T. (1993). *An answer to the jobs-environment conflict?*. Retrieved from. Green Left [Abridged from Chicago: EcoSocialist Review] <https://www.greenleft.org.au/content/answer-jobs-environment-conflict>.
- Mertins-Kirkwood, H., & Deshpande, Z. (2019). *Who is included in a just Transition? Considering social equity in Canada's shift to a zero-carbon economy*. Retrieved from. Canadian Centre for Policy Alternatives and Adapting Canadian Work and Workplaces to Respond to Climate Change https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2019/08/Who%20is%20included%20in%20a%20just%20transition_final.pdf.
- Mezzadri, A. (2019). *On the value of social reproduction*, 2(04). Radical Philosophy Group https://www.radicalphilosophy.com/wp-content/uploads/2019/04/radical_philosophy_2_04_mezzadri-on-the-value-of-social-reproduction.pdf.
- Moody, K. (1997). *Towards an international social-movement unionism*. I(227). New Left Review <https://newleftreview.org/issues/1225/articles/kim-moody-towards-an-international-social-movement-unionism>.
- Introduction: The genealogy and contemporary politics of just transitions. In Morena, E., Krause, D., & Stevis, D. (Eds.), *Just transitions: Social justice in the shift towards a low-carbon world*, (2020). Pluto Press.

- Movement Generation (MG). (2016a). *From banks and tanks to cooperation and caring: A strategic framework for a just transition* [online zine]. Retrieved from. Movement Generation Justice and Ecology Project https://movementgeneration.org/wp-content/uploads/2016/11/JT_booklet_English_SPREADs_web.pdf.
- Movement Generation (MG). (2016b). *A strategy framework for just transition, from EDGE just giving funders conference*. Retrieved from. Movement Generation Justice & Ecology Project <https://movementgeneration.org/movement-generation-just-transition-framework-resources/>.
- Mustata, A. (2020). *Pathways for just transition in South East Europe: Opportunities in Romania, Bulgaria and Greece*. Retrieved from. Bankwatch <https://bankwatch.org/wp-content/uploads/2020/12/Pathways-for-Just-Transitions-in-South-East-Europe.pdf>.
- Nadel, C. (2019). *Moving beyond 'Just Transition' towards transformation*. Retrieved from. Environment Victoria <https://environmentvictoria.org.au/2019/06/05/moving-beyond-just-transition-towards-transformation/>.
- Nelson, A. (2018). *Spain to close most coalmines in €250m transition deal*. Retrieved from. Guardian News & Media Limited <https://www.theguardian.com/environment/2018/oct/26/spain-to-close-most-coal-mines-after-striking-250m-deal>.
- Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. *The Geographical Journal*, 179(2), 132–140. <https://doi.org/10.1111/geoj.12008>
- Nightingale, A. J. (2018). The socioenvironmental state: Political authority, subjects, and transformative socio-natural change in an uncertain world. *Environment and Planning E: Nature and Space*, 1(4), 688–711. <https://doi.org/10.1177/2514848618816467>
- Page, T. (2020). *A just transition to a greener, fairer economy*. Retrieved from. Trade Union Congress (TUC) <https://www.tuc.org.uk/research-analysis/reports/just-transition-greener-fairer-economy>.
- PCS. (2017). *Just Transition and Energy Democracy: A civil service trade union perspective* [pamphlet]. Retrieved from. Public and Commercial Services Union <https://www.pcs.org.uk/resources/green-workplaces/new-pamphlet-just-transition-and-energy-democracy-a-civil-service-trade>.
- Peck, J., & Theodore, N. (2000). 'Work first': Workfare and the regulation of contingent labour markets. *Cambridge Journal of Economics*, 24(1), 119–138. <https://www.jstor.org/stable/23600384>.
- Prospect. (2020). *A just transition plan for the UK power sector*. Retrieved from <https://d28j9ucj9uj44t.cloudfront.net/uploads/2020/12/JTS.pdf>.
- Pulido, L., & De Lara, J. (2018). Reimagining 'justice' in environmental justice: Radical ecologies, decolonial thought, and the Black Radical Tradition. *Environment and Planning E: Nature and Space*, 1(1–2), 76–98. <https://doi.org/10.1177/2514848618770363>
- Rätzsch, N., & Uzzell, D. (2011). Trade unions and climate change: The jobs versus environment dilemma. *Global Environmental Change*, 21(4), 1215–1223. <https://doi.org/10.1016/j.gloenvcha.2011.07.010>
- Robins, N., Brunsting, V., & Wood, D. (2018). Climate change and the just transition: A guide for investor action. *The Grantham Research Institute on Climate Change and the Environment*. Retrieved from <https://www.unpri.org/research/climate-change-and-the-just-transition-a-guide-for-investor-action/3202.article>.
- Rosemberg, A. (2010). Building a just Transition: The linkages between climate change and employment. *International Journal of Labour Research*, 2(2), 125–161.
- Ross, S. (2013). Social Unionism and Union power in public sector unions. In S. Ross, & L. Savage (Eds.), *Public sector unions in the age of austerity* (pp. 57–68). Fernwood Publishing.
- Routledge, P., Cumbers, A., & Derickson, K. D. (2018). States of just transition: Realising climate justice through and against the state. *Geoforum*, 88, 78–86. <https://doi.org/10.1016/j.geoforum.2017.11.015>
- Robert Schuman Foundation (RSF). (2020). *What should we make of the just Transition Mechanism put forward by the European Commission?*. Retrieved from. European Issue n567 <https://www.robert-schuman.eu/en/european-issues/0567-what-should-we-make-of-the-just-transition-mechanism-put-forward-by-the-european-commission>.
- Sabato, S., & Fronteddu, B. (2020). *A socially just transition through the European green deal? ETUI working paper*. Retrieved from <https://ssrn.com/abstract=3699367>.
- Sanz-Hernández, A. (2020). How to change the sources of meaning of resistance identities in historically coal-reliant mining communities. *Energy Policy*, 139, 1–11. <https://doi.org/10.1016/j.enpol.2020.111353>
- Schlossberg, D. (2001). Three dimensions of environmental and ecological justice. *Conference presentation at European consortium for political research annual joint sessions*.
- Schlossberg, D. (2007). Defining environmental justice: Theories, movements, and nature. *Environmental Ethics*, 31(3), 317–319. <https://doi.org/10.5840/enviroethics200931333>
- Scottish Government. (2020). *Just transition commission interim report*. <https://www.gov.scot/publications/transition-commission-interim-report/pages/1/>.
- Silver, B. J., & Arrighi, G. (2001). Workers north and south. *Socialist Register*, 37, 53–76. <https://socialistregister.com/index.php/srv/article/view/5755>.
- Singh, I., & Hopton, A. (2021). *Union representing energy workers backs stronger emissions cuts—As long as there's a transition plan*. Retrieved from. CBC News <https://www.cbc.ca/news/science/climate-targets-transition-oil-energy-1.6000224>.
- Smith, S. (2017). *Just transition: A report for the OECD*. Retrieved from. Just Transition Centre, International Trade Union Confederation (ITUC) <https://www.oecd.org/environment/cc/g20-climate/collapsecontents/Just-Transition-Centre-report-just-transition.pdf>.
- Snell, D. (2018). 'Just transition'? Conceptual challenges meet stark reality in a 'transitioning' coal region in Australia. *Globalizations*, 15(4), 550–564. <https://doi.org/10.1080/14747731.2018.1454679>
- Snell, D., & Fairbrother, P. (2010). Unions as environmental actors. *Transfer: European Review of Labour and Research*, 16(3), 411–424. <https://doi.org/10.1177/1024258910373874>
- Sovacool, B. K. (2021). Who are the victims of low-carbon transitions? Towards a political ecology of climate change mitigation. *Energy Research & Social Science*, 73, Article 101916. <https://doi.org/10.1016/j.erss.2021.101916>
- Sovacool, B. K., & Dworkin, M. H. (2014). *Global energy justice*. Cambridge University Press.
- Stevis, D., & Felli, R. (2015). Global labour unions and just transition to a green economy. *International Environmental Agreements: Politics, Law and Economics*, 15(1), 29–43. <https://doi.org/10.1007/s10784-014-9266-1>
- Stevis, D., & Felli, R. (2016). Green transitions, just transitions? Broadening and deepening justice. *Just Transition Initiative: Centre for Strategic and International Studies (CSIS) and Climate Investment Funds (CIF)*. Retrieved from <https://justtransitioninitiative.org/resource-library/green-transitions-just-transitions-broadening-and-deepening-justice/>.
- Stevis, D., & Felli, R. (2020). Planetary just transition? How inclusive and how just? *Earth System Governance*, Article 100065. <https://doi.org/10.1016/j.esg.2020.100065>
- Stirling, A. (2014a). From sustainability, through diversity to transformation: Towards more reflexive governance of vulnerability. In A. Hommels, J. Mesman, & W. E. Bijker (Eds.), *Vulnerability in technological cultures: New directions in research and governance*. Cambridge MA: MIT Press.
- Stirling, A. (2014b). Transforming power: Social science and the politics of energy choices. *Energy Research & Social Science*, 1, 83–95. <https://doi.org/10.1016/j.erss.2014.02.001>
- Svarstad, H., & Benjaminsen, T. A. (2020). Reading radical environmental justice through a political ecology lens. *Geoforum*, 108, 1–11. <https://doi.org/10.1016/j.geoforum.2019.11.007>
- Sweeney, S. (2012). *Resist, reclaim, restructure: Unions and the struggle for energy democracy*. Retrieved from. Trade Unions for Energy Democracy (TUED) <http://unionsforenergydemocracy.org/resist-reclaim-restructure-unions-and-the-struggle-for-energy-democracy/>.
- Sweeney, S., & Treat, J. (2018). *Trade unions and just transition: The search for a transformative politics*. Retrieved from. Trade Unions for Energy Democracy (TUED) <http://unionsforenergydemocracy.org/wp-content/uploads/2018/04/TUED-Working-Paper-11.pdf>.
- Task Force on Just Transition for Canadian Coal Power Workers and Communities. (2018). *A just and fair transition for Canadian coal power workers and communities*. Retrieved from Government of Canada <https://www.canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition/final-report.html>.
- TNI. (2020). *Just Transition: How environmental justice organisations and trade unions are coming together for social and environmental transformation* [Workshop Report]. Retrieved from. Transnational Institute https://www.tni.org/files/publication-downloads/web_justtransition.pdf.
- Tomassetti, P. (2020). From treadmill of production to just transition and beyond. *European Journal of Industrial Relations*, 26(4), 439–457. <https://doi.org/10.1177/0959680120951701>

- Turnhout, E., Metz, T., Wyborn, C., Klenk, N., & Louder, E. (2020). The politics of co-production: Participation, power, and transformation. *Current Opinion in Environmental Sustainability*, 42, 15–21. <https://doi.org/10.1016/j.cosust.2019.11.009>
- UNEP, WHO, & ILO. (2007). *Labour and the environment: A natural synergy*. Retrieved from. United Nations Environmental Programme https://digital.library.unt.edu/ark:/67531/metadc28510/m2/1/high_res_d/UNEP-labour-env-synergy.pdf.
- UNFCCC. (2015). *Paris agreement*. Retrieved from. United Nations <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.
- UNFCCC. (2016). *Just transition of the workforce, and the creation of decent work and quality jobs [technical paper]*. Retrieved from. United National Framework Convention on Climate Change <https://unfccc.int/sites/default/files/resource/Just%20transition.pdf>.
- UNFCCC. (2021). *Nationally determined contributions under the Paris Agreement*. Retrieved from. Synthesis report by the secretariat, United National Framework Convention on Climate Change <https://unfccc.int/documents/268571>.
- Uzzel, D., & Rätzkel, N. (2013). Mending the breach between labour and nature: A case for environmental labour studies. In N. Rätzkel, & D. Uzzel (Eds.), *Trade unions in the green economy: Working for the environment* (1st ed.). Routledge.
- Velicu, I., & Barca, S. (2020). The just transition and its work of inequality. *Sustainability: Science, Practice and Policy*, 16(1), 263–273. <https://doi.org/10.1080/15487733.2020.1814585>
- Venture Taranaki. (2019). *Taranaki 2015 roadmap*. Retrieved from <https://www.mbie.govt.nz/business-and-employment/economic-development/just-transition/> and. Ministry of Business, Innovation, & Employment, Just Transition Unit, New Zealand Government <https://about.taranaki.info/taranaki2050>.
- Vriens, L. (2018). *The end of coal: Alberta's coal phase-out*. Retrieved from. International Institute for Sustainable Development (IISD) <https://www.iisd.org/sites/default/files/publications/alberta-coal-phase-out.pdf>.
- Walker, G. (2009). Beyond distribution and proximity: Exploring the multiple spatialities of environmental justice. *Antipode*, 41(4), 614–636. <https://doi.org/10.1111/j.1467-8330.2009.00691.x>
- Ward, H. (2020). *Just transitions for all – business, human rights, and climate action*. Retrieved from. Institute for Human Rights and Business (IHRB) https://www.ihrb.org/uploads/reports/Just_Transitions_For_All_-_Business%2C_Human_Rights%2C_and_Climate_Action_-_IHRB_Nov2020.pdf.
- Waterman, P. (1993). Social-movement unionism: A new union model for a new world order? *Review (Fernand Braudel Center)*, 16(3), 245–278. <https://www.jstor.org/stable/40241259>.
- Wilgosh, Becca, Sorman, Alevgul H., & Barcena, Iñaki (2021). A critical review of “just transition” publications using Google and Google Scholar [Data set]. *Zenodo*. <https://doi.org/10.5281/zenodo.5794358>
- Williams, M. (2018). Energy, labour, and democracy in South Africa. In V. Satgar (Ed.), *The climate crisis: South African and global democratic eco-socialist alternatives* (pp. 231–251). Wits University Press. <https://doi.org/10.18772/22018020541>.
- Wood, E. M. (1995). The separation of the ‘economic’ and the ‘political’ in capitalism. In *democracy against capitalism: Renewing historical materialism* (pp. 19–48). Cambridge University Press. <https://doi.org/10.1017/CBO9780511558344>
- Young, J. (1998). Just transition: A new approach to jobs v. environment. *WorkingUSA*, 2(2), 42–48. <https://doi.org/10.1111/j.1743-4580.1998.tb00090.x>
- Zientek, L. R., Werner, J. M., Campuzano, M. V., & Nimon, K. (2018). The use of Google scholar for research and research dissemination. *New Horizons in Adult Education and Human Resource Development*, 30(1), 39–46. <https://doi.org/10.1002/nha3.20209>