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Winds of change: An engaged ethics approach to energy justice

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ABSTRACT

Theories of energy justice are standardly used to evaluate decision-making and policy-design related to energy infrastructure. All too rarely attention is paid to the need for a method of justifying principles of justice as well as justice-based judgments that are appealed to in this context. This article responds to this need by offering an engaged ethics approach to normative justification useful for energy justice theory. More specifically, it presents a method of public reflective equilibrium and shows its potential as systematic method for both anchoring analyses of justice in practically relevant judgments and for critically examining perceived injustices. The method is developed and demonstrated through the case of injustices related to a hypothetical but realistic case of wind power development. Participants were invited to a process of justifying justice-claims, using a version of the method of public reflective equilibrium. They reflected on a preliminary normative framework created by the research team and visually depicted by a graphic artist. The analysis of the workshop identifies the following three themes as particularly important for just wind power development: (1) establishing trust among the stakeholders; (2) questioning energy demand; and (3) identifying the right site and scale for energy decisions. All three themes have to do with fair procedures. The latter part of the paper explores what this means for theorising energy justice and outlines a theory of imperfect procedural energy justice.

1. Introduction

Development of wind power is an increasingly controversial imperative: an essential part of the low-carbon transition, cost efficient and clean, but also facing severe implementation issues due to strong local opposition. To reach the objective of the Paris Agreement of net zero emissions by the second half of this century, an extensive and rapid expansion of wind power globally is considered necessary [1,2]. As of now, wind power is the second most important (next to hydro power) and fastest growing renewable energy technology globally [3]. In 2020, 1592 TWh of electricity came from wind, which is 12 % higher than in 2019. To stay on the net zero path, the increase must be an average 18 % per year during 2021–2030 [4].

Although wind power generally is a popular source of energy, there is also widespread local opposition [5–8]. Some see wind power as harmful, unjustified and unwelcome and point to a long list of grievances and complaints underlying the 'complex, multidimensional nature of forces shaping public perception' [9]. It has been known for a long time that wind power regularly meets opposition, but this issue has only recently been analysed in terms of justice [10–14]. In this article, we address the problem of how to determine which of these objections are more or less important to consider from the point of view of justice and how to design supportive or corrective measures in a just way. In the context of energy decision-making, justice is standardly understood to have a procedural, a distributive and a recognitional dimension. It concerns how decisions are made, how the costs and benefits are distributed, and respect for individual differences and circumstances. Research around 'energy justice' [15] points to the complex political factors – beyond economics and technology – that affect and sometimes hinder the roll out of renewable energy projects. The research also shows the potential of turning opposition into support in community-led energy projects [16–19].

Seen from the perspective of political philosophy, however, such analyses are incomplete. One problem is that they provide little guidance as to which normative considerations are more or less important to take into consideration in energy decision-making, and which considerations are fundamental principles and which are instead judgments derived from principles. Political philosophy, furthermore, takes as its

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starting point the reasonable disagreement that pertains to principles of justice, a controversy that is absent in energy justice theory. People reasoning in good faith have different opinions about what justice dictates. In order to move from this state of disagreement to a just transition each party can reflectively accept, there is a need to engage in a process of justification. We cannot assume to know what the demands of justice are e.g., when it comes to implementing wind power, neither can we trust intuitions about what is just or unjust at face value. Instead, these things must be justified: we must search for reasons to hold certain judgments warranted and reasons for adopting certain principles to explain intuitive judgments. This points to the method philosophers call reflective equilibrium as an ideal approach to scrutinise both intuitions and principles of justice [20].

In this paper, we employ a version of this method to examine when and why decisions aimed at developing renewable energy – and in particular wind power – create injustices. The overall aim is to show the potential of taking an "engaged" approach to normative theorising [21,22] by which we mean inviting stakeholders to the low-carbon transition as collaborators to a process of scrutinising justice-claims as well as developing normative principles. This can be contrasted to the more typical approaches of either applying an existing normative framework to a particular case (with little public input) or eliciting lay intuitions about justice but without exposing them to moral scrutiny. The method of public reflective equilibrium is used both to review and explain intuitive judgments and to test and develop energy justice theory, which is a novel contribution to this field of research. The method, as well as this paper, is situated in the intersection of empirical research and normative theory. Although the methodological aim is primary, we also intend to make a substantial contribution to energy justice theory and the understanding of what justice requires when it comes to wind power development.

In pursuit of these aims, we organised a workshop in which we invited participants to scrutinise a preliminary normative framework of justice-based arguments created by the research team. The framework serves as context for both the workshop discussion and for the theory development that comes later in this article. It consists of arguments for and against wind power development which we assembled through a literature review. The framework was used in the workshop to elicit intuitions of the participants and it is used below in this article to contextually specify normative principles of energy justice. The framework also provides an overview of existing research on justice aspects of wind power development. We elaborate further on our methodology, in Section 2, and present the preliminary normative framework in Section 3.

In Section 4, we present and analyse the results from the workshop. We there identify three themes that emerged from the workshop discussions as particularly important for just wind power development: (1) establishing trust among the stakeholders; (2) questioning energy demand; and (3) identifying the right site and scale for energy decisions. We then use these themes to inform a critical review of existing theories of energy justice in the context of wind power. The main conclusion is that just procedures are central to just development of wind power (all three themes can be understood in such terms). This stimulates us to, in Section 5, outline a theory of imperfect procedural energy justice, a theory according to which just procedures (properly interpreted) function as a rough guide to just outcomes and make the discussion about finding a criterion for just outcomes less relevant. For this to be convincing, a broad understanding of the domain of procedural energy justice is required. We thus argue that it applies also to how energy decisions are formulated and by whom and that these prior decisions have to do with agenda setting and discursive power. This offers a novel interpretation of procedural justice in the energy justice context.

Finally, a caveat and a note about our contribution: neither the preliminary normative framework nor the procedural theory we present below are developed with the aim of explaining all normative – justice-based – considerations relevant to wind power development. There are important arguments and considerations which we do not address but which must be taken into account in actual decision-making. Our contributions are methodological and theoretical. We outline and exemplify an approach to energy justice theorising which combines the critical edge of normative theory with the practical relevance of a participatory research in the hope of inspiring in scholars in the field of energy justice of taking an engaged approach to normative theorising.

2. A graphically illustrated method of public reflective equilibrium

2.1. Reflective equilibrium

In normative theory (e.g., applied ethics and political philosophy) it is commonplace to use the method of reflective equilibrium for moral justification. This means testing the "fit" or coherence of generally formulated normative principles and independently formed normative judgments about relevant cases [23]. If the principle prescribes actions incompatible with intuitive judgments about what is right or wrong, then either the principle must be revised, or the conflicting intuitions be given up. Let us say, for illustration, that one is interested in seeking the justification of some typical moral beliefs or intuitive judgments that pertain to wind power development, say the belief that wind power is wrong because the rotor blades of wind turbines kill birds. How could such a judgment be justified morally? According to the method of reflective equilibrium, the way to proceed is by trying to subsume it under some more general principle, which in this example might be one of environmental ethics, e.g., 'it is wrong to kill sentient beings'. The principle in question explains the particular judgment and justifies someone's belief in it, but of course in itself needs justification. We then ask, what reason do we have to affirm this principle? To answer, the method of reflective equilibrium advises us to consult our intuitions, not about the particular case we started with, but instead other cases the principle applies to. So, we consider other cases of killing sentient beings and ask ourselves whether we think they exhibit morally impermissible actions. Is it always wrong to kill sentient beings? We may then realise that there are many cases in which we would not find anything morally objectionable with such killing and thereafter revise the principle accordingly (e.g., 'it is wrong to kill sentient beings just for fun and without this leading to any greater human benefit').

2.2. Public reflective equilibrium

Traditionally, this process is 'private' in the sense that both principles and intuitions about particular cases come from the theorist themself. But in the public version of this method [24], stakeholders or practitioners are invited to the process of justification to enhance its practical value. The process still aims at determining which normative judgments are more or less justified and which normative principles are best supported, but it does not occur in the theorist's head. Stakeholders are consulted for their unique insights into the forms of injustice the theorist wants to understand. But it is not a one-way street. The justificatory process is mutually beneficial: the theorist wants to learn about the attitudes and judgments of others, but the participants from the public can – and hopefully will – get something out of it: they can learn about new ways of thinking about their roles and responsibilities in various situations. The process is critical on both ends: neither particular judgments, nor general principles are accepted at face value, but instead scrutinised, revised or rejected.

Public reflective equilibrium can play out in different ways [25]: either by inviting the public to express intuitions about principles of justice formulated by theorists, or by opening up for the public to formulate (or reformulate) principles, or by handing over the whole process of justification to the public with little or no guidance from the theorist. The first version, i.e., opening up for public input for intuitions, is most common. An example of this is the work by Wolff and De-Shalit [24] who seek public input to a process of justifying an already well-

developed and sophisticated philosophical theory, the Capability Approach. In our application of the method, we also focus on the level of intuitions (justice-claims, complaints, grievances), but unlike Wolff and De-Shalit do not present the participants with an already developed normative theory.

2.3. Graphic illustrations

We choose a less theoretical starting point for our research. We started by assembling a preliminary normative framework through a broad interdisciplinary literature review and summarised it, not in a set of principles but rather in a series of graphic illustrations. This is because we wanted the framework, which we would present to the stakeholders, to be more relatable and accessible than an abstract philosophical theory of justice, but also be more 'open' for interpretation and less question-begging. We reviewed academic literature, but also grey literature and media coverage. Most of the academic works are within social science and rarely make explicit normative arguments. Rather, the ambition is often to explain or to understand public opposition to wind power as a social phenomenon. Some of the reviewed works do, however, implicitly make normative arguments and all of them at least evaluate empirical data and use evaluative or normative concepts to do so. Within more philosophical literature around normative theory and practical ethics, there is a scarcity of literature on renewable energy justice. What one finds of direct relevance is just a few papers on the 'NIMBY'-phenomenon [26–28]. As for the grey literature, we focused on the renewable energy strategy of the European Union and the Swedish national strategy for wind power. In developing the framework, we also drew on our own previous experiences of having worked on similar topics, talked to colleagues, and tested versions of the framework in pilot workshops with our students.

Secondly, we developed a vignette (i.e., a fictional case described in one page text) about the development of a large wind power park in Northern Sweden (see Appendix A) that presents different justice-claims we had identified in the literature review. On the basis of this, we worked with a graphic artist to develop the vignette and its justice-claims in more concrete visual details. This part of the process proceeded over close to a year's time and included an iterative process of discussing, sketching and revising. This greatly contributed to clarifying our ideas about which normative arguments are most relevant to the case as well as to make them visually accessible. This resulted in a poster and six cards with graphic illustrations. The poster is a representative image for the case (wind turbines on a hill and associated infrastructure), and the graphic illustrations depict different justice-claims or rather categories of arguments relevant to the case (more on this below).

With our graphically accessible materials at hand, we invited stakeholders to the workshop. The format was a mixture of a philosophy seminar and a focus group. The purpose was not to get the participants to share their own experiences, but to initiate a reflective philosophical dialogue around justice claims relevant in this context through which arguments could be tested (of course always informed by the different experiences of the participants). There were few participants (four plus the project team) and they had plenty of time to reason and discuss. The group consisted of: (1) a sustainability officer at a big energy company in Sweden, (2) a youth climate activist, (3) an entrepreneur who works with small scale and community-based energy solutions, (4) a sustainability specialist at a regional government in Sweden. All four were generally positive to climate action and in favour of developing renewable energy although they had different priorities and evaluative starting points. They were invited in their capacity as stakeholders to the low-carbon transition and exemplify a plurality of different perspectives relevant to concrete energy and climate policy debates, but we did not aim for full representativeness.

The final two stages of the process of justification are those we carried out after the workshop when we first analysed the results and then explored some possible consequences for energy justice theory. It is important to emphasise, however, that all of these stages – from the literature review to the theoretical discussion carried out in Section 5 – are equal parts of the process of public reflective equilibrium.

3. A preliminary normative framework for wind power justice

Here follows our preliminary normative framework which consists of six common arguments (or rather categories of arguments or things to consider) for or against wind power. The first two are generally used in favour of wind power whereas the remaining four are typically used to criticise wind power development and to argue for the need to complement it with social safeguards.

3.1. New jobs and economic growth

This category summarises arguments and reasons referring to how the development of wind power promises to produce new (green) jobs and economic growth. Such arguments are commonly made by those arguing in favour of renewable energy and they are usually considered a strong reason in their favour. Sometimes the arguments are made in the context of a discussion about how one can renew and bolster regions with depressed economies, high unemployment rates and decreasing populations. Renewable energy investments promise a new industrial boom; an inflow of new people, more tax money, and better social services.

The European Union's strategy for wind power [29] has taken up this argument. It states that it 'acknowledges the strategic importance of renewable energies as a key industry that will make Europe more sustainable, resilient and globally competitive'. One of the most important reasons for a quick and massive roll-out of wind power is to maintain a competitive edge on the global market. EU-based manufacturers of wind turbines have a 54 % share of the global market, the wind industry makes a substantial contribution to EU GDP, as well as being a major employer. Furthermore, the costs of investing in wind power have fallen rapidly in recent years due to technological innovation. Thus, investments in wind power make market sense. Similar arguments are made in national contexts. For example, in the Swedish national strategy for wind power it is noted that wind power is the renewable energy source with lowest monetary costs, which is why this is where producers turn for good investments. It foresees a rapid and extensive expansion of both on- and offshore wind in the coming decades. This is motivated both in terms of maintaining international competitiveness and because wind power can provide a good, stable supply of climate neutral energy. The main obstacle related to in these argumentations is the permitting processes, which is filled with regulatory hurdles and delays the realisation of this investment opportunity.

Previous research has also shown that wind power projects can have a range of positive economic impacts on local communities [18]. In particular, a community-centred approach can help to unleash general economic benefits of renewable energy projects [30–32]. These benefits take different shape, such as local jobs [33] or local business taxes [34,35]. Potentially, benefits increase further when (part of) the wind park is owned locally or compensatory payments flow into the local community [36]. These benefits have often been mobilised in discussions about wind power development, presenting a way forward for (often rural) communities that have to deal with economic hardship.

3.2. Combat climate change

The most common argument for renewable energy investments, such as in wind power, these days is that it is part of the low-carbon transition done to combat climate change. Compared to most other energy sources (the exception being hydro power), wind power has very low CO2-emissions per kilowatt-hour (these figures include emissions throughout the full life cycle, including manufacturing). According to a study by the German Environment Agency [37], offshore wind emits

around 7 g of CO_2 per kilowatt-hour (g CO_2/kWh), whereas nuclear emits around 117 g CO_2/kWh and brown coal (lignite) around 1034 g CO_2/kWh. Considering also other emissions 'saved' (e.g., the health benefits wind power generates by producing lower emissions of sulphur dioxide and nitrogen oxide), the societal benefits from wind power are huge. Lots of countries have thus set targets for what share of their energy production should come from renewable energy at some date. This is particularly pressing as this transition also is expected to lead to a huge increase in demand for low-carbon energy due to the electrification of transport among other things and because there are few other viable sources. Sometimes this argument is given a more rhetorical frame in which it is argued that there are no alternatives or that alternatives will come at the cost of reducing the pace of the global decarbonisation. For example, it is said if we do not invest in wind power here, we will have to import fossil fuel energy from other countries, with the result of more CO2-emissions in total.

3.3. Landscape impact

One of the most common arguments against wind power focuses on the consequences on the landscape of these large-scale industrial projects in areas previously undeveloped and with pristine nature. This includes threats against old growth forest, birds that die from collusions with wind power turbine blades, and threats against local biodiversity. Many environmentalists and conservationists flag the negative impacts of wind projects on the environment. In addition, much public opposition centres around aesthetic aspects because wind farms are often perceived as an intrusion into landscapes both on- and offshore [38].

An example of this argument, which received a lot of attention some years ago because it was presented by a famous novelist, is Jonathan Franzen arguing that we should give up on the most ambitious plans of combatting climate change at any price and instead prioritise preserving as much wild nature as possible. 'As long as mitigating climate change trumps all other environmental concerns', argued Franzen [39], 'no landscape on earth is safe'. Charles Warren et al. [40] note that 'the key motivation for anti-windfarm campaigners is opposition to the visual despoliation of valued landscapes'. This is partly because the best spots to place wind turbines, i.e., those with the highest windspeeds, are also often considered to have scenic nature. They conclude that "[m]uch of the noisy debate over windfarms comes down to 'location, location, location': site selection and scale are crucial, and cumulative impacts must be considered" [40].

3.4. Recreation and tourism

This argument is related to landscape impact, but focuses on other values at stake. In particular, it is the idea that large-scale wind power projects can damage the landscape to the detriment of recreational users and tourists [41,42], that is, those who appreciate wild nature and an undisturbed environment. It also includes those experiencing noise pollution from wind turbines and those whose aesthetic appreciation of the landscape has diminished as a result of wind turbines. Tourism is an important economic interest in many regions and so if changes to the landscape from wind turbines risk discouraging visitors, this is a major concern. Broekel & Alfken [43] present evidence from Germany that wind turbines are negatively related to tourism demand and proposes a 'displacement hypothesis': 'that tourists tend to avoid destinations where these are characterized by large and further growing wind turbine numbers' [43]. There are, however, also studies which suggest that the argument can be turned on its head because wind farms can boost tourism [44].

3.5. Indigenous rights

This category summarises a wide set of arguments related to how indigenous peoples' rights – to e.g., health, consent and land – may be violated or infringed by wind power projects. There are numerous cases worldwide in which development of e.g., hydro and wind power have had such consequences [45]. There are, for example, several documented rights violations in the north of Sweden involving the indigenous Sami people [46,47]. Sami people have traditionally used and depended on land, although they often lack official land rights to it, and this land is now designated as suitable for wind power with the result that their livelihood is at risk. Their objections fall under several of the other categories too, but there are also specific losses, for example having to do with disrespect and patterns of paternalism and colonialism. Often wind power projects are another interference by the mainstream society that is added to the long history of intrusive and restrictive practices.

3.6. Decision-making and planning

Finally, wind power projects are often objected to on procedural grounds, having to do with how decisions are made and how the planning process is carried out. There are plenty of cases in which the decision-making process has been opaque, the information process non-existing, complaints by affected parties have not been heard and they have not been able to appeal decisions. Walker & Baxter [13] show in a Canadian context 'that a lack of procedural justice elements – particularly the ability to affect facility outcomes – are important drivers of local views of wind energy siting processes and facility support'. Similar results have been produced in other contexts too [47–49].

This concludes the presentation of our preliminary normative framework. It captures, we contend, the most important although not all (e.g. loss of property value and the impacts of the global production networks are not directly covered, although they can be incorporated under these categories as we shall see) arguments presented for and against wind power. These categories are also relevant considerations for many other energy projects, such as for development of solar power, biofuel plants and energy infrastructure. Some of the categories are generally applicable (e.g. decision-making and planning), whereas others might be relevant only in some specific contexts (e.g. indigenous rights).

4. Results

Here follows a summary of the results of the workshop presented in two ways: we first present rankings of the different categories that the participants produced and then three themes we see as emerging from the discussions. To begin with the ranking, the participants as a group reasoned their way to the following list of the most important considerations to attend to in a just development of wind power: (1) *Decision-making and planning;* (2) *Indigenous rights;* (2) *Landscape impact;* (2) *Recreation and tourism* (these three categories share the second position)*; (3) New jobs and economic growth; (4) Rights of all species* (new category)*; (5) Combat climate change; (6) Faith and religion* (new category).

The participants added two new categories to capture concern for non-human species and religious or spiritual values, respectively, but did not rank either of them as particularly important. The most surprising placement on the list is that combatting climate change was ranked so low. One explanation for this is that the participants disputed the relevance of this kind of consideration in the decision-making context we had been specified in the vignette, i.e., that of a municipality. One participant drew attention to the fact that there is no clear distribution of responsibility for combatting climate change on a local level in Sweden: "At the global level - it would be the Paris agreement, and then every nation has a responsibility. But in Sweden we have not put the responsibility to the lower levels, we have not said Skåne [a region in Sweden] you must do this, and then Malmö and then Lund [two cities within the region of Skåne] etc." Thus, they reasoned, combatting climate change is a less important consideration in deciding about to move ahead with the wind power park or not. This reasoning

unfortunately refers to pragmatic rather than moral reasons, and is thus less relevant to use to inform the theory development below. One can, for example, not conclude that global consequences of local decision-making are judged to be less significant (in several other discussion points, the participants referred to the significance of external harms, e.g., in the global supply chains for manufacturing wind power turbines).

The other parts of the ranking are less surprising, but still in some significant ways different from how we would have done it ourselves (were we to have proceeded more traditionally through a private reflective equilibrium approach). One notable finding is the agreement that non-anthropocentric values (e.g., rights of other species and concern about nature) should be considered in these kinds of decisions. At the same time that which in practice is often most weighty for decisions about wind power approval, i.e., economic growth and jobs, was ranked relatively low, e.g., below recreational values. The main reason for this again relate to disputing the relevance of the argument: that this project will create good jobs and economic growth for the municipality. The participants argued that there must be other ways of promoting development in the region. Finally, Decision-making and planning came out on the top of the list of important considerations for policy-makers to include in a just transition. Interestingly none of them had individually made it their top priority, but once they reasoned together and were asked to come to a collective group ranking this resulted. The main reason was that all the categories pointed in this way or eventually led them there in the discussion of them. In the end, it was all about fair decision-making. We will now elaborate on how they understood decision-making and planning by introducing three themes we see as emerging from the discussions which all concern this category.

The first of these is *the importance of trust*. This is, for example, seen in the following quote by one of the participants: "Maybe it comes to the thing of transparency and trust, who can we trust? Just because someone claims to be creating jobs…" Another participant reasoned from the perspective of the indigenous peoples of the case, the Sámi, and said "If I were Sámi I would not trust them - Sweden has a history of oppressing my people so why should I trust that this is not another form of oppression?" and furthermore "Why should they (the Sámi) trust? The vignette says they are not being heard. If they don't feel trust then the whole thing could collapse."

The second theme is that of *questioning energy demand*. One of the participants said "We have excess energy, efficiency is the answer" and another "what is interesting is whether there is not a need, then we should not build it at all". The vignette did not problematise this – that is the demand side – but implicitly assumed there would be "a market for" or "need for" more low-carbon energy and that the project therefore made sense. This was most clearly the assumption behind the graphic illustration having to do with combatting climate change, which depicts a contrast between meeting energy demands with either clean domestic wind power or dirty imported coal power. In a panel in the centre of the illustration there is a picture of a newspaper with a headline saying "which energy source will meet the energy needs of tomorrow?" The participants thought that this was a false dichotomy (it is not one or the other) and they again rather wanted to problematise the assumption that energy demand must continually increase. One participant said: "The way society has developed, you need a smartphone. But maybe we don't have to live the way we do right now?" Another questioned who is really paying for cheap electricity: "how much are we willing to pay for electricity? We complain in the South [of Sweden] but it's not that much!", and opened up the international dimension of the question: "it is also the demand for other products in the rest of the world too, e.g., children working in mines, low or no payment for works, because we need these materials."

The third theme we call *whose decision is it?* Here are some representative quotes from the participants: "I also see an apparent problem, that different groups of people who are all affected are pitted against each other, e.g., working class vs the Sami vs coming generations. This implies conflict between various groups of people who are more or less powerless to make a decision (other people are making these decisions)." This issue also came up in their reasoning about the relevance of some of the other cards. One of them said: "These are not a municipality's responsibility or under their control. It could be in a different case, say, if there is an obligation to produce a certain amount of energy in the whole country." Based on such scepticism about where to properly locate decision-making power, they judged some categories less important, as we explained above with the example of dealing with climate change.

Let us now move up the ladder of abstraction and explore some possible implications of these themes for theories of energy justice.

5. Implications for energy justice

If energy planners are to take justice into consideration in making decisions about wind power development, what should they prioritise? We shall now argue on the basis of the results of the workshop discussions that the most important matter to attend to is to create conditions for fair procedures. By this we mean not only the conditions around how individual energy projects are decided about but also broader strategic discussions around energy policy-making in fair democratic forms. This makes for a broader understanding of fair procedures than what is typical in energy justice theory. We argue that this widened definition of fair procedures allows theories of energy justice to better explain relevant injustices energy decision-making can give rise to. We will proceed in two steps. Firstly, by providing a more principled ground for prioritising the procedural energy justice and secondly by widening the scope of existing understandings of procedural energy justice.

That energy justice is partly a matter of procedural justice is well-established. It is reflected in most definitions of energy justice, e.g. that of Sovacool and Dworkin [15], which states that energy justice is 'a global energy system that fairly disseminates both the benefits and costs of energy services, and one that has representative and impartial energy decision-making'. Thus, it is both about outcomes of energy-decisions, e.g. the distribution of energy goods and services, and about how such decisions are taken. The procedural parts are usually explicated in terms of due process and good governance, including respect for procedural norms such as access to information, transparency, accountability, the right to prior informed consent, and inclusive participation. Some of these norms are occasionally sorted under 'recognition justice', such as when Jenkins et al. [50] analyse participation: The inclusion of all stakeholders in a non-discriminatory way, they argue, is a prerequisite for, but not a proper part of, fair procedures. They exemplify this with how claims of some individuals are dismissed and not taken seriously, e.g., in cases in which opponents to wind power are dismissed as ignorant and conservative. Finally, in this literature, procedural justice is also argued to require that special consideration given to marginalised groups, such as indigenous communities.

There is also empirical evidence showing that cases of wind power development that are seen as "successful" applications of energy justice are based on considerable investments in procedural justice [51,52]. For example, the development on the Danish Island of Samsø, which is often portrayed as a lighthouse case of a just energy transition, was only possible because the local community dedicated a lot of resources (time, social and financial capital) into negotiating solutions that made the roll out of wind power projects fair in the eyes of the locals [33]. This sense of fairness was partly "bought" by compromises on distributional justice [17]. Similar findings surfaced in the case of the German village of Feldheim [53,54] where long negotiations led to a consensus agreement to greenlight the project even though the distribution of benefits and burdens was not considered evenly balanced. These cases show that procedural justice is the most important tool to achieve acceptance for wind power projects in many cases.

These descriptions of the procedural dimension of energy justice are carefully developed, but still do not exactly answer the question about how fair procedures should be weighed against fair outcomes (and

possibly against measures having to do with recognition, but for simplicity we will hereafter focus on the relationship between distributive and procedural justice considerations) in general. With a limited budget (of money and time), which is always the case, there is a need to prioritise: should efforts first be made to reform unfair decision-making processes or is it more important to redistribute to correct for unfair outcomes? Fig. 1 illustrates how distributive and procedural justice considerations are weighed against each other. To say something about the relative importance of these different kinds of considerations is relevant also because the different 'tenets' of energy justice may come into conflict, such as when a fair procedure leads to an unfair outcome or when a redistribution aiming to achieve a just outcome can only be implemented in procedurally unjust ways [55].

The relative importance of distributive and procedural justice can be teased out with the distinction between perfect, imperfect and pure procedural justice [56]. With perfect and imperfect procedural justice fair procedures are defined through an independent criterion of just outcomes (illustrated by a scale in Fig. 2): the procedures aim to approximate the independently formulated ideal about just outcomes, either perfectly (in the case of a theory of perfect procedural justice, which is illustrated with a solid line arrow in Fig. 2) or imperfectly (imperfect procedural justice, which is illustrated with a dashed arrow in Fig. 2). In other words, following the procedures in question will either guarantee that the outcome arrived at is just or make that very likely. Pure procedural justice, on the other hand, makes no use of an independent criterion of just outcomes (illustrated with a question mark in Fig. 2), but instead accepts whatever outcome results from following fair procedures (as specified by such a theory) as fair (or at least acceptable). Fair procedures lead to fair outcomes rather than the other way around, which is why the arrow has the opposite direction for perfect procedural justice in Fig. 2. The latter kind of procedural justice theory is often seen as unsatisfactory in that it gives up on independently evaluating outcomes in terms of justice. The main argument for such a theory, however, is that it is often easier to get parties to agree on what are fair procedures than on fair outcomes. Still, we contend, to the extent that some outcomes can justifiably be said to be unjust, that procedures

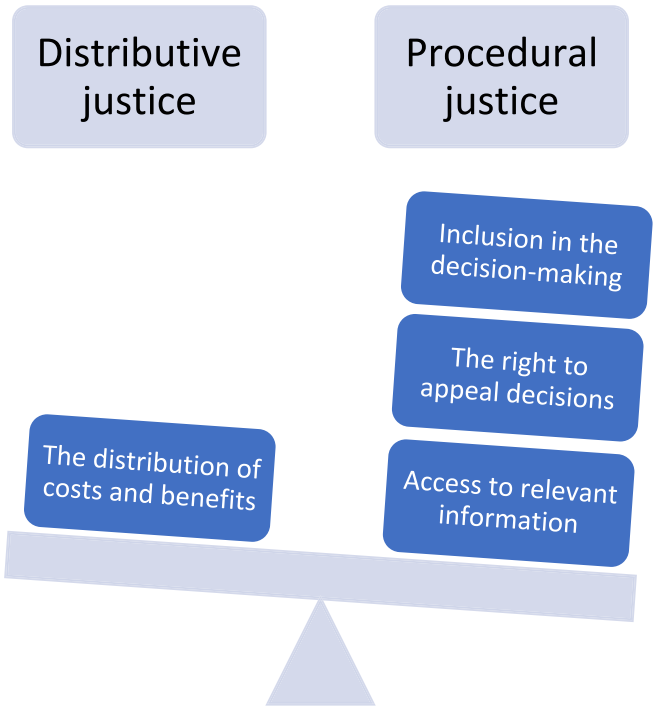

Fig. 1. An illustration of the need to balance distributive and procedural justice considerations.

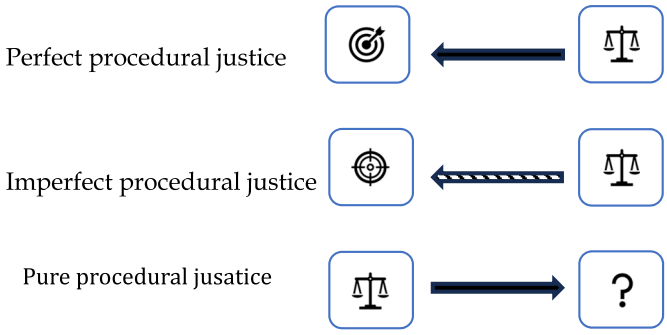

Fig. 2. An illustration of three different kinds of procedural justice whereby ideal procedures match ideal outcomes in different ways.

should try to approximate these. That is why we think that a theory of imperfect procedural justice is most promising in this context.

On the basis of the literature review and the workshop discussions, it is easy to see the widespread disagreement around distributive justice in the context of wind power development. Some see wind power as a necessary part of a low-carbon transition that must be undertaken to combat climate change, others argue that the deployment of this technology at large-scale is a threat to basic interests and rights. There is also much disagreement concerning which locations are best suited for the location of wind power, a kind of regional justice conflict. In addition, there is disagreement around how relevant benefits – e.g., reduced climate impact and better economic growth – and costs – e.g., land conflicts and environmental impact – should be defined, measured and weighed together. Claims are made in different 'currencies' (some of which may be considered personal and non-monetary) and there are conflicts over the relevant scope of consideration. Some conflicting claims related to costs and benefits run deep and relate back to historical patterns which are not easily rectified now; some losses may be impossible to compensate for through redistribution, e.g. because of incommensurable values at stake [28].

Nevertheless, some things can be said about distributive justice in cases of wind power development. One can, for example, reasonably assert that as things stand with renewable technologies, wind power ought to be part of the energy mix of the future because other options are unrealistic. Another is that when wind power plants are developed, there are certain outer boundaries, or moral redlines, that must be respected [57]. This applies to the full life cycle of a wind turbine (as assed by life cycle assessments): from construction, assembling, transportation, erection, operation and dismantling of the facility [58] Certain outcomes of wind energy projects are simply morally beyond the pale, e.g. because they lead to violations of human rights. Wind power-related decisions and processes must e.g., respect rights to safe and decent work in the mining and waste management industries. Furthermore, also some impacts on local residents to wind power plants have justified claims of distributive nature. Certain consequences can be asserted as unjust, such as if someone is forced to leave their house or see its property value sharply decrease then they have a justified claim to compensation. Energy decisions should conform to widely agreed upon norms of distributive justice. But this still leave many distributive conflicts unresolved. Many times, a wind power project will be good for some and bad for others and there is no commonly accepted standard of just outcomes that can be used to decide what is right overall.

This shifts the focus to imperfect procedural justice as the best means of approximating justice or at least of avoiding injustice. The idea, roughly, is that when it comes to making just energy decision-making, we know some things about unacceptable outcomes and that some things are justice-based constraints in decision-making processes. Put these together and we have a theory of imperfect procedural energy justice. What then are its ingredients more specifically? Many of these have already been described in energy justice theory and were presented

above. To recapitulate, fair procedures require representative, inclusive and impartial decision-making processes which are characterized by respect for procedural norms such as access to information, transparency, accountability, the right to prior informed consent, and recognition of all participants as being morally equal in some basic sense.

But now, let us develop this theory further by adding two ingredients, corresponding to the second ("questioning energy demand") and third ("whose decision is it?") theme identified in the results section. The questioning of energy demand can be understood as a call for a wider sense of procedural justice: it is not enough to assess the merits of an already proposed project, not even considering its full life cycle; one must also consider how societies' energy problems are defined in the first place. Whenever problems are dealt with politically, they are placed within a particular jurisdiction and policy-context having a particular scope and reach. Some things are included and focused on as central obstacles to be overcome, whereas other things are left out and judged irrelevant. The government of a state can to a large extent influence the energy system, either directly by subsidising particular energy technologies and giving state own utilities' directives about what to invest in, or indirectly by influencing the political discourse which in turn may lead to norms being renegotiated or to new social attitudes about different energy technologies. Depending on which values are considered more or less important, different energy policy problems are formulated (is mitigating climate change most important? Or geopolitics? Or preserving an unspoiled coastline? Or cheap and abundant energy for a growing industry?).

Depending on what is seen as the most important problem, different things will shift in and out of focus. Local opposition may for example be seen as a problem that points to the need for more inclusive and accountable decision-making processes, but in another understanding of the problem, it may seem that bureaucracy or too much local power is the main issue. Problem formulations tend to speak in favour of one kind of solution and make alternative solutions less apparent. In formulations that revolve around how wind power can be expanded as quickly as possible, alternative energy sources as well as energy efficiency measures may become invisible options. There may be no room for questioning energy demand, for example, as one of the workshop participants complained. But also vice versa, a strong emphasis on the need for a reliable base load may tilt the balance in favour of nuclear or coal over wind power. Another concern is that as energy decisions are largely situated in either a national or local decision-making context, the problems related to external effects (e.g., possible injustices having to do with manufacturing of wind turbines) are not seriously considered. Thus, the formulation of what is the relevant problem is a matter of justice in the sense that the discursive power thereby exercised can skew the decision-making process unfairly already from the start.

The second ingredient is related but focusses more on the 'who' than on the 'what'. Injustices can be created by an unfair exclusion or indeed unfair inclusion at the stage of problem formulation. Part of formulating the problem is determining who 'owns' the problem: is a decision to develop wind power, for example, a local decision, national, regional, or even global? From a legal point of view, there is usually an answer to this question, but from a normative perspective, it is not so clear. When there is a discrepancy between the perception among relevant actors about who 'owns' the problem and who actually (i.e., legally speaking) 'owns' the problem this can generate discontent and perceived injustices, and when this 'ownership' indeed is unjustified, it also generates injustices. Fig. 3 illustrates possible stakeholder groups to wind power development decisions based on proximity to the decision.

A relevant conflict here is that between two different principles of procedural justice, i.e., the 'subsidiarity principle' [59] and the 'all-affected principle' [60]. The former principle states that decisions ought to be taken at the lowest expedient level of political organisation, i.e., as

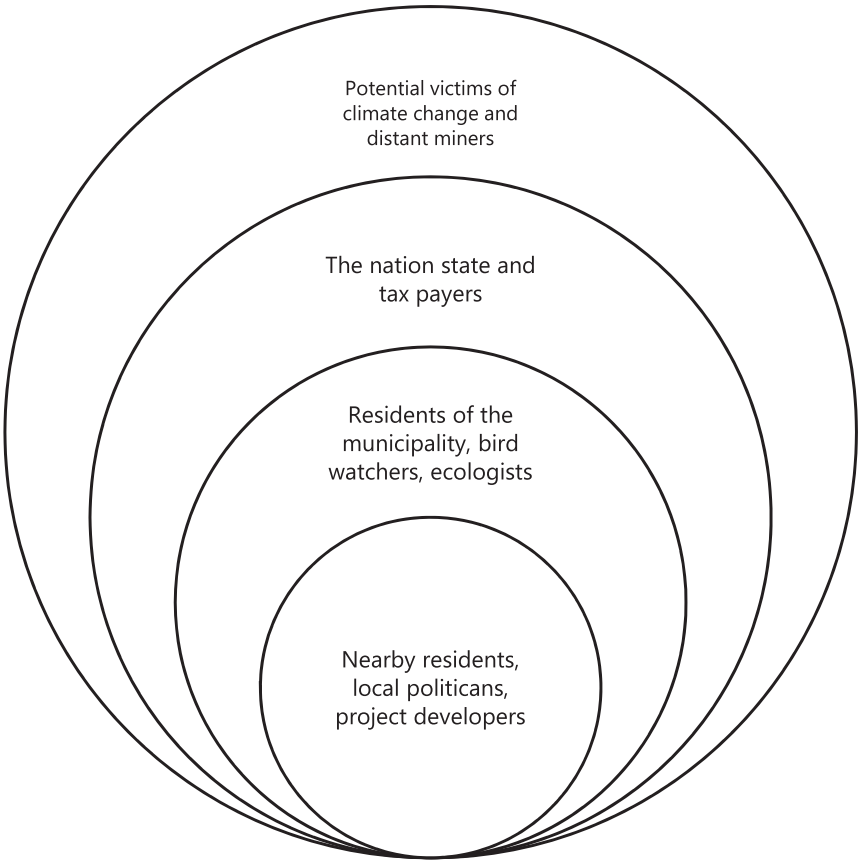

Fig. 3. An illustration of possible stakeholders to wind power projects. Deciding whose perspective to include is a normative decision.

close as possible to concerned parties, and only be lifted to a higher level (national, regional, global) if that is necessary to deal with the problem. The all-affected principle, on the other hand, often points to 'lifting' decisions for the reason that local decisions have consequences on non-local parties, which is often the case with energy- and climate decisions. We shall not argue for a principled solution to the problem of identifying the right site and inclusion principle for democratic energy decision-making. This is a normative problem, which must be dealt with by engaging in further reasoning about among other things the principles just mentioned (but also other considerations, such as effectiveness). Our point is that a fair decision-making process with respect to development of wind power, as well as energy decisions more broadly, begins already at this stage. Another implication is that this general consideration does not only concern unfair exclusion in energy decision-making but also unfair inclusion, such as undue influence by special interests or non-local parties. Having a strong opinion on the matter is not in itself sufficient to have a right to participate in the preparation of the decision.

Now, let us finally put these ingredients together and see whether it makes for a good theory of imperfect procedural energy justice. A just process with regards to development of wind power must begin already at the stage of a reasonable discussion around what kind of energy system is best suited given present and future needs of all affected parties. This discussion must also address what responsibility different actors have in relation to the overall system. Any sustainable energy system, as required by the imperative of combatting climate change, will to a fairly high extent involve wind power being developed in places where it is suitable, on- and offshore. The siting of wind energy infrastructure must take into account all relevant costs and benefits that such decisions amount to. There are certain absolute imperatives that should not be compromised in the processes of deciding where to place wind turbines, not least respect for human rights. Beyond that, actors living in places suitable for wind power must share a responsibility in at least willingly engaging in discussions around the pros and cons of wind power plans. Regardless of whether there are cases of NIMBYs here or not, it is incumbent on all to engage in an open-ended discussion around wind power. Another condition is that all relevant stakeholders ought to be included in the process and as far as possible represented fairly. Furthermore, the fair and inclusive discussion in question must begin long before specific projects are planned and implemented. It is deep down a question about democracy. Energy justice is equally about fair participation in the design of energy policy strategies. Thus, it is fundamentally about guaranteeing basic democratic forms (however those are defined, which is not something we define here). Then, more specific project-level negotiations must also abide by the traditional norms relevant to just decision-making, such as transparency, access to information and possibilities to appeal. These are the parts that form a theory of imperfect procedural energy justice as applied to wind power.

6. Conclusions

We shall conclude by briefly reflecting on the merits and limitations of our engaged ethics-approach. We took as our starting point the need to engage in a process of justifying ethical principles, such as those related to wind power development. Our objective was not to explain how public resistance comes about, but rather to explore which normative principles (of justice) justify the perceptions of injustice seen in such opposition (and the relative strengths of these different reasons). Philosophers and political theorists operate with normative principles and have developed the method of reflective equilibrium for drawing justified conclusions about normative matters. In this paper, we used a version of this method with the aim of arriving at a more sophisticated understanding of the demands of justice in the context of energy-decision-making, but also on the premise that leaving the philosophy seminar room is a means of better realising this aim. Our conclusions for theorising energy justice should not be interpreted as empirical generalisations nor as claims to explicate what people think. A different group of participants may well have produced different ideas about what is just or unjust, as well as more or less prioritised in the case at hand. The success factor is not descriptive adequacy (although we of course claim some kind of internal validity in that we hope to have adequately captured what the participants at the workshop discussed).

The point, rather, is that by opening up the process of justification as we did, we arrived at novel inputs to the normative theories of energy justice. Perhaps we could have come to (at least some of) these ideas by discussing the questions with our colleagues at seminars and conferences, but that is far from guaranteed. There is always the risks of blind spots and biases. The engaged ethics-approach has a heuristic epistemic value. To engage non-theorists in processes of reasoning about justice also has the value of showing the possibilities of a more reasoned and well-argued discussion than what is often the case in heated public debate. We are not claiming that a just development of wind power itself must be like the workshop we organised (there are probably many pragmatic reasons for why that would be too cumbersome). But existing consultation processes, as well as other democratic fora, can likely be improved by taking inspiration from the open-ended philosophical scrutiny of justice-claims, the testing of different problem formulations, and the perspective taking which was done at the workshop. The engaged ethics-approach we have used in this paper is a tool for opening up for discussions around the role and relevance of justice in energy decision-making and way of moving beyond surface-level descriptions of perceived injustices.

CRediT authorship contribution statement

Eric Brandstedt: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Henner Busch:** Conceptualization, Funding acquisition, Methodology, Writing – review & editing. **Ellen Lycke:** Data curation, Methodology, Writing – review & editing. **Vasna Ramasar:** Conceptualization, Funding acquisition, Methodology, Writing – review & editing.

Declaration of competing interest

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

Data availability

Data will be made available on request.

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Appendix A. Construction of large-scale wind power

"Policies in support of renewable energy development have led to a boom of wind power projects in the North of Sweden. The small town of Lakajärvi in Norrbotten County offers ideal conditions for wind power. A Norwegian project developer approaches the municipality with plans to establish a 200 Million SEK wind park some 10 km west of the town. The developer plans 45 turbines of which 10 are part of a trial for the newest

Vestas V150 wind-turbines, which stand at a height of 175 m. The turbines would have a capacity of 160 MW and would increase Sweden's renewable energy capacity by around 3 %. The park is estimated to bring a number of jobs during the construction phase and 30 permanent jobs to the region.

The municipality generally welcomes the plans, as they would increase local tax income and provide jobs to the high number of unemployed inhabitants. Many people in the community appreciate the new job opportunities. The central government in Stockholm is in favour of the project as it helps achieving Sweden's climate mitigation plans.

However, there is also resistance to the project. The local tourism association is concerned that a new wind park will lead to a drop in visitors coming to the region, known for its exclusive trout fishing and excellent hiking trails. In addition, reindeer herders from the Jåkkåkaska Sameby are concerned that the wind farm will affect the grazing behaviour of the animals because the tall turbines scare them and necessary access roads for the construction cut through the pastures. Several of them claim that they will have to quit reindeer herding if the wind power project is to be developed. The Swedish environmental NGO Naturskyddsföreningen raises concerns about the partial clear cutting of old growth forest to make way for turbines and access roads.

A first round of public consultations was held last month. Simultaneously, an access road to the site has been built. The project developer who constructed the road claims that it is needed for the necessary exploration of the ground if the wind park gets a building permit. This sparked heated discussion at the public consultation as citizens feel that construction is already on the way and their concerns are not taken seriously. A further conflict ensued around the siting of the required power lines that will transmit the electricity to the national grid; the project developer prefers to use existing infrastructure and build new power lines along the road leading through Lakajärvi, whereas citizens are in favour of an alternative route that does not go through town but is significantly more expensive.

Voices from the negotiations

Project developer: "This investment will bring new jobs and development to the region and contributing to the battle against climate change. It is a win-win-win project for the local community, our investors and the environment. We understand and respect local concern and will do all we can to address the remaining questions".

Jåkkåkaska Sameby: "We are already under extreme pressure by climate change, the reintroduction of predators such as wolves and the destruction of grazing grounds for our reindeer by the forestry industry. This project will most probably be the end for reindeer herding in the region. The animals feel threatened by the turbines and will not linger to feed in the nearby forests. Access roads are a further threat. Every year, it is getting more and more difficult for us to survive."

Lakajärvi municipality: "The project will bring tax money to the municipality that we need to keep the local high school running. Without the money, several of our services will have to close down in the coming years, which will lead to even more of the young people leaving the town. Nobody here wants to see that happening."

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