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Posted Date: 17 May 2023

doi: 10.20944/preprints202305.1177.v1

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Landscape Democracy and the Implementation of Renewable Energy Facilities

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Abstract: The internationally accepted goals of eliminating climate gas emissions implies substantial investments in renewable energy (RE) facilities. This will inevitably lead to major impacts on landscapes. Landscape concerns linked to RE facilities are already leading to controversies in many local communities. In this article, we focus on the question of landscape democracy related to the establishment of RE facilities. Based on recommendations from the European Landscape Convention, an analytical framework is presented identifying three main dimensions of landscape democracy, followed by an overview of arrangements, procedures and methods that are or may be used to encourage democracy. The procedures and methods are analyzed based on examples from Denmark and Norway. This is followed by an analysis of decision levels with a special focus on the principle of subsidiarity. Finally, recommendations are presented to strengthen landscape democracy in relation to the installation of RE-facilities.

Keywords: renewable energy; wind turbines; PV-plants; energy planning; landscape democracy; landscape quality; citizen participation; green transition; principle of subsidiarity

Background

On December 12, 2015, representatives of 196 countries, gathered as a global community at the COP21, adopted the Paris Agreement with the goal of keeping the human caused temperature rise below 2-degrees Celsius – and below 1.5-degree if possible (UN 2015, Article 2.1a). To reach the goal, countries need to contribute in a fair and transparent way (ibid., Article 4). Many countries have therefore set goals to bring down their greenhouse gas (GHG) emissions radically within few decades.

The European Union, for instance, has passed a Green Deal to further "a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use" (EU 2019). The US American president Joe Biden has claimed that he wants to follow suit if he can get sufficient support from the Congress. Other traditionally reluctant major GHG emitters like China – and even countries like Russia and Saudi Arabia – have announced zero-emission goals to be reached in 2060. More than 100 countries have now committed to reaching net-zero emissions.

This implies substantial investments in energy infrastructure that can replace the GHG emitting fossil fuels, which still account for by far the largest part of world energy consumption. In the International Energy Agency (IEA) latest annual report, *World Energy Outlook 2021*, it is estimated that it is necessary to triple the annual investments in renewable energy facilities immediately to reach the 1.5-degree goal of the Paris Agreement (IEA 2021). In UNEP's latest *Emissions Gap Report,* it is estimated that to keep global warming below 1.5°C this century, it is necessary to halve the annual global greenhouse gas emissions within in the next eight years (UNEP 2021). Fully implemented, in 2050, there is expected to be a market for renewable energy close to 1 trillion dollars per year, comparable to the size of the current global oil industry (IEA 2021).

Regardless of which renewable energy sources are chosen for the green transition, there will be major influences on landscapes due to greater spatial decentralization and diversification. Landscape

concerns linked to renewable energy are already leading to controversies in local communities, not least due to market-based, large investor-driven approaches to project management in many areas (Kirkegaard et al. 2021). In some areas, the development of RE-facilities has been brought to a stop, in others local people feel that their concerns are ignored or run over, and that their influence on decisions is almost non-existent.

Purpose, method, and structure

The purpose of this article is to analyze the green transition in terms of landscape change and landscape democracy. This leads to three related research questions. Firstly, the mainly theoretical question about which sets of values immanent in our conception of democracy are most relevant in relation to the implementation of RE-facilities and which methods and procedures may be relevant when each of the values are adhered to. Secondly, the more empirical question how these values have been or may be recognized through methods and procedures in various cases of RE-facility implementation. Thirdly, the question is posed how the local democratic procedures fit in with the larger circles of commitments that stretch out beyond the local area in both time and space.

Consequently, the structure of the article can be separated into three parts. In the *first* part, an analytical framework is established, based on a recognized theoretical structure that has been developed and applied in relation to other types of landscape democracy cases. This application of an established framework is explorative in a double sense. On the one hand, the value of the framework is tested in a new field. On the other hand, the framework is developed and refined due to the challenges occurring in the new area.

In the *second* part of the article, a number of RE-facility implementation cases are depicted, presented, and analyzed using the theoretical framework with its structured variety of methods and regulatory procedures. The cases are all selected from Denmark and Norway, and the main criteria for the choices of cases are, firstly, that each of them is illustrative for a specific type of value and an associated form of method or procedure, and, secondly, that they together show the broad variety of approaches to the implementation of RE-facilities.

The two first parts of the article are structured accordingly. To begin with, some main points from the European Landscape Convention are presented, promoting awareness of landscape qualities combined with a democratic approach to landscape development. Next, the analytical framework is presented, identifying three main dimensions of the idea of a landscape democracy, together with by an introductory overview of arrangements, procedures, and methods that have been or could be used to encourage participatory components as a further enhancement of the current representative democracy. Several of the procedures and methods have already been applied in relation to the introduction of RE-technologies into people's landscapes. Each of them is explained and analyzed using illustrative examples from Denmark and Norway. The focus on these two countries makes it possible to include an outline of some of the most important political-administrative prerequisites and conditions of the cases.

Landscape democracy is not only a question of local involvement, however, but relates to individuals and issues further away in time and space as well. The question concerning the choice of decision levels is brought up in the *third* part of the article with a special focus on the principle of subsidiarity. The article ends with a few recommendations about landscape democracy in relation to the installation of RE-facilities.

The European Landscape Convention

In October 2000, the European Council adopted the European Landscape Convention. The convention is a legal soft law instrument directed at the protection, management, and planning of the European landscapes as a significant component of the continent's "natural and cultural heritage". The convention defines 'landscape' as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe 2000, Article 1). This definition comprises two components, which the Chinese American geographer Yi-Fu Tuan has analyzed under the headlines 'space' and 'place' (Tuan, 1974b and 1977). A landscape is not only a *space*: an area of a certain size encompassing various elements, including resources, which can be counted, measured, and described in a neutral way. It is also a *place*: a setting with a specific character resulting from aesthetic qualities, cultural meanings, and narratives.

Conceived as a space, a landscape can easily be reduced to a resource reservoir. Conceived as a place, on the other hand, a landscape is a location for human lives, a setting with a particular atmosphere, a scenery, as well as a collection of remnants and relics of significant geological, evolutionary, and historical events. This is landscape as home, as natural and cultural heritage, the backdrop of generations of people's dreams and ambitions. This is the landscape that people – locals as well as visitors – get attached to, and it is the landscape they urge to protect. Renewable energy facilities touch on both aspects. They make use of the available resources – wind, water, solar influx, biomass, etc., at the same time as they affect the cultural and biological history of the place, the atmosphere, the scenery, the home (see, e.g., Tuan 1974a, 1974b and 1977; Cresswell 2004; Swanwick 2002).

The more aware we become of the significant part landscapes play in our lives, the more likely it is that they become contested subjects. Visions and ideals, experiences and narratives are never exactly the same – even across actors in smaller, local communities. Landscapes as sceneries loaded with narratives may be difficult to reconcile with landscapes as collections of resources. Therefore, and to avoid deadlocked conflicts, it is important to share and discuss observations and memories, concerns and ambitions, ideas and reflections whenever there is a prospect of landscape changes. The legitimate diversity of experiences and attachments is also a strong reason for giving everybody a chance to influence decisions about "their" landscape. This makes landscape democracy important, particularly when major landscape changes may occur, as is typically the case with the establishment of large energy facilities. A basic question is how participatory rights and opportunities for influence can be encouraged and distributed in a fair way.

These types of considerations are reflected in the Landscape Convention's three key purposes. The first and most basic purpose is to make people in general, and decision makers in particular, aware of how much landscapes contribute to life quality and cultural identity (Council of Europe 2000, ER, par. 45). The second purpose is to encourage public authorities to adopt policies that preserve (or improve) landscape quality. Authorities are requested to formulate "landscape quality objectives" and policies based on these goals (Council of Europe 2000, Article 5). The third purpose is to advance democratic decision making that "entail rights and responsibilities for everyone." (Council of Europe 2000, ER, par. 26). Quality should not be ignored, nor should it be defined only by a small cultural or scientific elite. It must be a mainstream political concern (Council of Europe 2000, ER, par. 21ff and 40).

Democratic influence results in a more comprehensive view of local qualities, reinforces local identity and responsibility, and involves local inhabitants in the pursuit of common goals (Council of Europe 2000, ER, par. 24). The wide-ranging identification of objectives requires participation of the public, local authorities, as well as direct and indirect stakeholders, including landowners and managers (Council of Europe 2000, Article 5 and 6, ER, par. 57). This is obviously also true in cases where large RE-facilities are planned to be established in landscapes that local (and visiting) people are strongly attached to.

Democratic principles seen in a landscape context

Democracy is not a simple and one-dimensional concept, though. It covers several values and principles, which do not always fit together easily, and it can be found on several different and often mutually competing decision levels from private choices to international agreements. In the following paragraphs the focus is on three sets of values associated with democracy in a landscape context: a) personal freedom and self-determination, b) co-determination and participation in common affairs, and c) deliberation, objectivity, and impartiality (for a fuller explanatory account, see Arler 2008, Arler 2011, Arler & Mellqvist 2015).

Personal freedom and self-determination

A basic point in almost all defenses of democracy is the protection of individual self-determination. The development of independent individuals is considered a key value, and this is dependent on freedom and safe spaces. Protection of individual's freedom and integrity is also a precondition for a well-functioning democracy. Democracy cannot work if citizens are intimidated by authorities and fellow citizens. In general, democracies have confidence in people's ability to lead

their own lives – and further expect that society as a whole will benefit from this freedom to make independent choices.

Protection of individual rights is a cornerstone in *liberal* democracy conceptions. Some liberals even consider the protection of the private sphere as an overriding principle that always comes first in a democracy. Authorities should only interfere when activities immediately disturb or affect other people's lives and actions. If this were the only legitimate reason for public intervention, landscape democracy would basically mean leaving as many decisions as possible to the owners of private property. If other citizens would influence the decisions, they should pay the owners to act differently. A democratic landscape development would amount only to the aggregate result of all the individuals' free private decisions.

Other values and considerations may overrule it, however. The value of protecting one citizen's personal freedom must not only be weighed against the protection of other individuals' private space, but also against the common good of elements, which are considered important to the community. Property rights must be set aside if significant common values are at stake. In many cases, this is not simply a question of what the community has or would like to have, but rather who they consider themselves to be. Landscape features have a strong influence on peoples' identity. This means that the recognized need to protect safe rooms for individual choices does not necessarily lead to a generic skepticism towards common decision making.

Co-determination and participation

A liberal avowal of individual self-determination as an overriding goal results in a strong focus on the private sphere and on private choices in the exchange of goods and services. Democratic claims for co-determination in *participatory* democracy conceptions, on the other hand, are related to areas where decisions are made in common. In our case, for instance, this could be input to the design and later consent to approve construction of a PV or wind-power park or a combination of both.

Some of the most basic aspects of this approach can be coded as participatory rights, some of which are also part of liberal conceptions, for example, voting rights, free elections, and freedom of expression, whereas others are more explicitly participatory, e.g., the right to be heard, the right to be taken seriously in public negotiations, the right to have one's interests taken into consideration, etc.

Participation and co-determination can be understood in more than one way, however. One radical interpretation is that everybody should have exactly equal influence. In this case, citizens vote for public goods almost parallel to buying consumer goods in the supermarket. The only dissimilarity is that differences in wealth and ability to pay are neutralized. Considered this way, equity would demand either that a) everybody gets equal influence on the common decisions, no matter what the preferences may happen to be, or that b) decisions reflect the views of the majority, or, alternatively, that c) total preference satisfaction is maximized.

If, on the other hand, a key point in participation and co-determination is that public involvement not only furthers a sense of ownership of common decisions, but also advances mutual learning and personal development, personal preferences can no longer be seen as invariable. It would have to be recognized that current preferences are always based on preliminary assumptions and suggestions, many of which may be revised and refined through public discussion and deliberation.

The participatory approach has one important advantage, which is emphasized in the Landscape Convention: If people are assigned an active part in decision-making on landscape policy, it will be easier for them to identify with and feel attached to the landscape. The more influence local people have on their surroundings, the more they will be able to "reinforce local and regional identity and distinctiveness" (Council of Europe 2000, ER par.24). Protection, management, and planning of landscapes are therefore more effective, when responsibility is assigned to "the authorities closest to the communities concerned" (Council of Europe 2000, ER par.49) and, more generally, to the local inhabitants. Participation and influence lead to a better understanding, development of responsibility and an active concern for the landscape.

Objectivity and impartiality

 doi:10.20944/preprints202305.1177.v1

A third set of values, which are used in defenses of democratic decision making, is related to objectivity and impartiality. The basic point is that common decisions should be made with due respect to arguments, pursuing accuracy, coherence, and consistency. Democracy should not only guarantee personal security and fair decision procedures but also open public debates, where people continuously develop and challenge arguments. Decisions are not simply matters of subjective preferences; they should always be based on reasons that are, or ought to be, acceptable to all. From this point of view, arguments, rather than raw power, ability to pay, or exclusive property rights, should, as far as possible, determine the outcome of decisions on common matters.

In a *deliberative* democracy conception, it is underlined that everybody has a right to bring forward reasons and suggestions through open channels in fora for public deliberations and negotiations, but also an obligation to take other people's arguments seriously. Formal guarantees are crucial, but they must be backed up by a democratic culture with a strong tradition for transparency, critical evaluation, and respect for good impartial arguments. Open-mindedness must be combined with critical sense and respect for the knowledge and experience found by experts and (local) connoisseurs. This is the basic point in the third set of values: democracy cannot be reduced to private freedom, majority rule and/or equal influence. Respect for logic and evidence, sensitivity, knowledge, and experience must be combined with recognition of expertise and connoisseurship.

In landscape politics, the boundaries of expertise and connoisseurship are often floating. We are all, to some extent, experts and connoisseurs on some of the features and qualities related to our local landscapes. We all have narratives, concerns, and experiences to bring forward. What is important is that we do not cling to pre-political experiences or private preferences but try to transform them into claims and arguments of relevance in the common political debate. Arguments and claims must be tested against other arguments and claims, some of which we may never have been aware of before. In this sense the public debate is a learning device, where everybody has a chance not only of bringing forward his or her claims but also of becoming aware of landscape qualities, which may bring about new experiences and stories to tell.

The three sets of values in practice

If landscape democracy is to be established, it will have to encompass the three sets of values, which we have brought together under the headings 'personal freedom and self-determination,' 'co-determination and participation,' and 'objectivity and impartiality.' The three sets are interlinked, as we have seen, but they do not always point in the same direction. The selection of institutions, which one finds best suited to deal with landscape quality issues, will to some extent depend on which of the three sets are highlighted most. One position is to emphasize liberal components underlining private property and self-determination. Others would focus more on participatory components and insist on citizen involvement and equal influence. Finally, some would particularly highlight the presence of deliberative procedures where arguments can be exchanged, and matter-of-factness upheld.

In representative democracies we find political fora on different levels from the local assemblies over national parliaments to the international organizations like the European Union and the United Nations. The main focus in this article will be on the local level, where renewable energy plants and installations are planned for and put into action. In most countries, local authorities can to some extent decide by which institutional means they will try to further landscape democracy, but their decisions are in many cases dependent on the regulatory framework decided on the higher levels that we will return to later.

Figure 1 illustrates a series of candidates for the institutional arrangements, procedures, fora, and methods, which can be applied to further landscape democracy. The figure covers a broad variety of arrangements that could be relevant – and have been used or at least suggested – for furthering landscape democracy in general, but they may not all be equally relevant in relation to the specific renewable energy planning cases. The candidates are distributed in the figure in accordance with their closeness or distance to the three sets of democratic values. In the following we will explain and discuss the strengths and weaknesses of each of the candidates that are particularly relevant in relation to the planning of renewable energy.

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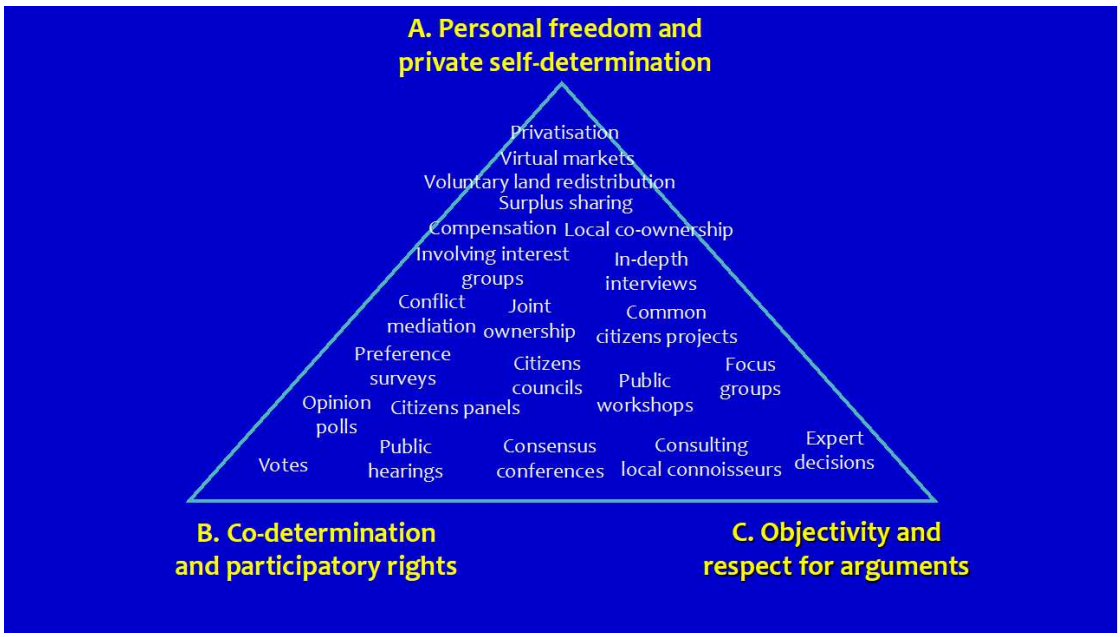
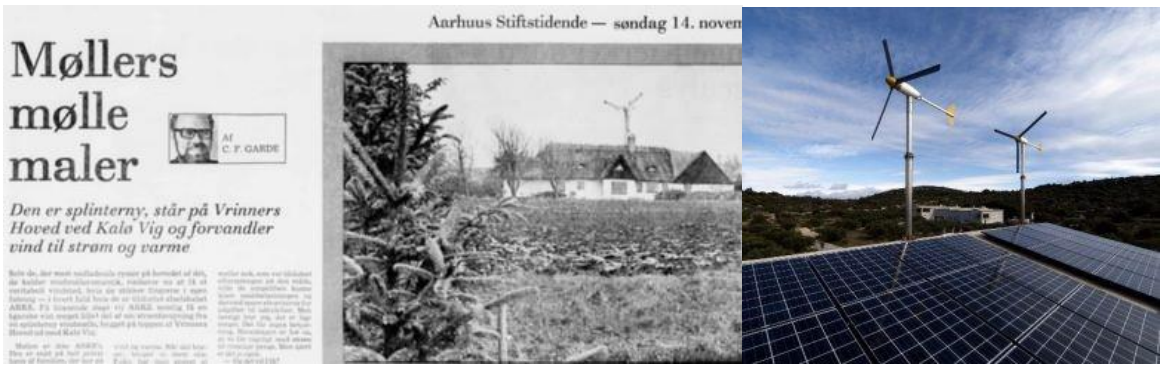


Figure 1 Three basic sets of values related to democracy and the related institutional setups. The variety of models for decision making (or decision influencing) is distributed in the figure in accordance with each model's position in relation to the three sets of values (based on Arler 2008). The various methods and procedures will be explained in the text in relation to cases of RE-facility implementation.

Private self-determination

At the top of the triangle, we find arrangements focusing on personal freedom and private self-determination. The most radical solution is *privatization*, i.e., leaving as many decisions as possible to private owners. In this case, it is up to the owners to decide whether wind turbines, solar panels, hydropower, or other kinds of installations should be established on their land. The landowner is not necessarily the sole investor, though. Individual neighbors or remote investors may buy shares in the owner's company or, alternatively, rent the land to establish the facilities.


Møllers mølle maler

Af C. F. GARDE

Den er splinterny, står på Vrinners Hoved ved Kalø Vig og forvandler vind til strøm og varme

Aarhuus Stiftstidende — søndag 14. noven

Figure 2. The early Danish wind turbines were small and could easily be placed on a single person's property without much disturbance for the neighbors. The turbine to the left is the first commercial turbine, established in 1979 at Torgny Møller's property in the village Vrinners (article clip from a local newspaper, Aarhus Stiftstidende). Today small turbines – and solar-PV facilities – are still produced (right), but they do not account for much in the total energy balance.

As wind turbines grow bigger in numbers and size, it becomes still more difficult to ignore the impacts on landscape and neighbors. Noise, physical and visual effects become more significant. The current Danish executive order on installation of wind turbines starts by stating that "extensive consideration" must be given to "neighboring residences, nature, landscape, cultural and historical values as well as agricultural interests" (Indenrigs- og Boligministeriet 2019, §1). Similarly, increasingly larger photovoltaic installations have substantial visual and physical impact on the local landscape. So have biogas plants, particularly due to traffic increase and, sometimes, odor problems.

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There are various ways to deal with this without leaving the private self-determination angle on democracy.

For example, there may be possibilities to allow for private *co-ownership.* In earlier versions of the Danish Act on Renewable Energy, the developer was committed to offer 20 % shares to neighbors within a radius of 4.5 km (Klima-, Energi- og Forsyningsministeriet 2020, §§15-17). This commitment has been withdrawn in later versions of the act, however, due to various practical challenges. Instead, the developer is committed to pay the affected neighbors an annual bonus and to pay into a so-called ´green pool´ administered by the municipality (Klima-, Energi- og Forsyningsministeriet 2021, §§13-14).

Another solution is to *compensate* affected neighbors for their nuisances and losses (ibid., §§6-12). In Denmark the economic value of the nuisances is determined by an assessment authority. These types of economic compensation have limited effect, mainly because the compensation schemes poorly address non-monetary values affected by the projects, and are criticized for not offering adequate local benefits, equal access, fair procedures, and transparency (Jørgensen et al 2020).

In some countries, experiments have been made with constructing *virtual markets* with so-called "contingent valuation" of nuisances and lost environmental goods (e.g., Pearce & Turner 1990; Hanemann 1994; Turner et al. 2003). Affected people are asked how much they are willing to pay for a good, a view for instance, or a meadow or a rare species, or how much they would be willing to accept as compensation if the view is disturbed or the meadow or species disappears. There have been significant problems with this model, however (e.g., Diamond & Hausmann 1994; Clark et al. 2000), and it has never been used seriously in Denmark. Other possibilities that have been used are to exchange land through *voluntary land redistribution*, or simply to *buy the property* of some of the negatively affected neighbors.

A radical example of this last type of solution is when a developer buys *all* neighboring houses and properties or entire villages. This has taken place in a few areas with low property prices, resulting from poor development, infrastructure, and public service – sometimes going hand in hand with a (developer-driven) stigmatization of "outskirt areas" (Rudolph and Kirkegaard 2019). In the village Hjolderup in Aabenraa municipality in the southern part of Denmark, a developer established a 349 ha PV-plant producing 300 MWh per year (equivalent to the consumption of 75.000 households) in 2022 (Aabenraa municipality 2020; Lerche Kristiansen 2023; Pröschold 2023). The solar PV-park almost completely engulfs the village with its 14 properties (Figure 2). Villagers were given 3 years to decide whether they will accept selling or, alternatively, receive compensation.

Half of the inhabitants in Hjolderup have accepted the developer's offer to buy their houses, while the rest are either staying or considering the offer. It is difficult to call the choices free, though. Homeowners that accepted did so because it is not easy to sell a house in this area. The remaining villagers are not happy about the set-up, even though some refuse to move. Rather than a free choice it could be classified as a so-called Hobson's choice or "choice-of-no-choice" when the village becomes deserted and faces a 360-degree view to PV-panels. Given this rough bargain for the villagers, it is quite remarkable that only one member of the local municipality board was against the project that eventually would eliminate a whole village. The developer, European Energy, has later acknowledged that the process was unfortunate and that similar decisions should be avoided in the future (Lerche Kristiansen 2023).

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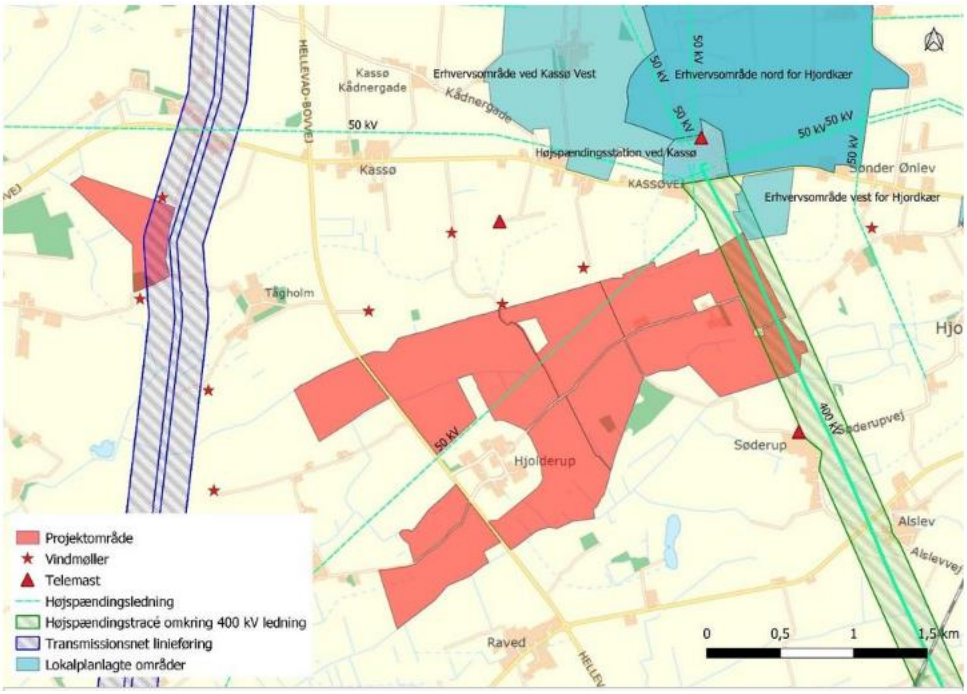

Figure 3. The village Hjolderup is surrounded by the solar PV-plant (red), which again is partially surrounded by wind turbines (red stars) (Aabenraa municipality, 2020).

Another example, where a similar solution was chosen, is Nørrekær Enge, placed in Northern Jutland across the border between Aalborg and Vesthimmerland municipalities (Elkjær & Horst 2023). An existing wind power park with 13 150 m tall wind turbines was planned to be enlarged with an additional 40 wind turbines producing 550,000 MWh a year (equivalent to 140.000 households). The developer offered to buy 40 houses inside or in the near vicinity of the park for demolition. Initially, the owners were positive, but when they realized that two farmers in the area got much higher compensation they backed out.

Consequently, the locals organized themselves in a non-profit organization with close to 1000 members. This allowed them to negotiate as one voice with the municipalities and the developer. In 2018 the two municipalities accepted a revised plan with 4 fewer turbines, on the condition of a 20 percent local ownership either purchased individually or commonly by the non-profit organization. The project has not yet been realized, but this is, quite remarkable, mainly due to a dispute over the project's impact on a species of bats in the area. No individual owned the bats, nor did anyone offer to buy the developers out in consideration of the bats. The protection of the bats was a priority or obligation without reference to individuals' private property or willingness to pay. We will return to this later.

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Figure 4. The future view of the wind turbine park in Nørrekær Enge, according to the environmental impact assessment.

In the Nørrekær Enge case, the affected neighbors were invited to be co-investors. In other cases, neighbors are only invited to participate in *sharing the surplus*. The previously mentioned annual bonus payment to neighbors inside a distance equivalent to 4-8 times turbine height is an example of this, and of course compensation for any loss of property value. So is the so-called 'green pool' – which is mainly paid for by the developer but administered by the municipality – where means are allocated to local projects.

In Østrup in the windy Jammerbugt municipality in Northern Jutland both models have been used. In 2014, local citizens were invited to participate in a cooperative investing in 2 out of 6 wind turbines in a small wind farm producing almost 70,000 MWh per year (Østrup Vindmøllelaug 2014). The local community would receive 350,000 DKK per year for local projects like sports facilities, footpaths, bike lanes, etc (Jammerbugt Kommune 2014; Nordjyske 2014; personal communication).

The Østrup project also provided funds for the local community through a third model, the so-called "green scheme," which is also part of the Danish Act on Renewable Energy. This state-financed scheme is intended to "provide subsidies for initiatives that are launched to promote local acceptance of the installation of new wind turbines on land" and particularly focused on landscape values along with local recreational and cultural initiatives (Klima-, Energi- og Forsyningsministeriet 2021, §§18-20).

In Denmark there is a strong tradition for locally initiated cooperatives (*møllelaug* in Danish), where several residents become co-responsible owners of a plant or facility. This was the main investment model for wind turbines established from the early 1980s until the mid 1990s, when external investors took over as main actors (Rigsrevisionen 2000; Gorroño-Albizu et al. 2019). There are still some cooperatives left, though, including the one mentioned in Østrup, and these are typically among the most successful, both in terms of economic revenue and of public acceptance.

Another example of this is the associations in Lemvig and Thyborøn in Western Jutland, some of the best locations for wind turbines, where several very large turbines, which have finished their job at test centers, have been re-installed. The local cooperative owns half of the wind park, and the profitable business makes it even more pleasant for the inhabitants to drive past and look at the large turbines that are situated close to the town (Kjærulff Torp 2022a; Poulsen 2021). A not so uncommon saying is that the wind turbines' noise sounds almost like "tinkling coins in the pocket" of the local shareholders.

The success of the wind park has led to other similar projects around Lemvig, including a PV-plant in Høvsøre (Jysk Energi 2022; Tornbjerg 2022a and 2022b; Fonager 2022; personal communication). Half of the 50,000 MWh project will be owned by a local cooperative, with a right of first refusal for neighbors within 4.5 km. The other half will be owned by the initiator, the local

consumer owned utility company Jysk Energi (jyskenergi.dk). More than 1500 citizens within the municipality were interested in buying shares, and the project has been met with unrestricted support from the local community.

In Norway, there is a long tradition of local ownership of small-scale hydro power plants. These projects tend to focus on making profits for the owners, who pay tax to the municipality. Thus, 1400 micro and small-scale hydropower plants with installed power below 10 MW are owned by local investors. The law provides landowners with so-called "fallrettigheter". This is a right to receive 50% of the earnings from hydropower plants exploiting streams passing through their property (Regjeringen 1999). The installations are visually insignificant in terms of buildings housing the turbine and the inlet, but imply establishing access roads and piping streams, which sometimes causes land-use conflicts, particularly with reindeer herders (Johnsen 2018). Hydropower plants below 1 MW installed power can be approved by the municipality, whereas larger plants must be approved by the Ministry of Petroleum and Energy.

Co-ownership does not in itself erase all problems, of course. Nuisances are often easier to accept for co-responsible owners, though, and the coincidence of responsibility, advantage, and discomfort in the same group of people makes it much more likely to seek and implement improved solutions. Still, when turbines and wind farms grow bigger, or solar PV-facilities and energy crops cover still larger areas, it can no longer be considered a private matter for a landowner, a developer, and the immediate neighbors. Some neighbors may neither accept the offer to become co-owners of a planned RE-plant nor to sell their property. When a landscape is likely to change significantly due to new facilities, it becomes a common issue for the wider community.

Participatory measures

Countries like Denmark and Norway have old and strong traditions of local government with municipal councils as key players. An important part of this tradition consists of open public debates about common matters, in our case typically presented in the form of local plans. Thus, the Danish Planning and Environmental Acts demand that decisions about major changes must be based on new or revised local plans that are approved by the municipality – relying on environmental impact assessments, including assessments of alternatives (Miljøministeriet 2021b; Indenrigs- og Boligministeriet 2020; Miljøministeriet 2021a). The Danish Executive Order on installation of wind turbines leaves almost everything to be decided locally through plans on municipality level (Indenrigs- og Boligministeriet 2019). These plans, assessments, and public hearings are all key elements of the local landscape democracy.

Before we take a closer look into the procedures that may be used to enhance public participation, it is worth remembering that the processes do not always run as smoothly and rationally as intended, partly because many municipalities, local authorities, and communities are not well equipped to carry out the task (Borch 2018). The level of complexity in the legal framework, the interaction between regulatory instruments and procedures, is a significant challenge for these municipalities, and when all legal requirements are difficult to satisfy, decisions may be declared invalid by the Nature and Environment Appeals Board (Anker & Jørgensen 2015). Moreover, municipal councils have a fundamental interest in learning from as well as an obligation to listen to or more directly involve citizens in the decision-making process – decisions need public acceptance and backup – and this is not always handled satisfactorily, even if the proscribed process is followed. This is also a main message in the Landscape Convention and has become a general theme in the modern governance debate.

It is also worth noticing that Norway has departed from the Nordic local democracy tradition by centralizing the concession of large wind turbine parks. Combined with the fact that Norway lacks a specific law that regulate local ownership and compensation as in Denmark, local conflicts between developers and local communities can easily appear. This was manifested, for instance, in a massive opposition from affected Norwegian municipalities to a proposed national framework plan for wind power, which the government eventually decided to scrap soon after the presentation in 2019 (Gulbrandsen et al 2021). Later, the Norwegian parliament (Stortinget) decided that wind power concessions needed approval from host municipalities (Regjeringen, 2019; NVE 2022).

One remarkable example of the problems that occur, when decisions become centralized, is Fosen wind park, the largest wind park in Europe commissioned in 2018-20. It is a complex of six

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areas in Trøndelag (mid-Norway) with an installed capacity totaling 1 GW (Figure 5). Åfjord municipality supported the development of the wind park for economic reasons and made a great effort to consider interests of the local community, particularly those of the indigenous Sami population with constitutional rights regarding reindeer herding (personal communication).

These negotiations were to a large extent ignored by the developer, the 60% public owned Fosen wind park. After complaints from the local Sami people, the supreme court ruled the concessions of two of the sites illegal (Chavavakula 2021). The wind turbines are still operating, though, leading to blockades of several ministries and agencies in Oslo (Henningsen 2023). The lack of consideration of indigenous people's rights and the resulting lawsuit strongly indicates a democratic deficit in the Norwegian concession procedures for large energy installations, where the responsibility lies with the national energy agency (NVE).

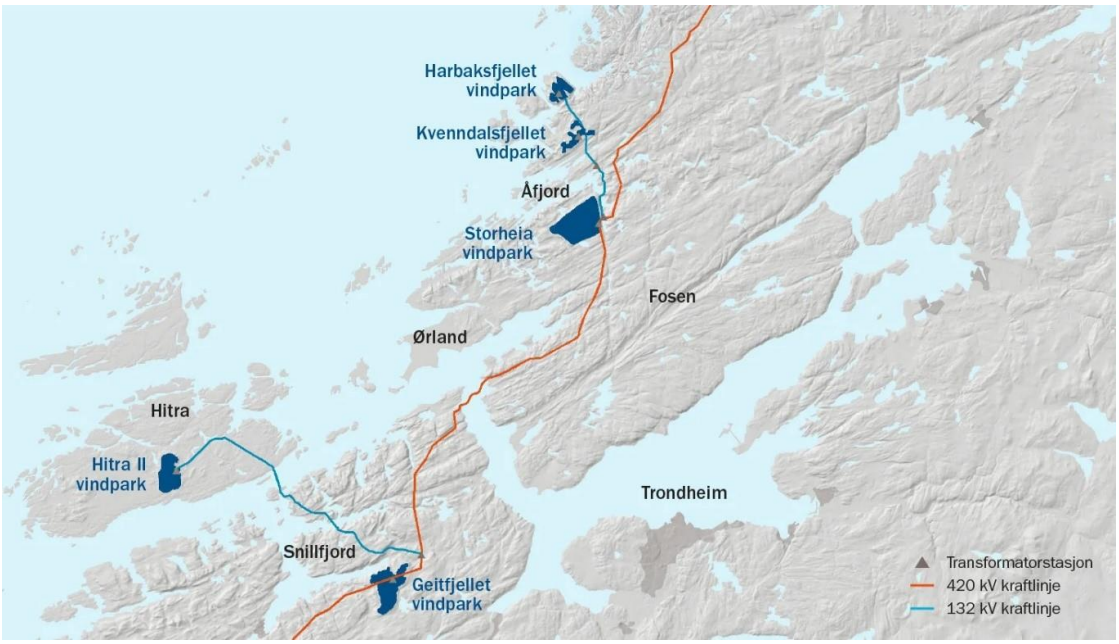

Figure 5. Map of the wind farms in Fosen wind farm (Statkraft 2022).

Despite the old and strong traditions of local government in Denmark and Norway, different governance paths have thus dominated the wind power concession procedures. Whereas Norway has followed a centralization path, in general, Denmark adheres to the recommendation from both EU and the European Landscape Convention that protection, management, and planning of landscapes are more effective and legitimate, when responsibility is assigned to "the authorities closest to the communities concerned" (Council of Europe 2000, ER par.49). Still, research shows that many Danish municipalities have not prioritized the complex planning process enough, often because they lag the capability to perform an appropriate and confidence-building process (Borch 2018; Borch et al 2020; Anker & Jørgensen 2015).

So, let us look at the various ways to include local citizens in participatory decision-making processes. As mentioned above, the Danish Planning Act explicitly demands *public hearings*, when new local or municipal plans are made (Indenrigs- og Boligministeriet 2020). The act also contains various rules concerning rights of appeal for stakeholders and interested parties. In Norway, public hearings are also demanded and mandatory for wind power installations above 10 MW (NVE 2022). However, with the fast-growing need to establish new RE-facilities in order to comply with the Paris-agreement – the Danish government has recently announced that Danish RE-capacity on land must be quadrupled within a short span of years (Regeringen 2022a) – it will be necessary for municipalities to use a more pro-active approach and develop combined strategic landscape and energy plans in order to be able to place energy plants in the most suitable locations (see, e.g., Indenrigs- og Boligministeriet 2022).

This calls for early involvement of citizens before the detailed plans are settled. A recent broad agreement in the Danish parliament announced various new and stronger initiatives to make the

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planning process related to RE-facilities more transparent, proactive, and comprehensive. This included a more wide-ranging citizen involvement, including focused consideration of neighbor and stakeholder interests, than is normally the case with public hearings (Regeringen 2022b; see also Bolig- og Planstyrelsen 2021).

This is not always done consistently, though. For instance, a "fast-track" siting of so-called onshore energy islands has been debated simultaneously. The government wants to "ensure a rapid expansion of RE in the energy parks," and is therefore willing to "carry out state planning via construction legislation and/or national plan directives, etc.," if necessary. Similar to the examples from Norway, this could easily shortcut or remove many possibilities for public participation and complaint, as well as reduce the role of municipalities as spatial planning authorities in that area (Regeringen 2022c; for an example, see Energy Supply 2022). It is underlined, though, that the designs of the parks must have a clear development perspective that brings local gains along with a strengthening of "nature, biodiversity and recreational opportunities" (Regeringen 2022c).

One traditional way of involving stakeholders is to establish dialogue with organized *interest groups*. Some of these groups are well-established, like national nature conservation societies, ornithological associations, etc. on the one hand, and energy company coalitions, local property owner associations, and local energy companies on the other. Other groups are more temporary, though. This is typically the case with newly organized local citizen groups with a strong opinion about the case at hand.

An example of a temporary organization is the association of 265 neighbors to an upcoming solar plant in Ålsrode on Djursland in Eastern Jutland: "Solcellepark Kejsegården – NO THANKS" (Hovalt 2020; Sigetty 2021; Carstensen 2022). A farmer and the remote developer European Energy collaborated in an application to the municipality Norddjurs to develop large PV-plant, covering 240 ha and producing electricity for the consumption of more than 300,000 people. The plant was planned to be placed on the fields surrounding the village Ålsrode (Figure 6), located in a valued old manor landscape with dykes, living fences and moraine hills.

The residents would lose their view of the open landscape, and they fear that their properties would lose significant value. The facility's fence also means that the local population of deer would be cut off from the routes they normally follow. Due to dialogue with the local protest group, so far, the park has been reduced to 191 ha and the design is being revised to open vistas and paths. It is worth noticing that the local protesters are not opposed to PV-plants as such, but rather discontent of not being consulted with respect to design and location. In addition, they are considering the possibility of becoming co-investors, or even main investors, to gain charge of the location, design, and value creation of the plant. Status is that the municipality looks positively on this initiative but is not willing to start the planning process over again from scratch. An earlier involvement of the local community could probably have prevented a lot of trouble and satisfied the affected citizens.

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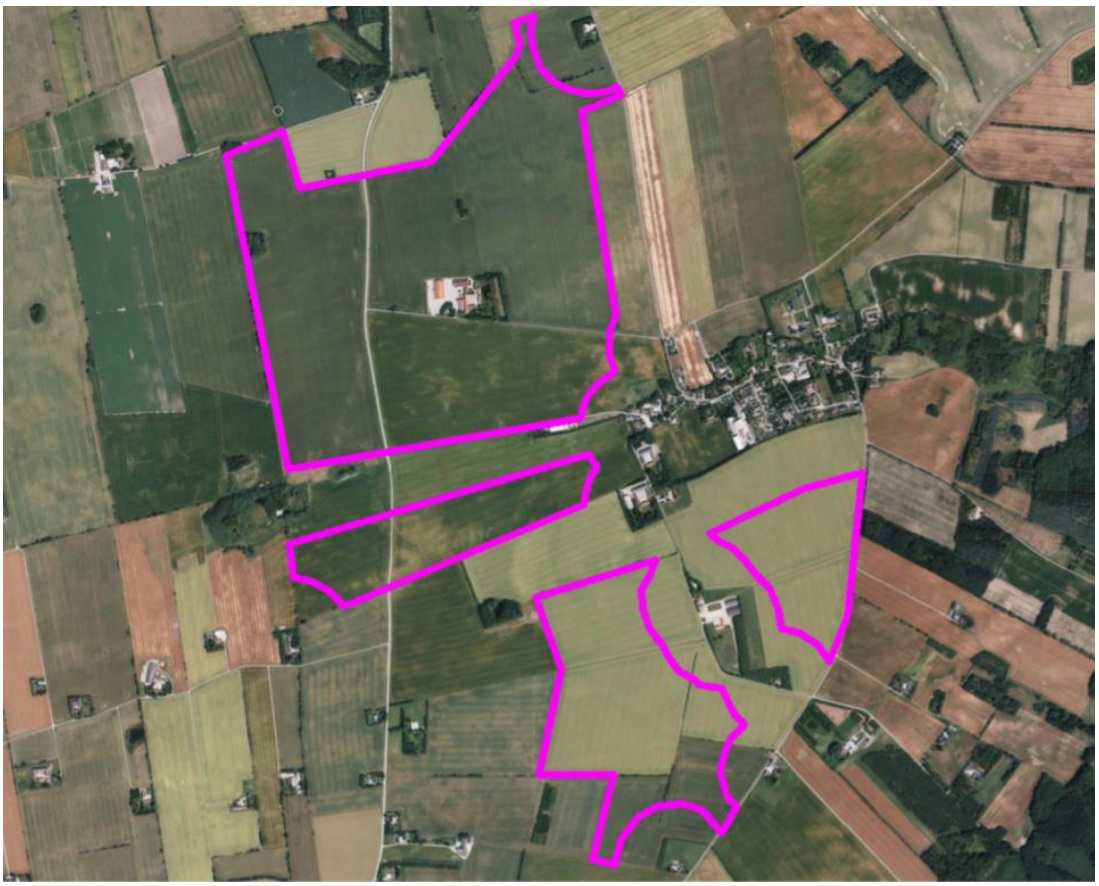

Figure 6. The preliminary plan for the PV- project at Ålsrode (Foto: Norddjurs Kommune, Byg og Miljø).

Involving interest groups means that the most engaged, outspoken, and determined shareholders and stakeholders are included in the process. This is important both from an information and a participation point of view because they typically know their local environment well and have much at stake. Moreover, citizens can often vote or have a voice through their interest groups. This is the case, for instance, due to membership or co-ownership in energy cooperatives, distribution companies, or district heating companies that have a stake in RE-projects (see, e.g., Hvelplund & Djørup 2019).

The tradition of consumer ownership is particularly strong in Denmark. One thing that is remarkable is that consumers to a large extent elect representatives, who are not exclusively engaged in narrow self-interest struggles but try to take a broader view on energy policy, including the promotion of green transitions and, in cases of potential conflict, landscape concerns (Hvelplund et al. 2021).

Still, the downside of strong interest group influence may sometimes be that it leaves the mainly unorganized majority without a similar well-defined platform. The voices of unorganized citizens may to some extent be heard through *preference surveys* or *opinion polls* asking, for instance, about their views on the number and locations of RE-facilities, but this is seldom carried out. In principle, *public (indicative) votes* could be organized instead, but this is even more infrequent. More generally, in surveys and polls the participants are not asked to substantiate their opinions. This is participatory democracy that does not involve explicit deliberation. Citizens are likely to have reasons for their conclusions, but reasons are not in focus, and justifications are neither required nor challenged.

Another way of involving unorganized stakeholders is through *focus groups* (or *citizen advisory groups*, or, more permanently: *local councils*) or *thematic (future) workshops*. Focus groups have had a questionable reputation, because they have been used by private companies and political parties as a proxy for preference surveys. They can be used more constructively, however, in debates on local landscape policies and the location of RE-facilities, if it is recognized that focus groups can function as a platform for discussions between citizens from different segments.

Focus groups, public (future) workshops, and local councils have been used in several Danish municipalities on a variety of issues (e.g., Aarhus Kommune 2004; Sehested et al. 2008; Skive Kommune/Københavns Universitet 2016; Hjort Caspersen et al. 2019; see also Tortzen 2022). It is important, though, that the participants – often organized in groups of 7-15 members – try not to not act simply as representatives of vested interests and pre-established standpoints but rather as engaged and open-minded citizens, who are willing to take the role of others, i.e., to listen, understand and be influenced by other people's viewpoints, reasons, and justifications.

With these types of arrangements, we have already moved towards the lower right corner of Figure 6 with values like objectivity and respect for arguments. *In-depth interviews* also lie at the border between private self-determination, participation, and respect for arguments. Deep-going interviews are often conducted by external researchers rather than local authorities, and even though they are more rarely used directly in decision making processes than preference surveys, there still are a few good examples, where interviews are used in relation to decisions of wind turbine location, e.g., in Guldborgsund municipality (Præstholm et al. 2019).

Interviews have some important advantages compared to surveys. They register existing preferences, opinions, and conclusions, too, but make it possible to ask more thoroughly for background, context, reasons, and motivations. Skilled interviewers can even challenge the informants' conclusions and justifications in cases of inconsistency or lack of coherence with facts and evidence, and often force the informants to face questions they have not dealt with previously.

This way interviews can result in a much more solid and complete portrait of both actors and motivations. They can reveal the background for differences and potential conflicts, but also find points for reconciliation and potential agreements. A particular type of interviews, which has been used with much success in relation to nature quality protection on farmland, is the so-called "*kitchen-table-conversations*," where researchers or municipality officers meet with local farmers on their home ground to find common solutions in voluntary "Farm Nature Conservation Plans" (Tybirk et al. 2004). The farmers will typically receive requests more positively when presented this way rather than through a formal letter, and the mutual exchange of arguments and experiences is likely to result in better solutions.

Deliberative measures

The use of these types of methodologies shows that deliberative measures to involve citizens and other stakeholders can be useful even in limited cases. It becomes still more important to include these kinds of citizen involvement when authorities move from reactive individual case management to proactive strategic landscape and energy planning (see, e.g., Sillak et al. 2021; Jensen & Sperling 2019). The accelerating green transition leads to growing pressure particularly in regions with suitable locations for RE-facilities and this necessitates a more comprehensive planning effort. For instance, in the previously mentioned Norddjurs municipality, no less than 6 applications about solar PV-plants arrived within few months. Another example is Ringkøbing-Skjern municipality in windy Western Jutland, where several developers continuously are applying to establish wind turbine parks.

Which kinds of deliberative citizen involvement arrangements could be relevant in situations where the affected people and other engaged stakeholders remain unorganized? So-called *citizens panels* could work as a more ongoing reference organization than temporary focus groups. These panels are representative, consultative bodies of local citizens, sometimes organized as e-panels and typically without much internal informative and deliberative communication. They range in size from a few hundred to several thousand participants (Involve 2022; see also Involve 2015 for broader views on citizens panels). There does not seem to be any clear examples of this type of organization in the Danish and Norwegian RE-facility planning processes.

A related arrangement is *consensus conferences* – even though these have mainly been used for technology assessments (Nielsen et al. 2006; Jæger & Andersen 1999) – or related concepts of *citizens juries* (sometimes also named: *citizens panels*) (Brown 2006). These are all explicitly focused on deliberation based on a combination of factual evidence and rational value judgment. A jury typically consists of 12-24 citizens, sometimes more, who over several days listen to, ask, and discuss with a series of experts and interest groups on the subject at hand to reach a well-considered consensual judgment on the issue.

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As an example of how this can take place in relation to a specific project, Aarhus city council has recently set up a panel of 38 citizens chosen by lottery. This way the council hoped to receive qualified deliberated input from ordinary citizens regarding a planned major port expansion (that eventually may include solar panels, wind turbines, or PtX-facilities) with significant impact on landscape and environment. The panel participated in four themed meetings as a follow up on two open citizen conferences and five previous open themes meetings (Aarhus Kommune 2022). Various interest groups presented and discussed their arguments at the themes meeting after which the panel participants collected their considerations and conclusions in a letter to the responsible city council (Willumsen 2022). Unfortunately, this setup was established too late in the decision-making process to have significant influence on final decisions.

These procedures can all be interpreted in line with the American philosopher John Rawls' idea of a "reflective equilibrium," i.e., the continuous pruning and mutual adjusting of values, considered judgments, and beliefs as we go along (Rawls 1972) – combined with his idea of an "overlapping consensus" in cases, where people may continue to disagree about some abstract ideas and ideologies but still can agree on concrete conclusions or solutions (Rawls 1996). The incentive to seek consensus is a strong motivation to overcome impulses to conflict and straw manning depiction of opponents' views, and this can be an obvious inspiration for political decision makers.

A more perpetual arrangement is to involve or establish permanent *civic associations* (Danish: *borgerforeninger*), where local citizens can discuss and act on a broad palette of major issues in the local context. This may include a separate branch focusing on the establishment of RE facilities, the so-called *citizen energy communities*, which are now recognized actors in the EU energy system, where they can act as "final customers, producers, suppliers, distribution system operators or market participants" (EU 2019a, Article 16). So far, only a modest number of citizen energy communities have emerged in Danish society (Energy Forum South Harbour 2020), and their focus has been directed narrowly towards the energy facilities and the distribution of energy, costs, and benefits amongst the participants. Norway is not an EU member and has not submitted any National Energy and Climate Plan (NECP) outlining targets, objectives, policies, and measures for renewable energy and citizen energy communities.

Figure 7. The small wind parks at the harbors of Hvide Sande in Western Jutland (3 turbines, left) and Bønnerup in Eastern Jutland (7 turbines, right) were both established – in 2013 and 1997 – on the initiative of local inhabitants through newly established cooperatives and funds, in the Bønnerup case with the municipality as partner (From 2016; Norddjurs Kommune 2007; EMD n.a.). The surplus is partly invested in harbor and town development, partly distributed to the local shareholders – of which there are 400 in Hvide Sande out of 3000 inhabitants (Photos: Finn Arler).

It is important that the representatives of the civic associations cover or are aware of the full variety of citizens' perceptions, values, and interests and avoid the danger of turning into a partisan organization for a selective group's interests or ambitions. A well-functioning association can be a

valuable sparring partner for local authorities, an important deliberative forum for local citizens, as well as a potential platform for common initiatives. In many Danish villages and small towns civic associations engage in local development and are go-to-points for the authorities (see, e.g., Sperling 2017).

One example, where a fruitful cooperation has taken place, is the establishment of St. Soels Energy Park in Western Jutland. It consists of a combination of wind and solar facilities producing 96 GWh electricity per year and is located along the local motorway, where only a few residents are disturbed by the park. 46 local citizens have invested in the park, and the local civic association (Aulum Borgerforening) is included in a surplus sharing scheme (Kjærulff Torp 2022b).

When large energy facilities are established in landscapes, it is always appropriate to consult both professional (see, e.g., Birk Nielsen 2007) and *local connoisseurs*, who have long term experience with these landscapes and together know significant places, historical locations, views and viewpoints, biological habitats, etc. Researchers from Sweden's Agricultural University in Alnarp have developed a specific walk-and-talk methodology, the connoisseur method, where local connoisseurs designate the landscape elements and features that are most worth protecting (Mellqvist et al. 2013; Arler & Mellqvist 2015; Mellqvist 2017). These (or similar) types of investigation (see e.g., Tybirk et al. 2004) are very fruitful for developing designs of RE-facilities that make the integration into local landscapes possible.

Some local connoisseurs are *experts* on important landscape qualities of more than local significance. They may, for instance, be historians, biologists, or landscape architects. In other cases, it is necessary to invite external experts to assess impact from a more objective perspective. Various EU directives and national laws directly prohibit destruction of biological habitats, populations of rare species – like the mentioned bats in Northern Jutland – significant landscapes, and historical remnants (EU 1992; Miljøministeriet 2021). This obviously demands expertise involvement in decision making.

Many local governments have additionally decided to map important landscape features in accordance with some version of landscape character and visual impact assessment guidelines (e.g., Swarwick 2002, Hjort Caspersen & Nellemann 2005, Landscape Institute 2013; Kristensen et al. 2019). This often includes local participation because local citizens have valuable knowledge to bring into play. This kind of locally informed landscape quality and resource mapping is clearly an important step in developing combined strategic landscape and energy plans and is very useful for the obligatory environmental impact assessments (Miljøministeriet 2021b).

Moreover, in June 2017, the so-called *Green Map of Denmark* (*Grønt Danmarkskort*) was included as part of the Danish Planning Act's provisions of municipality planning (Indenrigs- og Boligministeriet 2020, chp. 4). The continuously evolving map is based on the municipalities' designation of significant nature areas brought together into one coherent national nature network. The municipalities can rely on locally appointed *nature councils*, consisting of experts and connoisseurs. The Green Map encourages increased efforts to establish larger and more coherent nature areas across municipal borders. It can serve as an important tool for the development of strategic landscape and renewable energy plans.

Decision Levels

The invitation of external experts signifies a concern for features and qualities that have more than local importance. This implies a democratic concern. The priority of landscape features cannot be an exclusively local matter. Protection of populations of rare bat or bird species may not have a strong support amongst the local citizens. Decisions must sometimes be made on higher levels. Figure 8 shows the various kinds of interests and concerns that occur on the different levels.

On top are all the private decisions that are put into action either directly on private property, through market choices, compensations, and voluntary investment sharing, or indirectly through contingent valuation surveys as foundation for political decisions. Next follows the local level, where political decisions in democratic societies are made by elected representatives in collaboration with public officials. As we have seen above, this decision-making process can be supported in many ways through participatory and deliberative arrangements, where values and opinions, knowledge and arguments can be brought forward to make decisions as rational as possible and to make them appear both reasonable and acceptable to local citizens.

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Decision level	Important interests and concerns
Individual level • Private preferences and value led choices • Market choices and voluntary arrangements • Aggregated preference surveys • Willingness to pay, willingness to accept	Personal preferences, wants + moral concerns: Economic interests, opportunities for activities, personal goals, stories and identities + personal principles and values
Local/regional level Political decisions and strategic plans on local level, supported by citizens participation procedures	Local economy, values and identity: Job creation, local wealth, health, significant landscape features, cultural monuments, local identity, broader moral concerns
National level Political goals, plans and decisions, laws and regulations	National priorities: Economic growth, climate neutrality, natural and cultural heritage, health, sustainability
International and global levels: Global sustainability goals, climate goals and concerns, international conventions, EU directives, international rules (WTO)	International priorities: Sustainability, *in-situ* protection of species, populations and habitats, climate neutrality, landscape quality, cultural heritage

Figure 8. The various levels, where decisions are made, based on a variety of interests and concerns.

From a democratic point of view, the local administrative units – municipalities and regions – are not lonely islands in a limitless sea, but integrated parts of larger units, even when these are not necessarily well connected (Fournis & Fortin 2017). To begin with, they are parts of nations, regulated by governing states. The laws and regulations that govern the local units are issued by the state, in democratic societies typically submitted by the government and adopted by an elected parliament. The laws constitute the framework for decisions in a local area and in many cases limit the range of options. Procedural laws, planning laws, environmental laws, laws on health, etc. narrow the room for maneuvering. To this can be added goals, policies and plans on highlighted issues such as the Danish parliament's attempt to obtain 100 % climate neutrality in 2050 and to reach 70 % of this goal in 2030, partly by quadrupling the land-based power production.

This puts pressure on local governments, particularly in areas with good opportunities for installing RE-facilities like wind turbines, PV or PtX-plants. As we have seen above, the Danish government has even made a separate attempt to establish a number of large state-initiated energy parks that combines wind turbines, PV and PtX-plants (Regeringen 2022c). These parks are sometimes referred to as energy islands on land," parallel to the artificial islands that will be established in the North Sea and the Baltic Sea.

At a higher level, international organizations like the EU adopt regulations, the EU directives, that overrule previous national laws and must be implemented into the national regulatory regime by the parliaments. Above the EU are global organizations, first of all the United Nations and associated organizations such as UNEP, UNESCO, FAO and WHO, each with separate goals and recommendations. There are also international laws as well as global conventions like the Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the Landscape Convention adopted by the Council of Europe. All these organizations, their laws and soft laws, directives and conventions highlight important issues, many of which have a bearing on policy related to the setting up of significant landscape features like large RE-plants and facilities.

Landscape democracy cannot be considered solely as a local affair. It needs to be seen in a broader perspective, due to the valid interests and concerns that go beyond the limits of the local community. The global crises related to biodiversity and climate change, and the national and international efforts to avert these crises will inevitably affect decisions made on the local level, voluntarily or not. Many local communities have already taken responsibility and decided to contribute considerably to the green transition, whereas others have been much more hesitant.

One possibility could be to pass a new national renewable energy planning law that both a) makes demands to lower-level authorities (primarily municipalities) on, e.g., percentage of non-fossil sources in the total energy system, b) includes a comprehensive overview of procedures and mandatory considerations, and c) designates areas that are either appropriate or inappropriate for

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renewable energy plants. Alternatively, these elements might be included as an extension of the current Renewable Energy Act or as a separate chapter of the Planning Act.

This would establish a framework, within which the local authorities can make local plans in cooperation with the citizens and other stakeholders. At the same time, it is necessary to consider whether local communities and authorities are sufficiently equipped and willing to use democratic approaches to solving the increasingly complex tasks related to renewable energy planning in local landscapes (Sperling and Arler 2020). If this is not the case, a focused effort to upgrade the capacity is strongly needed for establishing a predictable, transparent, and inclusive planning process. The Danish government has planned to establish RE-travel teams of experts that can help the municipalities manage the complex administrative tasks of establishing new RE-parks.

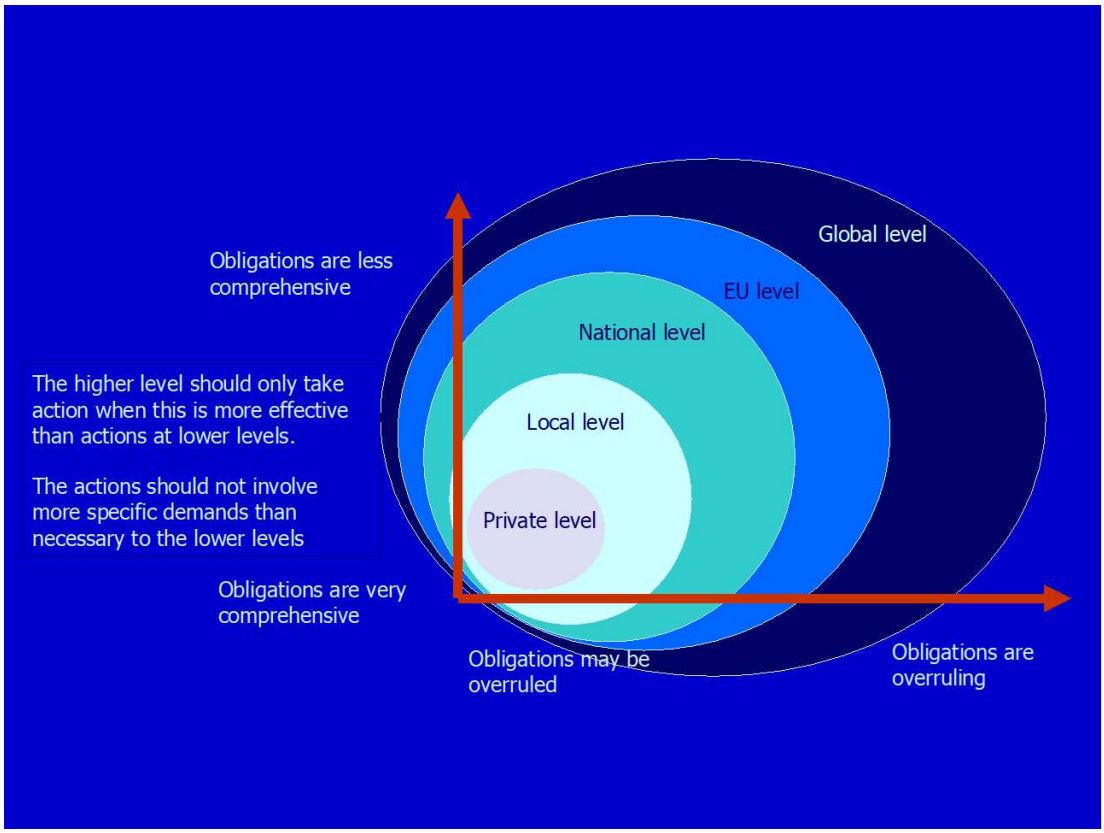

Figure 9. The basic points in the Principle of Subsidiarity and the Concentric Circle Theory.

From a democratic point of view, the question is how far it is legitimate for the national government and international organizations to interfere with local communities' decisions of relevance to their landscape. Figure 8 illustrates a point, which was codified in the in the preamble to the founding Maastricht Treaty on European Union from 1992 as the Principle of Subsidiarity – and before that can be found both in the Tenth Amendment of US American Constitution and in Article 5 of the Treaty of the European Coal and Steel Community from 1951. The basic point of the subsidiarity principle is to encourage a system where decisions are made as closely as possible to the citizens affected. Organizations on higher levels should only intervene when common interests are dealt with more effectively and equitably here than at lower levels. They can set up a framework based on national and international priorities but leave the specific planning to the local authorities in collaboration with citizens and other stakeholders.

The American philosopher Peter Wenz has elaborated on this in his so-called Concentric Circle Theory (Wenz 1988). The main idea is that although our attention is primarily focused on people closest to us, where obligations are most comprehensive, obligations emerging from larger circles are, in a certain sense, stronger than those emerging from the smaller and more exclusive ones. The rules and obligations of the larger circles provide framework conditions for the smaller ones and, in cases of conflict, overrules decisions and obligations that emerge from the narrow circles. A central point is that everybody's possibility of leading a good life and pursuing his or her own goals is dependent

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on fair and reasonable circumstances. This is a major obligation for all to uphold. Everybody suffers if conditions deteriorate.

Where the lines should be drawn will almost always be a matter of deliberation. A special consideration is the question of justice: if decisions, wishes and obligations of a unit on lower level, e.g., a municipality, are overruled due to higher level considerations, other units on the same level – and with similar conditions – should be treated similarly. Conditions are never exactly similar, however. For instance, some municipalities have much more land or wind than others, so the question is how much more they ought to contribute to the green transition than municipalities with fewer resources. This will particularly lead to conflict, if they see losses of landscape quality, noise, smell or light nuisance, traffic increase, etc. connected to the effort. There more beneficial and self-determined the arrangement is for the resourceful municipality – and for the individuals affected by the established facilities – the more likely it is that they accept the deal.

There are huge differences in how much renewable energy each of the Danish municipalities has installed (Jung-Wederking, Larsen & Bernbom 2023). The majority of municipalities has installed very little, whereas a handful or two account for the majority of the electricity production. Municipalities like Ringkøbing-Skjern, Thisted, Holstebro, and Lemvig at the Danish west coast have more or less accepted the role as "power plants" for the rest of Denmark and developed planning and ownership models that increase local self-determination and benefits in exchange for intensified wind and solar PV development.

Lemvig municipality, for instance, proactively does so by a) a clear, transparent zoning of protected/no-go areas, neutral and positive areas, where official spatial planning in the neutral zones only commences when an (unofficial) consent by the local community and landowners has been given to the project developer, and the project can document added value to local area. This "prior consent" approach encourages developers to look for high shares of local ownership and benefit sharing schemes, and significantly reduces the planning burden and risk of wasted municipal resources. In fact, Lemvig is home to several large RE projects with high and broad shares of local ownership and low numbers of protests (Kjærulff Torp 2022; Haustorp 2022).

Values added and subtracted

When decisions are made about green transitions, RE-facilities and consequential landscape changes, a variety of values and goods are added and subtracted for various actors and receivers. These values and goods are placed at different locations in both space and time, as illustrated in Figure 10. From the single actor's point of view, the values placed at the center of the diagram typically get more attention than values further away. Still, as shown previously in Figure 10, obligations beyond the narrow local circle may be so important that they overrule local wishes and concerns.

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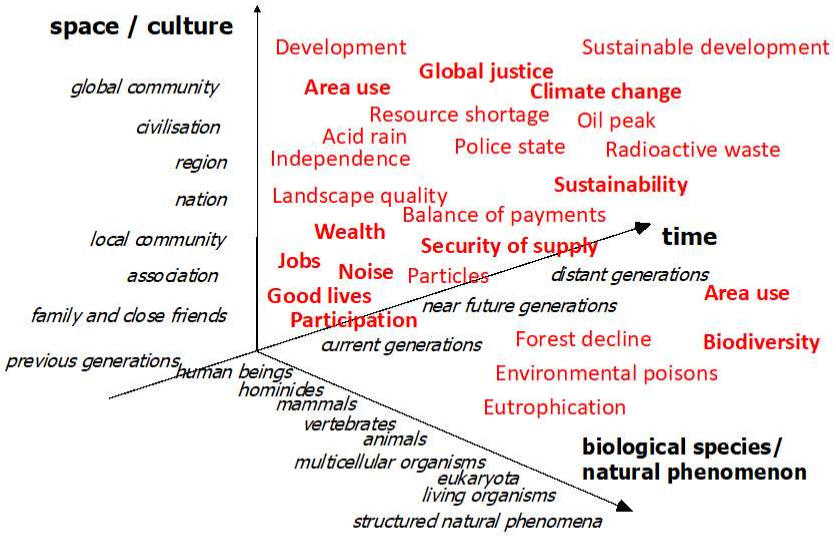

Figure 10. Values that have been particularly relevant in energy policy over the last 50 years (based on Arler et al. 2020). The values are distributed in three dimensions: space, time and species (or natural phenomena). Values that are especially important for the introduction of RE-plants and related facilities are highlighted in bold.

Sustainability is fundamentally about giving future people as good a chance as we have had ourselves of leading satisfying lives and leaving our descendants the significant goods and values, we consider basic to who we are. The concept 'sustainable development' signals a commitment to include current and future people from other parts of the world in this scheme as well. For landscape democracy to be complete, these concerns must be integrated into decision procedures. Somebody must talk on behalf of these otherwise forgotten stakeholders. The values added or subtracted are not exclusively situated in the local area.

In the current situation, two concerns are of utmost long-term importance: climate change and biodiversity losses. Most local communities are aware of this and try to develop policies that match the challenge. Often, they can be overridden by pressing local concerns, however. This makes it important to include remote stakeholders in the landscape democracy conception and to include channels of influence for them in the democratic set-up. This could be done through national or EU laws and rules, e.g., about impact assessments of cases and policies, through procedural designs, where remote stakeholders are included explicitly in the participatory and deliberative schemes described above, or it could be done through task force efforts initiated by the state.

Concluding remarks

Considering the global challenges, including climate change and security of (energy) supply, the green transition is a necessity. RE-technologies are crucial in this process. Almost all nations agree that the age of fossil fuels is running out and many have realized that transitional actions are acutely needed. For example, the Danish government has recently requested a quadrupling of the energy production from land-based RE-facilities, together with an even more ambitious off-shore expansion. This will inevitably have a significant impact on landscapes and, consequently, on the people living in the landscapes.

Some impacts will be negative, like noise, smell, blocked views, undesired light effects, impact on landscape composition and biodiversity, etc. Others are positive, such as revenues for the local community, increased job opportunities, and not least: pride in participating in the much-needed global green transition. For some, RE-technologies are beautiful or fascinating, the view is inspiring

and leads to pride or even awe. For others, the technologies may appear, at least initially, as unwanted foreign elements that disturb and ruin the well-known or pristine landscape.

All experience shows that local people's attitude to the introduction of RE-technologies into their home landscape very much depends on whether they are involved in the process or not. In general, the earlier a genuine involvement is established, the better. There are various ways to involve people, however, as we have seen in this article. One pervasive solution is for the initiator to offer local people actual co-determination of the project and to be co-investors in a suggested project or at least to establish a benefit-sharing scheme that can strengthen the local community. An earlier and more thorough involvement occurs when the initiative starts in the midst of the local community and its institutions.

The local community/municipality could make an even earlier start if a combined energy and landscape planning process is initiated before local or external investors have come up with specific project ideas. This way local societies assume responsibility, and it is avoided that the planning process is reduced to individual case processing. With the growing need for an ambitious RE-policy – and the governments' attempts to live up to this demand – it becomes still more inevitable to establish reasonable and transparent procedures for this type of combined energy and landscape planning processes, whether in the form of a separate climate and RE-facility law, or as a separate chapter in the existing Planning Acts.

Again, it is important to emphasize that members of local communities must be involved very early, not necessarily as co-owners but at least as co-responsible partners. A variety of different ways to do (and not to do) this are discussed in the article and illustrated with corresponding examples. Only in smaller projects with a very low landscape impact is it sufficient to leave decisions with the (private) investor. Once the installations become significant, the impact on the surrounding society cannot be ignored, and participatory and deliberative measures are required, where not only inclusion but also factuality and respect for arguments are given high priority.

It is essential that participatory and deliberative processes are established and that landscape issues are included right from the start. Many cases have shown that people care much about landscape values, which are often identity carriers, and that they are willing to block processes if questions of landscape goods and qualities are ignored. One worthwhile type of solution to consider is to place RE-facilities on or close to already existing technical installations – highways, factory roofs, car parks, harbors, etc. – as far as possible. If this is not possible, it is important to involve local inhabitants, stakeholders, and connoisseurs at the earliest possible stages of the decision-making process to find the most acceptable and least disturbing solution. The attempt of this this article has been to show the broad variety of methods, organizations, and procedures that can be applied, dependent on the purposes and specific circumstances.

The green transition is a high priority in society, both on the national and international level. It is necessary for local authorities to contribute to fulfilling the common agenda, particularly in places with good opportunities for establishing RE-facilities. National authorities can contribute with a transparent and easy to work with framework that sets standards for inclusion of renewables in the local energy system and appoints a national network of land areas that are useable for location of RE-facilities. This could be part of future renewable energy planning laws based on the urgent national and international priorities.

On the other hand, it is just as important to respect the principle of subsidiarity and let decisions on higher levels leave as much room as possible for flexibility at lower levels. It is imperative to leave decision spaces open for local authorities, civic associations, and affected stakeholders to organize their effort in ways that suit them best and encourage innovative approaches. Too detailed top-down demands are likely to lead to conflict – as in the Norwegian case – and must be avoided as far as possible. The fact that it is necessary to speed up the green transition is not a sufficient reason to ignore local democratic processes. Without local backing the transition is bound to become fragile and burdened with opposition and consequently, delays, which can defeat the very purpose of "speeding up the green transition".

Funding: This article is written as part of the research project CIVIC Renewables, which is funded by the Norwegian Research Council, project no.: 320812, with supplementary funding from the Vissing Foundation.

Acknowledgments: We would like to thank the other participants in the project – researchers, politicians, municipality executives, and private advisers from both Norway and Denmark – for fruitful discussions that have helped us improve our article. We would also thank the informers, who have helped us find and understand the cases described and analyzed.

Conflicts of Interest: There have been no conflicts of interest influencing the content and results of the research presented in this article.

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