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Energy justice, just transitions and Scottish energy policy

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Energy justice, Just Transitions and Scottish energy policy: A re-grounding of theory in policy practice

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A B S T R A C T

Now, more than ever, there is a pressing need to focus overtly on justice issues in energy affairs as part of the socio-technical reimagining of energy futures. With reference to the energy justice and Just Transitions literatures - two popularised and increasingly intertwined concepts - this paper analyses how justice is conceptualised in policy practice through a case study analysis of energy policymaking in Scotland. It does so by drawing upon the analysis of 6 expert interviews and 148 legislative and government documents published between 2010 and 2020. Through the lens of this case study, the paper makes three contributions. First, it responds to appeals in the energy justice scholarship for practical applicability. Second, the paper re-grounds these justice literatures in political and economic realities within the Scottish case study, providing recommendations for academia, Scottish policy and wider contexts. Three, it reveals rich empirical detail. Throughout the analysis, four key thematic categories emerged, each articulating the manifestation of justice concerns in Scottish energy policy: affordability and fuel poverty, forms of recognition, energy in relation to political interests and decision-making, and the Just Transition as a cross-cutting theme.

1. Introduction

Access to energy has historically determined geopolitical power relations and livelihoods, for a "socio-energy system shapes, enables and constrains the basic structure" of a society [1]: 457. In this context, energy is becoming increasingly understood as a socio-technical system, an articulation of social and material components [2]. Now, more than ever, there is a pressing need to focus overtly on justice issues in energy affairs as part of this socio-technical reimagining. Nations worldwide have committed to emissions reductions in the Paris Agreement in 2015 and beyond. Certainly, with a global projected investment of +$300 trillion into different energy sources over the next two decades, it is crucial that decision-makers move away from techno-centrism, particularly as ignoring the ethical implications of energy policy risks reinforcing old injustices and incarnating new ones [3].

Issues of justice are widespread and familiar. The concept of (social) justice has accompanied and evolved alongside human societies for centuries in Western cultures e.g., [4] and importantly, beyond them, spanning across continents (see notions of *Ma'at* in Ancient Egypt, *ubuntu* across various communities in the African continent (the term belonging to the Nguni language family of South Africa) [5]; justice within Confucianism e.g., [6]; or the Andean cosmovision *Sumak Kawsay*, which envisions the ideal life as a harmony between humans, nature and society [7]. Whilst varying across contexts in focus and interpretation, so-called "social justice" is typically identified with the resolution of inequalities, the pursuit of equal human rights and well-being [4]. This generally entails the redistribution of power and well-being to those communities suffering through hardship, with the added recognition that this is primarily socially conditioned (ibid). Even though appeals to just outcomes are not necessarily (or often) homogenous, they are generally based on these shared underlying principles (see [8,9]). Likewise, justice appeals that transcend anthropocentric concerns have also historically existed, embodied in contemporary worldviews like ecosophy (e.g., [10]), ecofeminism and animal studies (e.g., [11,12]),

amongst others. In recent times, this holistic approach to justice survives primarily within indigenous worldviews, in contrast to the permeation of anthropocentric, capital-driven narratives that have become hegemonic over the course of the last two centuries. In light of the climate crisis, authors and activists are reviving such an appeal to the rights of nature [13,14], aiming to dissolve the artificial yet persistent, toxic hierarchy between humans and more-than-human beings [15].

In stark distinction with justice thinking, which demonstrates awareness of both the social and ecological impacts of emissions and their associated infrastructures, the energy sector has, up until recently, been treated as a 'technical' arena, isolated from considerations beyond the techno-economic sphere. Indeed, in many cases, it still is given that much energy policy design rarely incorporates justice dimensions [1]. By way of an example, although fuel poverty and affordability are increasingly acknowledged (e.g., in the Scottish *Fuel Poverty Act* (FPA) (2019)) [16], energy life cycle impacts or varying domestic energy needs are not commonly considered. In line with energy justice scholars, the authors are of the view that justice considerations *must* be embedded across energy sector and energy lifecycle decision-making if we are to achieve a truly sustainable outcome from the energy transition. This is particularly the case given the vast and demonstrable role played by the energy sector in local, national and international realities today. The urgency to respond to climate change threats; the energy sector's role in global greenhouse emissions, producing 73.2 % in 2020 [17]; the ineludible reality of the global and historical distribution of climate change responsibility and harm, and energy's impact from extraction to waste disposal on livelihoods globally [18,19] make it increasingly clear that decision-making in energy affairs has "significant impacts on fairness and justice" [20]: 677.

In light of this, this paper therefore builds upon the body of work on justice in energy affairs through two popularised and increasingly intertwined concepts: "energy justice" (EJ) and the "Just Transition" (JT). Through these concepts, justice in energy affairs has been understood in relation to power and capability distribution in decision-making, alongside the recognition of different individuals' needs, their prioritisation, and the spatial and temporal distribution of tangible impacts from energy objects, amongst others (e.g., [9,21]). Empirically, their role has been debated in relation to pejorative health impacts from air pollution caused by coal plants, and who is worst impacted by these; realities of fuel poverty and energy (un)affordability (e.g., [22–24]); subsidisation of electric vehicle purchases as an unfair distribution of population taxes [25], or ensuring a 'Just' Transition for fossil fuel industry workers and dependent communities as we respond to the climate crisis, amongst others [26]. Combined, these contributions align with the idea that "a just transformation of the socio-energy system is also a decision to live in a different type of society, not simply a low-carbon version of the current one" [1]: 453. The authors build on the robust, scientific work delivered through theoretical and empirical studies in justice thinking, embracing the normativity that this entails. In doing so, we approach this and all research from the worldview that knowledge is situated [27], thus all science is partial. Here we refer to the logic that work which is "partial and robust [is, in fact] – the best truth there is" [28]: 327.

Specifically, this paper empirically investigates how justice is conceptualised in practice. 'Justice in energy policy' will be *conceptually* explored through a review of the JT and EJ concepts, and *empirically* applied through a thematic exploration of Scottish energy policymaking.

It does so by exploring the following research questions (RQs):

(1) How are justice concerns expressed within Scottish energy policymaking?
(2) How do these concerns relate to energy justice and Just Transition literatures?
(3) What are the practical implications of the results obtained for Scottish energy policymaking and for energy justice and Just Transition scholarships?

In asking these questions, we acknowledge that by focusing the EJ framework on a narrow set of questions with a specific group of participants, outcomes will inevitably be partial and that issues relevant both to justice considerations, and to energy policy, will be omitted. Nonetheless, this work aims not to provide a list of valid EJ concerns but instead, to delve into initial insights about the expression and mobilisation of justice within Scottish energy policy; operationalising the EJ framework to do so.

Mainstream acceptance and action on the ever-growing climate crisis in western politics only really began in the last decade. Before then, action at national and global scales addressed specific pollutants and emissions, through institutionalised, international conferences and agreements, yet even these were regarded in their 'environmental' silo, unquestioning the underpinning systemic ideological and behavioural causes at hand. In this context, Scotland stands out as a leader in officially delivering climate change policy. In 2009, Scotland passed the Climate Change Scotland Act, which set an 80 % emissions reductions target from 1990 levels by 2050, labelled some of the most ambitious climate legislation in the world [29]. In the same line, Scotland was amongst global leaders to declare the climate emergency in April 2019 [30,31] at a time of high momentum, following the Paris Agreement (2015) and movements like Extinction Rebellion and Fridays for Future. This commitment, both symbolic and binding, transversally embedded responsibility to step up climate change mitigation and adaptation in the government's programme.

In the UK, control over energy policy is reserved to central government in Westminster, England,[1] yet Scotland publishes energy strategies and roadmaps, providing market and policy signals. Scotland can also influence energy developments through devolved powers including transport and planning policy. Scotland has achieved significant energy systems transformation, including the last of coal-fired power production in 2016, and renewable electricity generation equating approximately 90 % of Scotland's consumption in 2019 [32]. A front-runner with a 2045 net-zero target, whilst rich in, and highly dependent on conventional fossil fuels for exports and secondary industries such as petrochemicals, Scotland has also had historical experiences with major, unmanaged industrial transitions in the coal and oil and gas sectors (see [33]). Learning from these, and in response to NGO and union demands, the Scottish government has also led in embedding notions of 'justice' into its official emissions reduction discourse [34], particularly through the creation of an independent, Just Transition Commission in 2018 (JTC) [35] designed to monitor and advise on government climate policy in accordance with Just Transition principles. The JTC delivered recommendations which were accepted by the Scottish government in full, leading them to revamp their energy strategy into an 'Energy Strategy and Just Transition Plan' to be consulted on in coming months. Additionally, Scotland faces imperative energy challenges with fuel poverty[2] levels at almost 25 % [36]: 1 and population dispersion across urban, rural and island communities. A nation which has additionally "put public consultation at the centre of its energy strategy" [39]: 436, these characteristics establish Scotland as an intricate, stimulating case study where an array of justice considerations come into play.

Through the lens of this case study, this paper makes two contributions. First, it responds to appeals for the EJ framework's practical application in policy domains [3,38], whilst also exploring how the term "Just Transition" is understood and implemented in practice. Second, it re-grounds these literatures in political and economic realities with a

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[1] As per the Scotland Act of 1998 that created the devolved Scottish government.
[2] The definition of fuel poverty is a highly contested term in the literature and activism. The term is used here in reference to Scottish policy, which identified fuel poverty closely with relative income poverty. The full definition can be found here: https://www.gov.scot/policies/home-energy-and-fuel-poverty/fuel-poverty/

case study of Scotland, providing recommendations both for academia and for this political context.

The paper proceeds as follows. First, background on the EJ and JT literatures and their use is introduced, followed by the methods for the case analysis. This draws on 6 expert interviews and 148 legislative documents and government publications documents. The results and discussions section thematically presents the findings of the analysis, focusing on four broad topics (which each contain sub-themes): (1) affordability: fuel poverty and consumer protection, (2) other forms of recognition, (3) interest, responsibility and procedure and (4) and the "Just Transition" as a cross-cutting theme. Throughout, the JT is analysed separately given we dedicate attention to unpicking the subtleties between understandings of 'justice in energy affairs' (as encapsulated by EJ) versus those associated with the 'Just Transition' term specifically in policy practice. The conclusion considers practical implications for Scottish energy policymaking and for EJ and JT literatures in their next wave of development.

2. Energy justice and the 'just transition'

Over the last decade, EJ has emerged (largely in academia) as a new conceptual framework focusing strictly on energy affairs, which arguably has the potential to directly impact policymaking in light of the socio-energy nature of the transition [1]. EJ has been highlighted as having an opportunity to influence policy action given its lack of anti-establishment origins [9], further enabling a more manageable framing of justice by focusing efforts on energy with "environmental and climate justice knock-ons" [41]: 119.[3] Often in tandem, appeals for a JT –an approach driven by trade unions since the 1980s in response to the perceived failure of environmental justice to incorporate labour interests [40]– have gained prominence in discussions regarding industrial transitions. The term has now entered the mainstream in reference, primarily, to the low-carbon energy transition, with mention in the Paris Agreement, 'Silesia Declaration on Solidarity and Just Transition' adopted at COP24, and other areas of European energy policy. Given that EJ and the JT are currently at the heart of academic and policy discussions regarding justice in energy policy, this paper contributes to this niche of the literature.

2.1. On energy justice

In origin, EJ was defined as aiming to "provide all individuals, across all areas, with safe, affordable and sustainable energy" [43]: 108. Over time, however, the concept has expanded beyond its original definition to analyse the entirety of energy systems through a 'whole systems lens', while gravitating towards its application as flexible frameworks rather than goal-oriented definitions [9]: 175. Now, there are (at least) two increasingly popularised paradigm approaches to EJ, including the "triumvirate of tenets" and the eight principles approach, each of which will be briefly reviewed in turn.

The triumvirate of tenets advocates for the application of distributional, procedural and recognition justice throughout the energy system [9,41,44]. Distributional justice establishes EJ as an inherently spatial concept and is concerned with the distribution of both the physical allocation of ills and benefits, and the allocation of responsibilities, such as risk exposure [41]. Recognition justice aims to reveal under-

recognised sections of society, including those who are misrecognised, their views distorted in demeaning ways [37]. Finally, procedural justice is concerned with *the way* in which energy decisions are made, proposing equitable procedures that engage all stakeholders and take their views seriously [45]. Procedural justice is additionally about greater information disclosure, local knowledge mobilisation and appropriate institutional representation [9]. Alternatively, Sovacool and Dworkin [48] proposed eight principles of EJ to assist energy decision-making and evaluation: "availability, affordability, due process, good governance, prudence, intergenerational equity, intragenerational equity, and responsibility" [ibid. 436], primarily explored through case studies and concrete examples (e.g., [49,50]). The principles were expanded to 10 in a latter review to include resistance and intersectionality [20]. Given the more extensive scholarship exploration of the triumvirate of tenets, alongside the desire for flexibility in frameworks versus more goal-oriented definitions, this paper follows McCauley et al. [41] in their grounding of EJ in distributional, recognition and procedural justice.

Over the past decade, EJ has been conceptualised and advanced theoretically [49]. It has been defined and applied as a conceptual tool, an analytical tool for researchers and a decision-making tool for policymakers [46]. Scholars have also increasingly highlighted the need for a clear EJ definition to ensure policy engagement [18] and methodological applicability for policy formulation [49], appeals reflected in the development of a quantitative "Energy Justice Metric" [52], for instance. It has been explored within numerous case studies, many of which explore a multiplicity of deeply rooted injustices embodied in energy decision-making and infrastructures *beyond* the risks to fossil fuel workers (e.g., [49,53,47,54,55,56]). Examples include the dispossession of readily vulnerable communities through land grabbing by wind energy deployment in Greece and Mexico [57], or by solar energy mega-projects [56], amongst others. The EJ concept has also been posited in relation to other theoretical frameworks, such as systems literature [43]; transition frameworks (e.g., [56,41,59]) or ethical consumption [60]. Authors have also critiqued the scholarship's narrow focus, resulting in EJ's integration of whole-systems perspectives [9,43] and expansion across the supply chain [37]. These critiques have also led to the exploration of alternative methodologies, including work by Dueholm Rasch and Köhne [53] who ethnographically explored how EJ can be effectively constructed from below. Concerns driving a systems-view have been furthered through critiques of EJ's anthropocentric and Western-centric focus [20], responded to by an increasing body of scholarship working on ideas of EJ in the Global South (e.g., [61,62,63,64]), amongst others.

2.2. On the 'just transition'

The JT concept emerged from labour unions attempt to reconcile emerging environmental imperatives with achieving justice for workers, initially resulting in the rise of labour environmentalism throughout the 1970s [63]. The idea of a 'JT' was not simply about the outcome of green jobs, or appropriate retirement schemes, for instance [64]; but also, about the *process* of achieving those outcomes through dialogue, engaging affected workers and communities (e.g., [67,68]).

The JT concept has been furthered by national, continental and international trade unions and institutions, with Józef Niemiec, Deputy Secretary General of the European Trade Union Confederation (ETUC) stating that achieving a JT means "workers must not be left behind by climate action and the transition to a low-carbon economy" [65]; and the International Labour Organisation (ILO) officially endorsing JT principles [66]. Overall, the JT therefore appeals to a crucial facet of our socio-energy systems, the economy; its 'essence' outlined as "managing labour market transitions with an objective of creating decent jobs in a net-zero carbon economy while protecting and improving livelihoods and contributing to more equal societies" [69]: 4. In line with this articulation, a wide array of academic literature records the critical

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[3] The environmental justice movement emerged in the 1970s responding to the uneven distribution of environmental burdens and ills, which affected already marginalised communities [41], for instance. The movement set precedents in considering the distributional justice issues of environmental harms [42,43]. As another example, the climate justice movement arose in the 1990s with a focus on historical causes for climate change and responsibility for its distributional impacts, protecting the vulnerable and reducing CO_2 emissions [18,42].

issues addressed by the JT concept, particularly through place-based case studies (e.g., [67,66,70]); a focus on certain industries, such as the coal or automobile sectors [66]; conceptual assessments of its origin [63]; the learnings that the JT can take from environmental justice [71], and recommendations on implementing a JT through policy action [72,73], including a myriad contributions from non-academic authors. Parallel iterations of the JT term in academia have moved away from the labour union stance to reflect on the JT term more broadly, as one that could serve to encompass the achievement of societal justice overall (e. g., [74]). For a detailed conceptual review of the JT's use in varying academic circles, see Wang and Lo [75].

In policy practice, however, the JT remains primarily associated to workers, the economy and industrial transitions. Scotland is a leader in the JT arena worldwide and through numerous political statements and commitments, appears to associate the term to the transition away from fossil fuel energy, therefore referring, at large, to industrial transitions. While this is a notable improvement in contrast to industrial transitions of the past (including those away from coal and steel, for instance), and illustrates the beginning of an association of justice to the energy sector, it also creates a real concern that this focus omits other relevant justice considerations from policymakers' sight. To illustrate this, the following section delves into a review of EJ literature and the multiplicity of energy sector case studies that the scholarship has explored, spanning beyond industrial transition concerns. This review will set the tone for the rest of the paper. The EJ framework will be used as a *method* to guide the empirical exploration of justice in Scottish energy policy, while the tensions between policymakers' understanding of justice in energy and existing interpretations of the 'JT' term will be brought to light.

Both EJ and the JT share roots in the environmental justice movement [43,63], particularly with regards to the notion of distributional justice. The concepts and bodies of work are also complementary in that they focus specifically on the object of 'energy', albeit with some key differences: the most notable being the JT's predominant focus on fossil fuel industries and workers, versus the EJ scholarship's focus on energy injustices created by the deployment of new renewable energy infrastructures *as well* as the injustices caused by fossil fuel energy. Both now aim to become "operationalised" [72]: 5, [51]: 5 or applicable in practice. JT must avoid becoming merely an "abstract principle" in policy documents, but one that instead appears in concrete policies [69]: 4. EJ must move towards empirical applicability, for "to date, the success of the 'energy justice concept' is in research" [18]: 664. Yet these concepts have rarely been used alongside each other explicitly, and concerningly, there also appears a growing disconnect between their use in academia and their ability to 'operationalise' justice in the energy arena in practice. There is thus a need to empirically investigate understandings of justice as it relates to energy issues, to re-ground a conceptual debate which appears increasingly detached from political and economic realities; a gap this paper begins to fill as it goes on to question in its conclusion, how might these terms be mobilised together in practice?

3. Methodology

Using a mixed methods approach drawing on expert interviews and documentary analysis, this research explored the following research questions (RQs): (1) How are justice concerns expressed within Scottish energy policymaking, (2) how do these concerns relate to energy justice and Just Transition literatures, and (3) what are the practical implications of the results obtained for Scottish energy policymaking and for energy justice and Just Transition scholarships? This approach explored a variety of official publications, legislation and parliamentary transcripts, enabling engagement with wider data and perspectives whilst complementing interviews with tangible policy processes [76], to increase results' robustness. Throughout, we focus on socially oriented justice concerns, given that legislation in Scotland does not yet grant justice considerations/rights to nature; though the questions asked of

respondents did also give scope for environmentally conscious answers. This research was approached from a critical realist [77] epistemological stance which emphasises the constructivist nature of meaning creation and its application within the social world [78].

3.1. Data generation

Semi-structured expert interviews were undertaken with relevant experts. For the purposes of this research, experts are defined as individuals responsible for, and with privileged access to, knowledge/experience of decision-making [79]. Recognising the spectrum of qualified experts with socially institutionalised expertise involved in policymaking [80], the sample universe was limited to Members of the Scottish Parliament (MSPs) and Scottish Government (SG). This decision was determined by the appeals in the EJ literature for policy applicability [3,66]; the scrutinising role of MSPs and the transversal climate and JT commitments at executive government level; high-visibility policymakers' role in jargon normalisation; and the time and scope constraints of this research.

Interview participants were initially selected using non-probability, purposive sampling [81] including policymakers directly involved in institutional bodies specialised in the two drivers of this research: justice and energy policy (Appendix A). The timing of this research, April–August 2020, which coincided with the height of the coronavirus pandemic lockdown in the United Kingdom and many policymakers being diverted from their normal duties, led to the decision to combine purposive with convenience sampling [81] to expand the sample universe two additional times (Fig. 1; Appendix A). In total, six interviewees participated, comprising both MSPs and members of the executive.

One-hour interviews were conducted remotely via phone/online platforms, voice recorded and transcribed. Most interviewees held MSP roles, with one Executive Cabinet member also participating. Participants were spread across rural and urban areas and had varying roles and responsibilities across many policy areas. While interviewees spanned different political parties, around half of participants were affiliated with the same party. This is not perceived as inherently limiting, however, as the objective of this work was not to contrast political party views on the subject. Biases in the sample include the lack
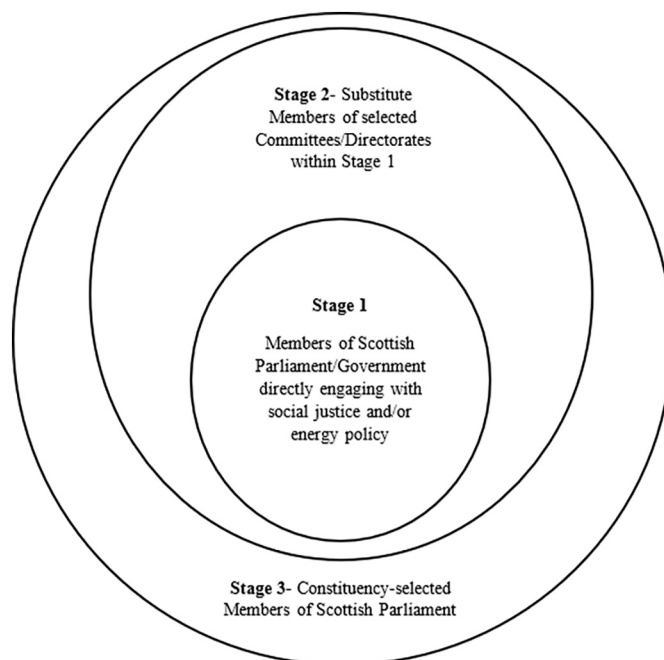

Fig. 1. Sampling method and universe.
(Source: The authors).

of representation of Scottish islands, where lived experience and perceptions of justice could be notably different to the Scottish mainland. Fig. 1 illustrates how the sampling universe and method evolved from direct engagement with energy/justice dimensions to constituency representatives. We put forward that our results are actually strengthened by the inclusion of perspectives not directly working in the areas of energy policy. Further limitations and bias risk related to data analysis are detailed in Section 3.3 below. The interview guide (Appendix B) was designed in thematic blocks and was explicitly devised to elucidate understandings of justice as they apply to energy policy concerns. This involved using the EJ triumvirate of tenets framework (including distribution, recognition and procedure considerations) as a framework to guide the themes covered, without using EJ language explicitly. That is to say, that the interviewees were not told the title of the theme that was being discussed (e.g., distributional justice), but were asked questions related to the idea. Via this mechanism and the three tenets, the

interview therefore unpacked what was of concern, for whom and how [9]. Respondents were then asked explicitly about the "Just Transition in Scotland" given the widespread use of this term in Scottish policy. Delving in on the JT explicitly allowed for comparison between more generalised concerns around justice in energy (as captured by EJ) alongside (potentially) more targeted 'JT' ideas. Said another way, these latter questions essentially sought to establish whether the "Just Transition" captured particular concerns, audiences, approaches and definitions, or whether its conceptualisation and these were similarly wide ranging. This is pertinent given the JT term is generalised in Scottish policy as the pillar for justice in energy transition discussions, yet the use of the term risks excluding other, existing justice concerns.

Alongside interviews, documentary analysis was performed on a total sample of 148 legislative documents and government publications (Fig. 2). The decade 2010–2020 was selected given the emergence of EJ and the mainstreaming of JT over this period, the scope provided for
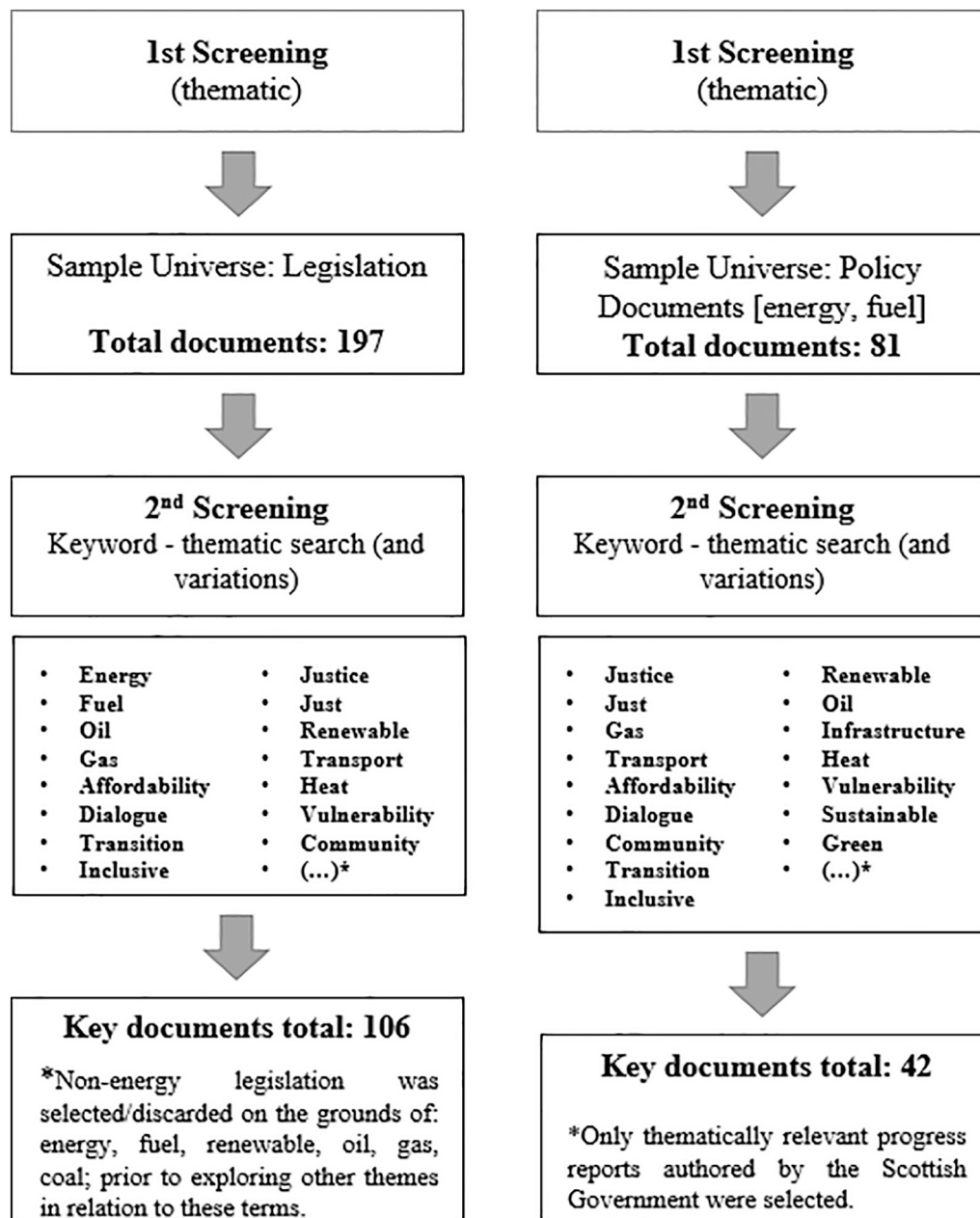

Fig. 2. Two-tiered screening process to determine document sample.
(Source: The authors).

temporal analysis and the limitations of the research team. The sampling selection aimed not to be exhaustive, instead including a spectrum of relevant documents to gain a firm grasp on predominant justice concerns associated with energy affairs in policy. A two-tiered screening process determined firstly, the original sample universe, and secondly, potentially relevant documents within the sample universe which were then coded and analysed.

Given the permeation of energy affairs across the policy spectrum, the legislation sample universe encompassed a variety of areas, such as energy, climate change, housing and transport, selected thematically based on their energy and justice relevance. Bills as introduced, their adjacent Policy Memorandums, Groupings of Amendments, final Acts and transcribed committee and parliamentary pre-amendment discussions were selected. This equated an initial total of 197 legislative documents. A second round of keyword and thematic screening narrowed this sample to 106 documents (Fig. 2, Table 1). This allowed the

Table 1
Documentary analysis totals.

Legislative documents		
Screening phase 1 sample universe	Phase 2 key documents by word/theme	
Session 3 (2007–2011)		
Housing (Scotland) Bill [2010]	14	0
Climate Change (Scotland) Bill (Ex) (E)	16	16
Session 4 (2011–2016)		
Community Empowerment (Scotland) Bill	19	8
Harbours (Scotland) Bill	7	0
Housing (Scotland) Bill [2013]	14	10
Landfill Tax (Scotland) Bill	7	2
Private Housing (Tenancies) (Scotland) Bill	11	0
Session 5 (2016 – present)		
Air Departure Tax (Scotland) Bill	9	0
Climate Change (Emissions Reduction Targets) (Scotland) Bill	13	13
Consumer Scotland Bill	10	3
Fair Rents (Scotland) Bill	2	2
Fuel Poverty (Target, Definition and Strategy) (Scotland) Bill	13	13
Heat Networks (Scotland) Bill	2	2
Housing (Amendment) (Scotland) Bill	9	2
Islands (Scotland) Bill	11	10
Planning (Scotland) Bill	22	13
Transport (Scotland) Bill	18	12
TOTAL	197	106

Scottish government publications		
SG publications - 01/01/2010–01/08/2020		
Screening phase 1 sample universe	Phase 2 key documents by word/theme	
"energy"		
Strategy/Plan	27	20
Regulation/Directive/Order	3	2
Publications	6	3
Progress Reports	42	14
Total	78	39
"fuel" excluding *"energy"*		
Strategy/Plan	3	3
Regulation/Directive/Order	0	0
Publications	0	0
Progress Reports	0	0
Total	3	3
Total energy/fuel	81	42

Groupings of Amendments were used instead of Marshalled Lists except when the former was unavailable.
(Source: authors).

prioritisation of energy issues, the justice concerns present/absent in these discussions, whether they then entered final legislation and finally, their temporal evolution. For the policy document universe, four government publication categories were selected, deemed most relevant for this research: 'publication', 'strategy/plan', 'regulation/directive/order' and 'progress report'. Within them, the sample universe comprised publications containing "energy" and/or "fuel", equating 81 documents, filtered to 42 through a second screening round (Fig. 2, Table 1). Appendix C includes a list of documents cited in-text, while Appendix C includes the list of all of the documents coded and analysed, within which documents directly referenced in-text have also been highlighted in bold.

3.2. Data analysis

For the purpose of analysis, both the interview transcripts and sample documents were treated as discursive "units" [78]: 3 and analysis was undertaken through thematic coding [82]. The interviews were transcribed and anonymised, coded, refined and re-coded three times to determine key findings, a process undertaken by the lead author. These codes clustered themes together such as 'affordability' or 'community energy' and analysed them with respect to aspects of justice. To maintain anonymity, respondents will be referred to throughout results as R1-R6, where "R" indicates "Respondent". Thematic analysis was then performed on the 148 screened documents. The screening coding process itself was thematic, given the discursive nature of the analysis. Thus, a quantitative keyword search would have been insufficient to reveal practical understandings of justice in relation to energy affairs. Emergent results were assessed jointly and appraised with literature review findings.

3.3. Limitations and ethics

This research includes certain limitations. The case study does not aim to be generalisable, particularly given the unique devolved nature of Scotland's political powers. Nonetheless, it does aim to shed light on nuanced understandings of the role and interpretations of justice in energy policy in practice. Generalisability of this research could be improved by its extension into other case sites in a multiple-case design [83,84] (though equally, as Sovacool et al. [84] note, there is merit in specificity too). Additionally, and as is common with other similar studies, the underpinning discursive approach implies subjectivity, given the contextual and interpretive sensitivities of this form of analysis [78] including the research team's own subjective standpoint and co-construction of meaning (ibid). Regarding empirical data collection, Covid-19 restrictions constrained interview numbers, resulting in a smaller sample of respondents than expected, all of whom were male. Moreover, while interviewee transcripts were treated anonymously throughout the coding and analytical process to preserve the contributions' equal weightings, the same researcher performed the interviews, developed the transcripts and coded the data. A risk of bias is present in data interpretation, given knowledge of participants' professional roles and backgrounds. This, however, also increases researcher sensibility to insights shared by participants, adding overall value to the analysis. Self-reflection was exercised throughout the analytical process to control for this by using second order reflection to uncover potential assumptions based on respondents' party affiliation or interests. This could be further strengthened by the anonymisation and coding of data or the review of the thematic framework and codes by a different researcher, or through coding triangulation – though this would have limitations of its own.

The host university ethically approved this research, and all participants were made aware of the project's content. All names were removed during data analysis and will be removed throughout the results to maintain consistency given some interviewees' desire for anonymity.

4. Results and discussion

Section 4 now focuses on the results of this research, in response to RQ1: "how are justice concerns expressed within Scottish energy policymaking?"

Throughout the analysis, nine themes emerged, encompassed in four thematic categories outlined in Table 2: affordability and fuel poverty, forms of recognition, energy in relation to political interests and decision-making, and the JT as a cross-cutting theme. We acknowledge that the JT as a term transverses some of the topics in Sections 4.1–4.3 both in academia and in practice. However, as we will argue and evidence, the current articulation of the JT in Scottish policy practice falls short of encompassing *all* dimensions of justice in energy captured in these earlier categories; a fact many decision-makers are aware of. Therefore, the JT is separately analysed in Section 4.4 as a cross-cutting theme, highlighting thematic overlaps but also contrasting broader "justice in energy" notions with the portrayal and understanding of the specific "JT" term. Combined, this enables us to provide initial insights and response to RQs 2 and 3, building on the results of RQ1.

4.1. Affordability: fuel poverty and consumer protection

Affordability emerged as a primary concern for all policymakers in relation to fuel poverty and consumer protection, as per RQ1. In this context, two findings surfaced: justice in energy defined as (fuel) poverty and the permeation of justice in Scotland's fuel poverty legislation.

4.1.1. Poverty and affordability

Energy affordability is undoubtedly key in addressing equity as, according to [85], it creates living standard inequalities which reflect on future opportunities and capabilities. This concern was reflected in one respondent's definition of justice *as* fuel poverty, therefore implicitly reducing justice to affordability:

Q: [In reference to technologies] *"Are there other justice concerns embedded in energy policy, apart from the affordability issue?"*
A: "For most people that are in the position of fuel poverty, affordability is the beginning and end of it all." (R1).

It is important to note that fuel poverty has been explicitly recognised by the literature as an expression of injustice (e.g., [86]).

Table 2
Key themes emergent from interviews and documents.[a]

	Interview responses	Documentary analysis[a]
4.1 Affordability: fuel poverty and consumer protection		
4.1.1 Poverty and affordability	X	X
4.1.2 Fuel poverty in energy legislation		X
4.2 Other forms of recognition		
4.2.1 Recognition of workers	X	
4.2.2 Recognition by sectors	X	
4.2.3 Recognition of energy over-use		
4.3 Interests, responsibility and procedure		
4.3.1 The value of information and stakeholder interests	X	
4.3.2 Community empowerment and distributing responsibility	X	X
4.3.3 Monitoring and evaluation as procedural justice	X	X
4.4 Just Transition – a cross cutting theme?	X	X

[a] Generally speaking, references to justice or justice ideas appeared explicitly in fuel poverty legislation and documents, and in passing in energy strategy, housing and climate change strategy documentation. They were not present in the more technical energy documentation e.g., those on energy efficiency, or renewable energy infrastructure deployment.
(Source: The authors).

Nonetheless, R1's association is illustrative of an established techno-economic approach to energy policy [20] which foregrounds redistributive economic measures of taxation and subsidisation as the primary tools to address justice issues, understanding distributive justice in *sole* reference to economic inequality. Similarly, the strongest materialisation of justice in energy affairs within the analysed documents was as a form of fuel poverty. This was generally associated with energy efficiency or with other technological fixes, such as renewable heat and microgeneration [87,88]. Energy efficiency-based policy documents also focused on justice as fuel poverty (e.g., [89,90]). In legislative documents this emerged, for instance, throughout the *Climate Change Bill* (2009) discussions [91], or during Stage 3, *Housing Bill* (2013) discussions [92].

Similarly, R3 understood energy vulnerabilities as primarily affecting "low-income households" and referred to the poverty profile based on the Scottish Index of Multiple Deprivation. In parallel, most documentary references to fuel poverty were broad, without distinguishing between vulnerable individuals or compounding variables, such as age or ill health (e.g., [93]).

Other respondents, however, demonstrated more targeted knowledge of energy needs and rights of specific consumer groups and circumstances:

"An older person whose metabolic rate has dropped will be likely to require more household heating than somebody that's younger. It's also the case if you have infants, you need a warm room because their temperature can come down so fast." (R2).

While R2 was the sole respondent to recognise unique needs by demographics, R4 voiced past issues of misrecognition for those living in fuel poverty in the 1980s, describing a progression in policy from behaviour-blaming towards a more systemic understanding of people's fuel poverty circumstances, such as living in poor housing. Similarly, R5 highlighted the relationship between consumer location and their energy needs, based strictly on meteorological conditions (R4, R5). In coded documents, there was occasional, brief recognition of the role of geographical differences, such as the higher infrastructural costs of living in the north of Scotland (e.g., [93]). These examples, however, emerged in brief following specific probing questions, and were not widespread across either interviews nor documents.

The consistent association of 'fuel poverty and affordability' as the 'be all and end all' shape of justice is concerning insofar as it represents a narrow scope of the elements of justice embedded in energy affairs, in contrast to demonstrated evidence in the literature of extensive (in) justice impacts of energy infrastructures and policy. Some examples include land grabbing through energy infrastructures (e.g., [58]) or the (mis)recognition dimensions involved in fuel poverty characterisations in the UK, *beyond* affordability considerations (e.g., [94]). For a multi-case study exploration of injustices across different low-carbon technologies and geographies, see Sovacool et al., [95]. Whilst not the sole focus, affordability was often a predominant theme in discussions, and the most overt consideration across policy documents. In reference to RQ2, this depicts a clear distance between the literatures' knowledge-base and its (lack of) materialisation into perceptions (and thus policies) in practice.

Nevertheless, although recognition justice was not widespread amongst respondents, a particularly important understanding of vulnerabilities emerged, applicable *beyond* affordability or fuel poverty. There was clear recognition that vulnerabilities are flexible in time and in character:

"The Bill as it was introduced defined these groups in quite fixed terms… So that was amended to be much more flexible and recognise that vulnerabilities are something that can encounter anyone at various times in their lives." (R4).

"A fairly brutal transition that wasn't managed well… would impact individuals who may not currently be in socially disadvantaged groups." (R3).

While this illustrates high levels of understanding of the nuances of vulnerability, the recognition of fluid vulnerabilities subsequently motivated a policy focus on costs/incomes to decrease individuals' risks (R1), which returns to a reductionist, techno-economic approach as the sole mechanism to tackle these issues. The fluidity of vulnerabilities is clearly a consideration in policy design (in Scotland) and moreover, embeds contextual temporality. A valuable insight from policy, there should be increased engagement by EJ scholars within the realm of recognition justice, as per RQ2 and RQ3, particularly given that it is counter-intuitively resulting in purely economic-based responses to energy vulnerability.

4.1.2. Fuel poverty in energy legislation

Amongst documents analysed, many of which were primarily techno-focused, the *Fuel Poverty Bill* (FPB) (2018) [96] and subsequent amendments culminating in the 2019 *Fuel Poverty Act* (FPA) [16] were the exception, each containing deep understandings of distributional, recognition and procedural justice[4] and hence reflecting all three pillars of the EJ framework. They therefore serve as a prime example to respond to RQ1 and RQ2. Bill discussions exemplified distributional justice knowledge of unique fuel poverty scenarios, both in geographical and individual terms [97]. Moreover, the Bill redefined fuel poverty to include a spectrum of needs by introducing household heating hours [96]; an understanding of "enhanced heating needs", pertaining to age or disability, amongst others [98]: 8 and introducing an extreme fuel poverty target in the *FPA* [16]. Throughout legislative stages, committees ascertained the need to build flexibility into vulnerability criteria [97], as discussed by interviewees. This enhanced recognition has materialised, for instance, in the *Draft Order of the Security Act* which aims to provide monetary aid to the youth with disabilities, supporting the increased winter heating costs they incur [99]. Additionally, the Bill legislated for a consultation process which includes individuals who have experienced fuel poverty [96] as further fine-tuned in the *FPA* [16], clearly aligning with procedural justice demands of inclusive and appropriate representation.

It is, however, not the case that all energy legislation includes such a fine-grained comprehension of justice. The *Heat Networks Bill* (2020) [100], which became law on 30 March 2021, was designed from a purely techno-economic perspective. The Policy Memorandum briefly mentions social concerns [101] yet they carry a somewhat aspirational character. Whilst justice considerations may be introduced throughout scrutiny sessions, a key difference remains: The *FPB* [96] readily integrated distributional, recognition and procedural concerns from the outset. Conversely, a Bill focused on technical developments - district heating networks - excludes justice considerations in its original form. Outside the strictly energy policy arena, references to renewable energy infrastructure within policy documents (see the Planning Bill process, [102] for instance), were also largely or purely technical, obviating social matters.

All in all, in accordance to RQ1, these findings favourably exemplify the tangible inclusion of fine-tuned justice concerns within Scottish fuel poverty legislation, also, demonstrating recognition and procedural justice's applicability in legislation, as per RQ2. On the other hand, these examples also illustrate that social concerns are *not* always present in Scottish energy policy and highlight the pervading technical-social gap in energy affairs. Unless socially focused (fuel poverty legislation explicitly addresses social inequality concerns), energy policy making

continues to adhere to mainstream techno-economic conceptions of energy, which the literatures move away from.

4.2. Other forms of recognition

As outlined in Section 4.1.1, the most common approach to recognition justice concerned those in poverty. Moreover, whilst the *FPB* [96] was exemplary in its introduction of recognition justice, deeper notions of recognition within other documents were negligible. Nonetheless, throughout the interviews, respondents did refer to how and *who* would be impacted by energy policy, and their perceptions expanded *beyond* vulnerable groups. This raised a new form of recognition in energy affairs: one of understanding practical needs and justice implications which might not have been detected through strict, pre-defined vulnerability categorisations.

4.2.1. Recognition of workers

There was overarching awareness amongst respondents of the fossil fuel transition and its impacts on dependent workers and communities, aligning with JT predominant narratives in academia and in practice. This was in contrast to the brief, generic references to workers within certain documents, such as the *Scottish Energy Strategy* [103]. In discussions, certain respondents identified that fossil fuel workers generally have higher than average salaries (R2), revealing a less common form of recognition, as per RQ1:

"A large number of them working in the fossil fuel sector are going to have reasonably well-paid jobs… for various reasons: because they're more technical, because they're working in more difficult environments…" (R3).

Whilst justice scholarship tends, intuitively, to focus on those who are already living in situations of difficulty or injustice, energy policy's recognition of the variety of needs and rights of fossil fuel workers is also key to avoid increasing the number of individuals in disadvantaged groups. Thus, there is a necessary focus on both the distribution of benefits, and on the retention of them where they pre-exist. This on-the-ground recognition of industry workers' needs *beyond* reskilling and unemployment (given an industrial transformation that lies out with their control), is currently underexplored by the literatures, particularly by EJ; a finding which responds to RQ2. As per RQ3 this highlights a gap EJ literature must fill if it wishes to provide a decision-making method that can positively respond to tangible realities of impacted workers and communities across the board.

4.2.2. Recognition of energy over-use

In a niche discussion on excessive energy use, the two primary solutions identified were the complete substitution of current energy supply with renewable sources and energy efficiency measures, both in cases of high-consuming industries such as aluminium smelt, and for energy over-consumption by consumers (R3). Whilst resolving energy over-usage through energy efficiency is intuitive, this response also raises the question on tackling wasteful energy practices, including the possibility of disincentive policies. Well-known, fairly widespread disincentive policies already target a variety of environmental issues, such as waste reduction exemplified by the landfill tax in Scotland [104] or pay-as-you-throw schemes in Belgium, the Netherlands and Luxemburg [105], amongst others. Looking towards the low-carbon energy transition which will require behavioural change across the supply-chain, businesses and individuals, this unveils an under-consideration of disincentive energy policies in the literatures and in policy, carrying practical implications for both arenas as per RQ3.

4.3. Interests, responsibility and procedure

Energy is inherently loaded with political and party interests. This

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[4] Leading up to the FPA [16], the SG published: health impact, Fairer Scotland duty and equality impact assessments, all of which contained understandings of distributional, recognition and procedural justice.

was raised by respondents when discussing the definition of priorities, determined by geopolitical affairs (R5), constituencies (R4) and partisan ideologies (R6), amongst others. In this context, three key themes emerged in response to RQ1: the value of information and the permeation of stakeholder interests in energy decisions; inclusion through community engagement and responsibility distribution, and the need for appropriate monitoring and evaluation (M&E).

4.3.1. The value of information and stakeholder interests

Access to proper data and information was recognised as vital for the inclusion of social considerations in energy affairs. Thus, respondents noted how fuel poverty struggles only became embedded in energy policy following data availability (R1, R4). This regard for information and for procedural justice more broadly was also evident in the documents analysed. As examples, the *Energy Consumer Action Plan*, (2019) states that "that change happens *with* consumers, not *to* them," [106]: 7, whilst the *FPA* [16] mandated the inclusion of individuals with fuel poverty experiences into consultations and monitoring reports. Similarly, throughout revisions, a "Citizens Assembly" [107]: 6 was introduced into the *Climate Change Act* (CCA) (2019) [108] to increase people's participation in the decision-making process. These examples denote sensitivity towards procedural justice and stakeholder involvement within Scottish energy policy.

On the other hand, three respondents perceived stakeholder representation by civic organisations as impeding access to pertinent information on sensitive issues. Respondents recounted that they had "never yet seen a person sitting in front of me in any committee who has suffered from fuel poverty" (R1) and that this form of representation can dilute or skew the information received (R1, R5). This was well reflected in the quote by R2 below:

"There's one odd barrier… these are bodies that represent special interest groups around Scotland. They themselves almost can become the barrier, because they themselves have an interest in continuing to exist as the representative of that opinion. And to keep those whose opinions they are supposed to be bringing forward in a subservient position to them." (R2).

The perceived obstruction of procedural justice by organisations whose purpose is precisely to *increase* the voices heard is a particularly concerning finding. In contrast to Lacey-Barnacle and Bird's [109] positive assessment of the unique role of intermediaries in creating a "civic energy sector"; it appears that current institutional (mis)representation of vulnerable groups by intermediaries in Scotland is sometimes resulting in 'soft' misrecognition, where these individuals' voices might not be ignored, but are neither accurately conveyed. Whilst EJ ingrains appropriate institutional representation as a core aspect of the procedural pillar, understanding the reasons behind this compelling finding pertaining to the inner workings of the decision-making process requires a closer look. This is a clear practical implication for the scholarship and policymaking, responding to RQ3.

Whilst these findings uncover certain issues within Scotland's policy procedure, they also demonstrate that Scotland does consider public consultation within its energy strategy [37] and that policymakers value appropriate information and representation in the energy decision-making process, responding to RQ1. Moreover, as per RQ2, this finding robustly supports EJ scholarship's association of information disclosure and inclusive procedures to procedural justice [9] and the JT's endorsement of social dialogue [66].

4.3.2. Community empowerment and distributing responsibility

Beyond information, respondents referred to direct consumer involvement as crucial to driving justice in energy affairs holistically, predominantly championing the role of community energy schemes:

"I think the system is still flawed, in the sense that responsibility for delivering energy is still in the hands of a very small number of very large multinational companies (…) If you look at community energy, which has taken off mainly in rural Scotland (…) the thinking that has gone on there has been substantially driven by the needs of the local community. Which includes the needs of those who are more vulnerable…" (R4).

In light of RQ1, this respondent regarded the distribution of responsibility for energy deliverance as a key factor to improve procedural and recognition justice. Community-led energy schemes would increase the voices heard, whilst recognising the needs and rights of the community and of the most vulnerable within that community. This was echoed briefly by R6 who asserted energy policy should focus on local-led schemes. Similarly, individual and community empowerment is embedded in government publications, including the *SES*, in which 'Consumer Engagement' is a core pillar [103]; the *Hydro Nation Annual Report* which referred to involving those affected as early on as possible [110], whilst the *Annual Energy Statement* (2019) outlined the value of empowering communities through local energy systems [111]. This is a notable evolution from past documents, which often positioned local communities as dichotomous to developers and primarily as posing "issues/conflicts" (e.g., [112]: 82–83).

In this context, R4 attributed the emergence of 'not-in-my-back-yard' opposition to renewables deployment in Scotland[5] to the exclusion of communities from Scotland's "renewable revolution", which was perceived by many as a policy failure:

"One of the things that drove that actually, was that we've chosen to develop renewable energy in a way that doesn't really advantage communities… Our renewables revolution has been driven by big multinational companies, and communities have felt left out, and that's a failure of public policy, I think." (R4).

This led to the unequal distribution of benefits to multinationals whilst communities were further marginalised, for instance, by landscape industrialisation through renewables deployment. From these reflections, community energy emerges as a prime example to incorporate distributional, recognition and procedural justice into energy affairs, as per RQ2. In parallel, a SG funding invitation for heat projects in 2019 included 'community ownership potential' and 'community engagement plans' as desirable project criteria [114]. This illustrates a shift in the SG's investment focus, possibly correcting past policy failures that left communities behind (R4).

4.3.3. Monitoring and evaluation as procedural justice

Beyond information access, representation and involvement, an array of respondents referred to the pertinence of transparent outcome measuring as a key aspect of energy procedures:

"If you can't measure it, it's very difficult to know whether or not your policy is being successful or not. Your measures will- whether in place or absent, tend to influence what further steps the government takes in the future." (R6).

Independent, transparent monitoring and evaluation (M&E) of the policy implementation process and its subsequent impacts is a core facet of policymaking, identified by respondents as sometimes lacking appropriate implementation in energy policy (R4). This was an interesting find, given M&E plans were embedded within energy strategies and legislation analysed. Often considered *subsequent* to the policy-making process, M&E is in fact a core pillar of decision-making and can be a critical mechanism for energy policy accountability and justice

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[5] Also known as 'NIMBYISM', a term that itself often results in misrecognition [113].

integration. It is, however, underexplored by the literatures, demonstrating a key gap as per RQ2. Moreover, the M&E process in itself holds great scope to integrate procedural justice, as illustrated by the explicit inclusion of affected voices in the monitoring stage of the *FPA* [16]. This could be key to providing transparent, accurate insights on policy outcomes and their justice implications to inform future energy policy decisions.

4.4. The just transition – a cross-cutting theme?

The JT was continuously mentioned by all respondents in relation to various of the aforementioned themes. It is explored in its own section given author acknowledgement of the risks of using widespread jargon to 'define' an issue: in this case, defining 'justice in energy' as 'the JT'. By separating JT references into its own section of analysis, we are able to tease out the overlaps and nuances in Scottish energy policy understandings of justice in relation to energy, alongside the understandings of the JT. It is also important to note that while the JT term was referenced throughout interviews, the term was notably less present within documents analysed.

The JT was, broadly speaking, associated with moving away from fossil fuels while mitigating societal risks of this 'move' (R3). While some respondents briefly asserted that the JT in Scotland exceeds fossil fuel industry impacts to uphold all aspects of justice (R3), various interviewees *including* R3, then associated the JT heavily to the 'producer' end of the energy sector, focusing primarily on fossil fuel employment (R2, R3, R4, R6). This highlights a fluctuating understanding of the JT and how it is becoming policy practice, alongside broader understanding of energy (in)justice issues that must also be accounted for. Similarly, R2 claimed:

[In reference to the JT] *"Energy has been quite a significant part of it, but predominantly focused on the effect on people who work in the current energy industry. I think we probably do need to give them a nudge to look at the transition for the people for whom the energy is created… and we're not there." (R2).*

Furthermore, in their identification of the JT in relation to fossil fuel employment, R2 and R4 also expressed that specific justice concerns have been neglected to date (R4). This implies that whilst the JT is often associated with employment in the industrial fossil fuel transition, respondents also associate the JT term to the 'justice pillar' of energy affairs in Scotland, which should therefore encompass all other concerns.

Other respondents understood the JT beyond employment. R1 defined the JT in absolute fuel poverty and affordability terms (R1). Given the respondent's former definition of justice *as* fuel poverty and affordability (explored in Section 4.1.1), this upholds the finding that JT is interpreted by some policymakers as representative of justice in Scottish energy affairs in general (and to this respondent, as fuel poverty in particular). Alternatively, R5 defined the JT as encompassing employment, consumer interests *and* fuel poverty. While R5's interpretation of the JT surpassed the remit of fossil fuel employment impacts, their response continued to follow delimited, specific concerns (tangible 'objects': employment, consumption, poverty). These concerns are completely legitimate and essential. However, this discussion did demonstrate that R5's definition of JT did not extend to deeper notions of distribution, recognition and procedural justice in relation to energy. This is despite the fact that these were, to varying extents, clearly highlighted by all respondents throughout interviews while talking through the different thematic blocks, prior to explicitly discussing the 'JT' term.

In further contrast to the interviews, the JT term was used quite sparingly and superficially across legislative documents, used to reference justice generically. Discussions on the Just Transition Commission at Stage 1, *Climate Change Bill* (2018) mentioned "enhancing social justice" [115]: 44. The JT principles included in the *CCA* [108] focused

on the economy, workforce and social dialogue, briefly mentioning tackling inequality and poverty through "sustainable economic approaches" [108]: 26. This finding reveals a predominant association in written policy and legislation in Scotland of the JT to the low-carbon *economy*, a tendency highlighted as worrying by recent JT scholarship (e.g., [74]), which leaves out broader distributional, recognition and procedural concerns.

The JT's widest use across SG publications surfaced in the *Annual Energy Statement* (2019) where it was upheld as a key government message and detailed within the "Monitoring and Engagement" section, which outlined the Just Transition Commission's focus on social dialogue [111]: 10. Interestingly, this contrasts drastically with interview respondents' perceptions of what the JT stands for, given no one mentioned social dialogue. This is a somewhat surprising finding for two main reasons: firstly, social dialogue is a core foundation of the JT, as highlighted both by trade unions and the scholarship (in Section 2.2 above) while its necessity is continuously highlighted by the Just Transition Commission in Scotland [116]. Secondly, this appears at odds with the widespread championing of procedural justice in energy affairs in Scotland and by policymakers. A clear finding for RQ2, this materialises a disconnect between the literatures' foundations and objectives, versus decision-maker associations in this case, to the JT term in practice.

The JT was absent from the Annual Energy Statement's sections that focused specifically on energy industries [111] and was only briefly mentioned in the *Scottish Energy Strategy* [103] and in Scotland's *Energy Consumer Action Plan* [106]. The JT is also omitted from various recent energy publications, including the *Energy Efficiency route map* [90] or *Scotland's Electricity and Gas Networks: Vision to 2030* [117], amongst others. In tune with findings in Section 4.1.2, this demonstrates a clear omission of justice considerations (in this instance, purported by the use of JT terminology) in direct relationship with energy affairs.

Overall, it appears that the JT concept is broadly understood and upheld as the 'justice pillar' of the energy transition in Scotland (and possibly of energy policy generally) by certain policymakers, either readily encompassing all justice concerns, or accompanied by suggestions that it should. However, the JT continues to be associated to social dialogue, industry employment and affordable consumption. This reveals a gap between policymakers' genuine understandings of 'justice in energy affairs' as covered throughout interviews and analysed in Sections 4.1–4.3, versus the descriptions of justice provided in association to the JT in Scotland. In addition, policy publications and legislative documents reflect an economic, industry transition association to the JT term, illustrating subtle differences with policymaker associations to the same term as presented in the interviews (although they are broadly aligned). The JT appears sporadically in policy documents and in ministerial forewords (e.g., [111]), generically referring to social equity or sustainable economies yet seems to lack a clear policy outline for its implementation. This institutionalisation of 'JT' as ever-present jargon in public energy transition discourses risks leaving specific concerns behind, some of which policymakers demonstrate a real understanding of already – from including workers' rights to a managed transition away from fossil fuels to broader justice concerns beyond traditional understandings of the JT- following the guiding principles of distribution, recognition and procedure.

5. Conclusions and recommendations

This paper has endeavoured to understand how justice is conceptualised within energy policy affairs in Scotland. This has been explored in relation to EJ scholarship and the "Just Transition" as they are used in academia and practice, in order to inform both academic scholarships and policymaking. The following RQs were addressed, the responses to which are summarised below: (1) How are justice concerns expressed within Scottish energy policymaking, (2) how do these concerns relate to energy justice and Just Transition literatures, and (3)

what are the practical implications of the results obtained for Scottish energy policymaking and for energy justice and Just Transition scholarships?

In response to RQ1, the common reduction of justice within energy policy to fuel poverty demonstrates a concerningly limited understanding in policy practice of the nature of justice within the energy domain, tied to technical fixes and redistributive economic policies focused on costs and incomes. Positively, the *FPA* [16] *did* integrate deeper notions of justice pillars outlined in the literatures. Nonetheless, responding to RQ2 and RQ3, the overarching justice-as-fuel poverty association highlights a need for enhanced scholarship and policy engagement, principally in the field of recognition justice to expand understandings of vulnerability, historically marginalised voices and the assumptions and path dependencies that these create. Moreover, in contrast to the *FPA* [16], a clear techno-economic emphasis surfaced throughout the majority of strictly energy policy-focused documents, which generally excluded social concerns, illustrating the ongoing need to ingrain these considerations into energy policy in line with calls from the literature to do so. Finally, it is important to note that multi-species justice considerations and discussions on future generations did not emerge, responding to RQ1 and RQ2. EJ and JT scholarship must engage explicitly with these dimensions of justice and energy (a limitation of our own work), and find vehicles to make these material issues accessible to policymakers alike.

Considering RQ2, procedural justice is particularly understood in the Scottish energy arena, notable amongst both interview respondents and policy documents, which demonstrated an ongoing attempt to enhance the inclusion of unheard voices. This further championed community energy schemes as a prime example with potential to achieve distributional, recognition and procedural justice through consumer empowerment and energy responsibility distribution. Further work could evaluate community energy schemes in Scotland specifically, and whether they enable procedural justice; while also considering inclusion alongside recognition justice (focusing on underrepresented and marginalised groups) and the effective distribution of opportunities. In addition, the focus on community energy schemes across interviewees and documents also sheds light on when it was *not* considered: procedural justice does not appear to be explicitly valued within other energy infrastructure processes beyond community-specific schemes. Distributional justice was identified as energy costs and location, whereas justice as recognition was largely generalised as poverty. In parallel, however, new forms of recognition emerged through discussing practical policymaking concerns, such as fossil fuel workers' rights across the socioeconomic spectrum and the recognition of varying businesses and consumers' energy use levels in the context of responding to climate change. This challenges common conceptualisations of vulnerability, providing surprising insights for further research.

The need to distinguish between the use of specific justice terminology and the tangible consideration of real issues of justice was a clear driver behind the methodology of this work. Throughout the analysis, the 'JT' term materialised as an explicit acknowledgement of existing justice implications in the energy transition. Today, the term has become mainstreamed in policy and public practice. Policymakers recognise and use the term as a representation of justice, often understood in relation to the energy *transition* rather than to energy policy per se. Whilst empirical evidence has demonstrated the adoption of the 'JT' term to refer to important justice outputs such as fossil fuel workers' rights and energy affordability, this also risks missing an opportunity to entrench deeper, fine-tuned notions of justice across the energy system machinery. This is concerning given it creates risks of new injustice; but also signals to a risk of 'not doing' – of wasting an opportunity to achieve tangible JTs. The use of the EJ triumvirate of tenets as a method to guide discussions on 'justice and energy' and to analyse results provided insight into policymakers' increasing understanding of these deeper notions of justice, despite their lack of association to the JT term. This signals to an opportunity for EJ frameworks to become a

methodological, 'back-end' approach to energy decision-making. Moreover, the complementarity between EJ considerations and the JT as an institutionalised term with operational power, highlighted by both the literatures and by respondents' discussions on the fossil fuel transition, depicts great potential for framework and concept to work towards their strengths in synergy, contributing to a transformation of the socio-energy system.

Although these conclusions are specific to the Scottish case, they provide further evidence for the scholarships to focus on their complementarity, contributing empirical testimony to current applicability and understandings of these concepts in practice. Indeed, in response to RQ3, which sought to identify practical implications for both the scholarship and policymaking, the research findings unveiled recommendations for further research and policy through the methods used, and thematically regarding procedural and recognition justice. Firstly, the mixed methods approach combining interviews and documentary analysis highlighted a clear gap in understandings of justice in relation to energy within policy, given the much greater nuance and weight attributed to justice across interviews versus legislative documents. This is even more concerning given the much higher number of documents analysed in comparison to interview discussions. The authors recommend that this implementation gap be further scrutinised within policymaking processes to understand potential underpinning biases that drive energy policy towards often forgoing justice considerations. In the spaces of procedure and recognition, the literature should first, further explore cases of misrecognition through misrepresentation, highlighted by numerous respondents. Second, monitoring and evaluation (M&E) as a policy arena holds great scope for engagement within the realm of procedural justice, particularly as it is a tangible, intrinsic part of the policy scrutiny process and a tool to monitor progress, thus aligning with the literatures' aim to be applicable.

Whilst most JT scholarship has engaged with fossil fuel industry case studies, EJ literature is yet to explore these scenarios in significant depth [1]. Findings in this paper, including interview discussions, further evidence the potential that the EJ method has to support a fair transition for workers, by permeating energy policies such as decommissioning or new energy infrastructure deployment with distributional, procedure and recognition considerations. Additionally, there is need for deeper levels of recognition justice exploration *within* the fossil fuel industry, to ensure the appropriate recognition of needs and retention of well-being where it exists. Whilst transition impacts are generally evaluated from either worker-community (JT) or vulnerable groups (EJ) perspectives, these in themselves should not be dichotomised, and greater exploration of the fluidity of vulnerabilities is required. This paper thus recommends further engagement of the EJ scholarship with organisations like the Net Zero Technology Centre, for instance, to understand the multiplicity of justice dimensions of fossil fuel industry decline, including and beyond employment. This is particularly pertinent today, to inform the ongoing work of the Just Transition Commission in Scotland.

Finally, the recognition of excess energy usage has been underexplored by both the literatures and by policy. This finding pertinently touches on a somewhat uncomfortable issue for policy to address. In short, that (global north) societies must actively reduce consumption, changing our behaviours and value-systems in the face of the still-hegemonic, neoliberal consumerist paradigm. In this context, there may be room for disincentive policies. This paper therefore ends with a plea for researchers and policy makers to scrutinise, question and unpick the underlying paradigmatic assumptions that drive decision-making in energy and other policy arenas. In a time of critical urgency and inevitable change, the current generation of decision-makers across the public and private sectors have an even greater duty to reflect on their individual and collective ideological assumptions. Based on findings across scholarship alongside our own, this paper suggests that by embedding flexible, robust justice frameworks like energy justice into the core energy policymaking process, there is a better chance of effectuating Just Transitions towards genuinely sustainable socio-

energy systems in the long run.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence

the work reported in this paper.

Data availability

The authors do not have permission to share data.

Appendix A. Interview stages of purposive and convenience sampling (source: the authors)

Stage 1	Stage 2	Stage 3
• Energy and Climate Change Directorate • Economy Energy and Fair Work Committee • Environment, Climate change and Land Reform Committee • Housing and Social Justice Directorate • Fair Work, Employability and Skills Directorate	• Economy Energy and Fair Work Committee • Environment, Climate Change and Land Reform Committee	• MSP Glasgow (region) • Glasgow Anniesland • Glasgow Cathcart • Glasgow Kelvin • Glasgow Maryhill and Springburn • Glasgow Pollok • Glasgow Provan • Glasgow Shettleston • Glasgow Southside • West Scotland and Fife • North East Fife • Mid Fife and Glenrothes • North East Scotland • Aberdeen Central • Aberdeenshire East • Aberdeenshire West • Aberdeen Donside • Aberdeen South and North Kincardine • Highlands and Islands • MSP Orkney Islands • MSP Shetland Islands • Falkirk East • Falkirk West • Midlothian North and Musselburgh • Midlothian South, Tweeddale and Lauderdale • Perthshire North • Perthshire South and Kinross-shire • Edinburgh Central • Edinburgh South

Appendix B. Interview guide (source: the authors)

Theme	Question approach	Justification
Justice	How is justice relevant to the energy sector? Does this vary according to different technologies? What does justice in energy policy look like when thinking about extraction abroad, across the supply chain?	Introducing and closing the interview subject. Begin discussions of energy affairs subject to justice considerations.
Distributional justice	What are the key issues when discussing the distribution of harms and ills of energy policy?	To consider issues of location, such as energy access or pollution, highlighted by McCauley et al., (2013) as critical.
Justice as recognition	In your experience, does energy policy recognise any particularly vulnerable groups? Are any particular groups or opinions misrecognised, their views not taken seriously? What about internationally?	To explore policy-maker identification of needs, the level of social responsibility attributed to energy decisions and the perspectives applied nationally and internationally.
Procedural justice	Would you consider the energy decision-making process to be fair? Is this important? What are the challenges to this, and how could it be improved, if at all?	To understand the level of procedural justice in Scotland, championed by (Heffron, McCauley, 2014:436) and the challenges and opportunities perceived in this area.
Just Transition	What is the primary focus of the just transition concept as it stands, regarding Scottish energy policy? Do you feel the term encompasses all the aspects and forms of justice that we have talked about? Is this important?	To enable interviewees an a priori definition of JT, as it is applied in Scotland, and to discuss whether it matches their expectations of justice in energy affairs.

Appendix C. In-text referenced documents

Legislative documents

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Appendix D. Total coded and analysed documents

In bold: those which have been directly referenced in-text.

D.1. Legislative documents

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