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Navigating the winds of change: presentation of wind power development by regional newspapers in Northern Sweden and Finland

Therese Bjärstig^{1*} and Hanna Lempinen²

Abstract

Background Dramatic reductions in anthropogenic CO₂ emissions are needed to mitigate the impacts of rapidly accelerating climate change. In Sweden and Finland efforts to realize the political ambitions to meet international climate objectives, and promote the growth of 'green' industries, have focused on rapid expansion of wind farms, but in both countries wind power developments have been controversial. These controversies are especially prominent in the northern regions of the countries which have become hotspots of wind power development. In this article, we focus on these regional wind power debates with the aim to extend scholarly understanding of the spatial justice dimensions of how 'just' and 'green' transitions unfold. We do this by examining representations of the ways in which the effects of regional wind power development, their management and the 'right' places for wind power are debated in 372 articles in Swedish and Finnish regional news media published during 2020–2023.

Results In regional media representations, wind power is discussed in terms of a wide range of experienced and potential impacts. Negative impacts including harm to the environment, biodiversity and human health are discussed. Yet, the positive effects are emphasized, including contributions to national policy goals and the regional socioeconomic benefits of the emergence of a green, low-carbon economy in both the Swedish and Finnish articles. However, envisioned means for managing wind power development in a fair manner differ: compensations and the right to municipal veto are strongly highlighted in the Swedish articles, while Finnish articles focus on the integrity of democratic processes and planning. As the green transition continues to unfold, northern regions are increasingly being represented as the 'right' places for wind power, both from outside and within those regions.

Conclusions Our findings highlight the perceived importance of local and regional socioeconomic benefits and local self-determination for positive perceptions of large-scale wind power developments in our focal administrative and legal contexts. Local and regional histories and encounters with earlier resource development continue to shape reactions to and interpretations of resource development projects in contemporary Euro-Arctic North.

Keywords Decarbonization, Wind power, Just transition, News media, Sweden, Finland, Euro-Arctic North

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Background

Dramatic reductions in anthropogenic emissions of CO₂ and other greenhouse gases (GHGs) are needed to mitigate the impacts of rapidly accelerating climate change. The energy sector, which is highly dependent on fossil fuels, is responsible for around 75% of greenhouse gas



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emissions globally [1], so its decarbonization has become a key objective of international and national climate policies. In political and popular debates, this ongoing decarbonization process is often understood as a singular energy transition, but it involves multiple, interdependent transition processes that are highly variable, spatially, and temporally, socioculturally situated and thus never amoral or apolitical [2, 3].

While the decarbonization of the fossil-fuel reliant energy system is taking shape in the interplay of different renewable energy solutions and technologies and expansion of the industries that support them, one of the most visible manifestations of the ongoing low-carbon energy transition has been the rapid development of wind energy production facilities across the globe (e.g., [4–8]). As a result, wind is now the main source of energy in many regions [9]. In 2021, the global installed wind power capacity amounted to 825 GW (93% onshore), 222 GW of this capacity was in Europe (87% onshore) according to IRENA [10], and Sweden and Finland were among the top six European countries in terms of annual increases in wind power capacity [11]. A complication is that in these two Northern European countries planned and existing wind power development is increasingly concentrated in peripheral and northern regions. These regions are already under increasing pressure from competing forms of land use, ranging from traditional livelihoods—most importantly reindeer herding—to tourism, mining, and military activities [12, 13]. Moreover, the planned expansion of wind power has also been regarded as another form of resource development imposed on the region from the outside, raising questions about the regional gains and benefits brought by these developments [14–16].

The transition to low-carbon energy systems and economies has been enshrined in international climate commitments [17, 18]. However, scholarly debate has broadly acknowledged that it can potentially create ‘winners’ and ‘losers’, thereby aggravating existing inequalities or giving rise to new ones (e.g., [3, 19, 20]). This has raised concerns about the justice dimensions associated with energy transitions that are often conceptualized in terms of three—or, increasingly, four—different tenets of energy justice (or injustice). These are related to: the distribution of benefit and harm associated with low-carbon policies (*distributive justice*); the possibilities for participation and influence they offer (*procedural justice*); recognition of vulnerable groups and the losses they incur (*recognition justice*); as well as correction for these experienced and perceived losses (*restorative justice*).

Extensive accounts and analyses of the different tenets of energy and transition justice have so far been presented by authors such as Cha et al. [21], Jenkins et al.

[22], McCauley and Heffron [23], Sovacool and Dworin [24], and Williams and Doyon [25]. While the tenets approach to energy justice can have analytical value, in practice these dimensions are often not only interlinked and overlapping, but also conflicting, especially when cosmopolitan [3], intergenerational [26], spatial [27] or environmental [28] aspects of justice are introduced. What ‘just’ entails thus remains perspectival, situated and (hence) is always open to both scholarly and societal debate, rather than something that can be mechanically implemented [29–31]. Growing awareness of this inherent normativity, contextuality and politicality of the notion and practice of energy justice has increasingly contributed to demands for anchoring justice-related analysis to lived and experienced places through incorporating the consideration of spatial aspects into the design and analyses of energy transitions. Spatial approach to justice can serve to inform the established three- and four-tenet approaches to justice through making explicit the ways in which historic patterns of distribution—equally in terms of resources, wealth, capacities and power—are reflected in current processes and outcomes of distribution [32, 33]. For this reason, our analysis takes a focus on the regional level and the ways in which ‘right’ places for wind power development are framed and debated within our case study regions, themselves already designated as the ‘right’ places by political and market actors within Sweden and Finland.

Decisions about renewable energy siting and wind power construction are not made in a vacuum but instead take shape within established frameworks of power and within established relations between places and regions [33]. Unless explicitly acknowledged, this can result in continued marginalization of peripheral regions or ‘energy peripheralization’ (cf. [34]). This refers to expectation that rural and peripheral regions will very concretely “accommodate the manifestations and effects of the productive means of energy transition” ([35] p. 99, [36]) but often have limited influence or power over energy development and remaining under-equipped to realize its envisioned benefits. This can further exacerbate marginalization, peripheralization and mutual reinforcement of socioeconomic disparities and disadvantages and selective involvement of knowledge, expertise and cultural framings (cf. [32, 34, 36]). A spatial justice-oriented approach involves not only elucidating and describing existing and historical inequalities, but also critically evaluating such inequalities in terms of wider and intersecting forms of (in)justice and exclusion, as well as their effects on the well-being of local communities [27, 33].

To contribute to such efforts, here we explore these aspects of national and global development in highly

relevant arenas of northern regions of Sweden and Finland. Empirically, we focus on representations of wind power developments in regional print media, which continue to have high subscription rates and levels of societal trust in the Nordic countries: print media continues to be considered as the most trustworthy news source in both of the countries [37, 38]. Against the backdrop of scholarly literature on the spatial dynamics of just transitions, we take a focus on the ways in which the regional implications of large-scale wind power are represented, the ways in which these developments are expected to be managed in order for them to be fair(er), and how the 'right' places for wind power become understood in these framings. In this, we rely on the methodological framework of comparative qualitative content analysis of 372 wind power-related news entries in three regional newspapers covering the northernmost parts of Sweden (Norrbotten and Västerbotten) and Finland (Lapland). While our case study has a distinctly Nordic or Euro-Arctic focus, our findings may provide insights into broader dynamics, relations, and values at play when national policies and developmental trajectories meet lived, experienced and locally anchored realities.

Methods

Study design and case descriptions

Many studies have demonstrated that portrayals and discussion of renewable energy technologies in the media both reflect and shape the publics' relations with and perceptions of them [39–44]. News media can constitute a major arena of public deliberation [45], and actors within them participate in both setting the agendas of societal debates and shaping public understandings through the frames they apply when making sense of reported events and developments (for agenda-setting see McCombs and Shaw [46]; for framing see Goffmann [47]). Editorial decisions regarding what to write about, who to interview or cite, and what and whose viewpoints to focus upon all shape representations of ongoing development, underlining the nature of media depictions as 'produced' entities instead of objective descriptions of an external reality. As both rooted in and constructing local (power) relations and realities, media and news reporting have a powerful role in directing public interest and setting the 'baseline' for local and regional debates.

We base our analysis on a comparative case study (cf. [48]) of regional print news media representations of wind power developments in regional hotspots in northern Sweden and northern Finland. In Sweden, wind power has been developed on increasingly large scale since the 1990 s; slowly up to the beginning of the twenty-first century [12, 49] and more rapidly since then. Sweden is now the fourth largest generator of wind power in

Europe, and Europe's largest onshore wind park, *Markbygden*, is located in Norrbotten [50]. From a national level of less than 0.5 TWh at the start of the millennium, wind power production increased to 20 TWh and 13% of the gross energy production in Sweden in 2019 to 20% in 2023 [51, 52]. On the population level, wind power is one of the most popular energy sources in Sweden and 61% of Swedes want to increase investment in wind power [53]. However, despite widespread societal acceptance reflected in national surveys, Swedish municipalities stopped the development of 73% of planned onshore wind farms in 2022 [54]. Previous exploration of factors involved in municipal rejection of wind power has identified perceived distributive injustices and the dispersal of power across the energy planning system as key drivers of local resistance [38, 55]. Accordingly, the municipalities' right to veto is a source of ongoing debate in Sweden [38, 56–59], as well as local compensation in the light of the ambitious national plan for future wind power development [60, 61].

In Finland, development of wind power started comparatively late, towards the end of the 1990 s, and slowly increased until the introduction of state support in the form of feed-in tariffs to wind power operators during the 2010 s. Towards the end of the decade, wind power construction had become commercially viable even without government subsidies to industry actors. Consequently, Finnish wind power has expanded rapidly and now accounts for over 15% of the nation's overall energy supplies [62–64]. On the national level, Finnish citizens generally favor wind power: 82% of respondents in an annual survey of citizens' attitudes towards energy in 2022 expressed willingness to further increase the share of wind power in the Finnish energy mix [65]. Again, the broad-seeming societal support demonstrated by polls does not automatically translate into local acceptance, as wind power development has been a prominent source of local contestation and environmental conflict [63, 66, 67]. In these conflicts and related societal debates, energy and economic benefits from wind power have become juxtaposed with other livelihoods and land use forms—with specific reference to reindeer husbandry in the north—and the health, esthetic and landscape needs and rights of local and leisure residents [68–71].

The case study contexts are similar in many respects: both countries have high per capita energy consumption, a relatively high share of renewables in their national energy mixes, and they are committed to ambitious climate goals both in their national policies and as a part of their international agreements [17, 18, 72, 73]. The countries also share a similar cold climate, have energy-intensive industrial sectors, long transport distances, and a spatial distribution of industry and population that

requires the development of north–south transmission capacities [74]. Furthermore, they share regional histories of forceful industrial development in the name of national modernization (cf. [75, 76]).

For many years Sweden and Finland have also had a cherished reputation for providing citizens multiple means to participate in, and/or appeal against, industrial and resource development projects as an important element of their environmental administration. However, examples of their failures to deliver experienced justice to citizens have been widely reported [77–81]. Indigenous Sámi people and their land (Sápmi) stretches across both countries, but neither of them has ratified the ILO 169 convention [82]. Unlike Sweden, Finland has not (so far) allowed the installation of wind power in Sami homeland areas. However, in contrast to Sweden, in Finland reindeer herding—a socioculturally important traditional northern livelihood—is also practiced beyond the Sámi homeland area and by non-indigenous, Finnish herders. Another notable difference is in the distribution of the revenues from wind power development. In Finland, municipalities gain property taxes from wind power development on their lands, while Sweden is the only Nordic country in which municipalities receive no tax revenue from onshore wind power [83]. Our media analysis allows us also to shed light on the ways in which these legal and administrative differences are reflected in and by regional news media coverage.

Data collection and analysis

The empirical material utilized in this article consists of new articles in three main regional newspapers: Norrbottens Kuriren (NK) and Västerbottens-Kuriren (VK) published in Sweden and Lapin Kansa (LK) published in Finland (for regional coverage see Fig. 1). While the mediascapes of the case study countries differ in terms of journals' ownership structures and political affiliation, the journals selected for empirical analysis are leading regional media outlets in terms of reader numbers, where the paper print of NK reaching 34,100, VK 61,000, and LK 70,500 readers daily [84–86]. Out of the newspapers, both NK and VK are liberal while LK is (at least formally) politically unaffiliated.

The articles were retrieved for analysis from Mediearkivet in Sweden and digital media archives of the Finnish National Library. They were restricted to items published between 1 January 2020 and 31 December 2023, a 4-year period following the launch of the EU's Green Deal in December 2019. Finland also announced a target of being carbon neutral by 2035 in 2019 [14, 87] and Sweden formally adopted a national strategy for sustainable wind power development in 2021 [60]. Thus, our timeframe covers the years

immediately following a sharp increase in the political prioritization of decarbonizing national and European energy systems and societies.

In retrieving the articles, we used the search strings (“wind power”) (in Swedish: vindkraft, in Finnish: tuulivoima), and (“wind farm” OR “planning” OR “establishment” OR “development”) in the field “any of the words” (in Swedish: vindpark OR planering OR etablering OR utbyggnad; the Finnish search string used were tuulivoim* AND suunnit*, as the word “planning” covers both the municipality level planning as well as the processes of planning an individual project). The planning and development stage was focused on owing both to the ongoing rapid expansion of the wind power in the Nordic north and the scholarly observations indicating that societal debates and individual attention to wind power tend to be at their most heightened in the stage where wind power is planned or being installed [71]. Furthermore, the search terms were designed to enable access to *all* articles (both positive and negative) concerning wind power development and its diverse entanglements with communities and their lifeworlds in the Nordic north. After downloading all hits, we removed all duplicates and irrelevant articles, i.e., articles that mentioned wind power but focused on another subject (such as nuclear power, hydrogen gas developments, green steel etc.) and articles that focused on wind power development in places other than Sweden and Finland. After exclusion, a total of 113 Swedish and 259 Finnish news entries were left for analysis (see Table 1).

We subjected the acquired material to comparative qualitative content analysis, as follows. First, we (both authors) familiarized ourselves with the material and reviewed the articles. During active reading, we first made general notes about how the news articles discussed wind power development processes, benefits and harms associated with regional wind power development, and suitable or unsuitable sites for it. This inductive data familiarization provided an initial understanding of contents and helped us to identify relevant themes in relation to theoretical concepts and previous research (cf. [88, 89]). Second, a coding manual was developed and used to promote consistency in the identification and categorization of the themes. The manual included operationalizations that helped identification and description of the themes. The material was then classified and coded in a shared Excel-file according to the themes and codes listed in the manual in Appendix A. This process involved both authors collaboratively testing and developing interpretations of the themes in a two-day physical meeting and several online meetings to calibrate the coding. To promote transparency and reliability of our analysis, quotations and paraphrasing are applied in the Results section.



Fig. 1 Map of Sweden, Finland and surrounding countries, with the case regions of Norrbotten, Västerbotten, and Lapland highlighted. Source: Arto Vitikka, Arctic Centre, University of Lapland

All presented quotations have been translated by the authors as accurately as possible.

Table 1 Overview of included articles in Norrbottens Kuriren (NK), Västerbottens-Kuriren (VK) and Lapin Kansa (LK) published in the focal time period, 2020-2023

YEAR	NK (SWE)	VK (SWE)	LK (FIN)	Total N
2020	4	7	63	74
2021	8	16	59	83
2022	20	24	64	108
2023	8	26	73	107
All	40	73	259	372

Results

Representing regional impacts of wind power development

Expected and experienced impacts and their distribution between different actors and scales are at the heart of distributive justice [21–23]. The materials retrieved from the regional media depict the effects of wind power development, as well as the beneficiaries and those who may be adversely affected, in diverse and sometimes contradictory terms—often within the same article.

Generally, the newspapers have discussed wind power largely in positive terms; not as “*a magic silver bullet that solves all problems*” (VK 2023–06–28) for the regions but as a development accompanied by a wide range of potential environmental and social externalities. The most frequently addressed negative impacts of wind power—either expected or experienced—in the Swedish newspapers are claimed detrimental effects on the environment in general, followed by adverse effects on human health and biodiversity in particular. However, in many instances the negative environmental impact of wind power development is portrayed as a tolerable price of the green transition to a fossil-free future: “*Despite loud discussions about wind power’s negative impact on the environment and surroundings, the organization [an environmental nongovernmental organization] assesses that wind power is the least harmful alternative for the expansion of Sweden’s energy production.*” (NK 2023–08–02).

In the Finnish reporting, directly environment-related debates are peculiarly dominated by concerns about the waste that will be generated when the wind turbines are dismantled in the future. This theme is largely absent from Swedish wind power reporting. In contrast with the Swedish articles, concerns about the environment are less prominently expressed than worries about negative impacts on human health, especially those due to associated light and noise pollution: “*...one cannot really talk about peaceful nature if 120 constantly blinking turbines are erected next to you*” (LK 2022–06–12). However, the harmful impacts of wind power described in the Finnish articles are not limited to physical human health. Anxieties about mental and cultural health impacts due to loss of scenic and cultural landscapes, livelihoods, and traditional recreational activities such as berry-picking, mushrooming, and hunting are also frequently expressed, especially in texts sent in by the region’s concerned citizens.

The articles published in all three regional newspapers devote much attention to various perceptions and expectations of how existing and planned wind power developments will affect other regional industries and economic sectors. The potential impacts are not portrayed as uniform across sectors and livelihoods but as strongly contributing to some actors and industries ‘winning’ and others ‘losing’ from wind power development. Those presented as being threatened or negatively affected include traditional means of northern livelihoods—most importantly reindeer herding—and emerging nature-based industries such as tourism that depend on pristine landscapes (cf. [63, 88]). In addition, wind power development is represented as an enabler of a completely different regional economic sector. This is because regional availability of low-carbon and plentiful

electricity is engendering a new, green economy founded on the manufacture of green steel, hydrogen, batteries, and data centers, which are framed as crucial for the global transition to low-carbon energy systems and economies. While primarily serving global markets, the green economic project is also expected to contribute to local energy availability and bring local economic benefits; impacts of these developments outside the region are rarely accounted for. The broader green transition is expected to generate jobs, tax revenues (in the Finnish context), and population growth in the north, making not only the green industry actors, but also northern regions, municipalities, and landowners ‘winners’ in the reshuffling of national and global economic power relations.

As well as the tense relations between the traditional and emerging regional economies and the uneven distribution of benefits and harm from wind power development among them, the distributions of benefits and harm between the northern regions and central state are also major sources of debate in the articles. Strong national-level benefits of wind power development are recognized, mostly related to meeting national and international climate goals, strengthening the national energy system and contributions to the national economy. In contrast, most of its portrayed harmful impacts are local. Moreover, wind power development itself is occasionally framed in terms of its potential to alter power relations between different levels of governance and fuel conflict not only within communities and regions, but also across scales, as exemplified by discussions about removing municipal veto rights in the Swedish context or references to the fault lines within municipalities created by conflicts over wind power development in the Finnish data. Together, these observations highlight the complex nature of distributive justice considerations and the political nature of the processes in which benefit and harm are valued both within and across scales (cf. [33]).

Managing wind power development for the benefit of the region

While the experienced and expected benefits and harms brought on by wind power development have many similarities across the two northern case study contexts, the differences between the two countries’ legal and administrative frameworks for governing wind power development are reflected in regional news coverage on how wind power should ideally be governed. The questions of good governance, in turn, reflect considerations essential for the procedural aspects of energy and transition justice [22–24]. In the Swedish articles, the most essential tools to manage or implement wind power developments include various kinds of compensation for the ‘losers’. During the studied period the government initiated an

investigation of local compensation [83] that further fueled the debate. However, the possibility of introducing general tax incentives—in revenues, refunds, or deductions—were not included in this investigation, although many actors requested such compensation rather than only minor local forms:

“There is currently no regulation setting out how such financial compensation can or should be paid, instead settlements are concluded on a case-by-case basis [...] This means that the financial compensation that local communities receive depends on how good negotiators their representatives are, which is neither very sustainable nor fair. It would be better to ensure that uniform and equivalent solutions are introduced for all municipalities.” VK 2021–10–25

However, there were also many critical voices, arguing that compensation per se does not confer justice: *“Some things cannot be bought with money”* (VK 2022–01–12), and municipalities should not *“be paid to put local democracy out of play”* (VK 2023–09–01). Besides the importance of local compensation alleviating experienced loss and harm, the municipalities right to veto wind power developments has been highly debated in the Swedish newspapers (both NK and VK), which published many articles both for and against abandoning it. The developers involved argued that the municipal veto retards the development processes: *“The veto has slowed wind power expansion and created great uncertainty regarding wind power plans.”* VK 2020–10–21. In contrast, municipal-level politicians argued that it is essential for local democracy.

In the Finnish articles there is little discussion of local compensation—beyond money paid directly to owners of land used to install wind power facilities—as Finnish municipalities already obtain tax revenue from wind power development. The articles highlight these revenues’ importance as a major source of income for municipalities and, hence, crucial factor influencing municipalities’ wind power-related decisions. Due to the weighty role of municipalities, the integrity of municipal democratic processes and municipal land use planning are represented as key elements of management of the social and environmental impacts of wind power development. The articles explicitly recognize that municipal responsibilities include *“...advocating solutions that all parties can live with”* (LK 2020–02–25). However, the uneven pace and distribution of wind power development across northern municipalities have contributed to increasing calls for integrated and holistic regional planning mechanisms, which would enable regional control of wind power development. The Finnish municipalities’ authority is also challenged by the national Ministry of

Defense, as needs to avoid windfarms interfering with its radar systems can override municipal development plans and block prospective wind power developments. This can be a *“big disappointment for a municipality”* (LK 2022–03–30), especially since *“defense forces do not consult, they just say yes or no”* (LK 2022–11–17). This also applies to the role of defense forces on the Swedish side.

The importance of municipal planning was also highlighted in the Swedish articles, which often criticized perceived deficiencies in municipalities’ planning capacity, and urged the state to strengthen it. Representations in VK, particularly, often raised needs for comprehensive municipal plans to direct the development processes more clearly and transparently. Articles in all studied newspapers also stressed the importance of considering the sizes, and both technical and geographical specifications, of proposed wind power installations. For example, the Finnish articles often mentioned needs to utilize the *“best available technology”* (LK 2021–11–11) to minimize harm and adjust planned projects in terms of the height, number, and placement of individual wind turbines. The establishment of buffer zones and/or requirements for minimum distances from population centers were also frequently advocated to mitigate wind power’s negative impacts, and hence improve its societal acceptance. This underlines the importance of research and knowledge for planning and implementing projects in a manner that optimizes the outcomes and minimizes harm for and the environment, although explicit references to the role of research and knowledge were rare in the Swedish articles.

Both the Swedish and Finnish articles also raise perceived needs for changes to procedural and participatory aspects of municipal energy plans and specific wind power development projects, including enhancement of associated hearings and consultations to increase the justness and soundness of wind power development. For example, articles in the Swedish papers NK and (especially) VK often recommend more collaboration and discussions with stakeholders, hearings, communication, and dissemination of information. Articles in the Finnish paper LK also express belief in the importance of environmental impact assessments and other regulatory requirements, such as rights of appeal and judicial review, with citizens playing an active role, for local participation in the management of wind power development and mitigation of negative impacts. The perceived need to enhance local participation and influence also implicitly stresses the importance of national legal and administrative frameworks for securing more just local and regional wind power development. These emphases not only put a lot of pressure on already strained frameworks of public administration but also highlights the cognitive and spatial justice challenges associated with

“finding inclusive processes where decision-making reflects the ideas and visions of the local communities” within knowledge systems and frameworks that have been assigned ‘from above’ ([33], p. 1106).

Assigning the ‘right’ places for wind power within the north

While the benefits and harms of wind power development and the procedures required for managing them for the maximum benefit of the region are frequently debated in the media materials throughout the study period, northern regions of Sweden and Finland are at the same time still widely represented as ideal sites for wind power development. They are framed as sparsely inhabited, mostly well-connected to the existing transmission grid and have favorable environmental and geographical conditions for both wind power itself and the green industry operations planned around its expansion: *“there is space, wind and ability to develop wind power”* (LK 2022–11–11). However, such portrayals of the north as an “empty place” [75] awaiting (now green) industrial activity fail to account for the diversity of local perceptions and realities. This includes wide variation in views of not only whether wind power facilities should be constructed, but also *where* in the north they could or should be installed.

Most of the analyzed articles, Swedish and Finnish, do not explicitly indicate where wind power facilities should be located. However, those that do provide such indication frame the right places in diverse terms that are not consistent across the newspapers or even within them. The key criteria generally reflect the expressed patterns regarding potential negative impacts and associated human, economic and environmental ‘losers.’ Thus, the ‘right’ places within the regions are defined in terms of optimal wind conditions, proximity to the national transmission grid, and minimal harm to the environment, biodiversity, traditional or nature-based livelihoods, and areas of recreational or cultural significance. Lack of military interest in potential sites is another mentioned criterion, especially in Finland due to its border with Russia, which is regarded as an unpredictable potential threat. Echoing the importance of municipalities’ right to plan and govern wind power development within their boundaries, overall the articles clearly highlight perceived needs for strong municipal and regional land use planning. Thus, not only biophysical characteristics of the region but both distributive and procedural justice considerations become arguments for and/or against wind power siting and in designating the ‘right’ places of wind power development.

A key, and complex, aspect of ‘right’ or appropriate wind power development is the placement of installations in relation to human settlements and

communities. Often, the right places are framed in terms of being sufficiently far from northern population centers, as *“few people want a wind power plant in their landscape, regardless of whether the energy produced by it is clean or not”* (LK 2020–04–22). Locating installations sufficiently far from towns and cities is also framed in terms of potentially reducing resistance and enabling more and faster wind power construction. Accordingly, offshore locations are frequently designated as ‘right’ and suitable places for future wind power development in all three newspapers. However, while the right places for wind power *in the north* are mainly defined as those *away* from population centers, the right places *at national level* are framed as those *close to* the big population centers, where most energy is needed, such as *“near industrial areas in southern Sweden...”* (NK 2020–08–01).

However, the changing patterns of energy demand associated with emergence of the green industrial sector—or, in the Finnish case, anticipation of its emergence—are increasingly constructing northern municipalities as *the* right place for wind power development from the viewpoint of their residents too. The ongoing green transition in northern Sweden and the need for fossil fuel-free energy to produce green steel and hydrogen gas have raised perceptions that the north is the right place for wind power since it is now needed and used regionally—not a bene not locally:

“...a number of electricity-demanding industrial establishments in the north: Northvolt, H2 Green Steel, Hybrit/SSAB and LKAB in Malmerget are just a few that together will need at least 60 TWh when fully developed, i.e., approximately 40 percent of current Swedish electricity production.” VK 2021–10–30

Similar aspirations to locate wind power in the north both to attract green industry investments and operations as well as to later fuel them with locally available, abundant and emission free energy abound also in Finnish news media materials where northern Finland is increasingly depicted an ideal site *“...for industry and factories that produce high-level products with locally generated green energy”*(LK 2022–11–26) that will turn the energy-generating northern lands and seas into the *“Persian Gulf of the North”* (LK 2021–11–12). This recent emphasis on wind power as both an opportunity and requirement for green industrial operations and, hence, catalyst for the brand new, bright regional socioeconomic future also reflects a change in understanding of who the generated electricity is for. Rather than faceless energy users in the south, the power generated from northern wind will now fuel industrial users located in the north.

Carving space for wind power amidst local and regional histories

The identified framings of the right places for wind power in relation to the north–south axis and centers of energy consumption are embedded in broader societal and historical contexts that must be considered in any regional debates about wind power, and use of any other resource. Historically, resources and land in the northern regions of both Finland and Sweden have been heavily exploited for the benefit of the nation-state, with little local influence over developments, which in many ways have been locally detrimental. In the Finnish articles, the cultural trauma of regional hydropower development can be discerned both implicitly and in the form of explicit references such as *"let's not repeat how Kemijoki [River Kemi] was dammed with hydropower plants and the migration of fish was blocked"* (LK 2020–09–07). There are also references to the sacrifices that both Kemijoki and its riparian communities have made for the benefit of the state and its economy.

The layers of resource relations, histories and associated conflicts over resources are also embedded in more abstract terms. They can be detected, for example, in items describing how *"Lapland has been and apparently remains a region whose job is to produce electricity to meet the country's needs"* (LK 2022–08–03) and now must accommodate the wind power installations while the benefits will *"go elsewhere"* (LK 2023–10–27). Local losses are seen as permissible for the sake of national interest, while Finland as a whole will be exploited for both *'greenwashing'* (LK 2023–07–10) of big corporations and satisfying the *'energy hunger'* (LK 2023–02–11) of Europe. Similar framings are also prevalent in the Swedish articles: *"Sweden has become a colony for other countries that get electricity supplies. The country is about to become a wind farm for the EU."* (NK 2022–09–08).

The 'colonial' histories and relations have involved deep-rooted, and still resented, conflicts in values, as well as over northern resources. This is reflected in references to how northerners have already *"sacrificed a lot to the altar of technology"* (LK 2022–05–03), and *"hearings are arranged, but the colonial master decides"* (LK 2023–10–14) whose interests and values matter *"as if they could just come and take from the rural regions—once again"* (LK 2022–11–23). The consequences of this sidelining of local values and ways of life are reflected in profound questions such as: *"Do we need to keep on selling our valuable cultural and traditional landscape to electricity generation?"* (LK 2022–02–26) and *"Is this what we want to leave our children and grandchildren?"* (LK 2022–04–2020).

Similar sentiments reflecting regional colonial histories are echoed in the Swedish representations. The focus

on the south as the right place for wind power installations (especially in the first years of the focal period) and expressions of exploration and injustices in the development of wind power can be linked to historical colonialism. This is linked to an often-voiced feeling *"that we have already contributed greatly to the public through the forest, ore and hydropower, and that history is now repeating itself with the expansion of wind power"* (VK 2020–10–21). It also underlies representations of unjust power relations, portraying the peripheral northern part of the country as subject to *"the dictates of an insensitive authority and also deprived of power and local influence"* (VK 2020–10–21). Some articles also note a provocative observation that municipalities in southern Sweden are stopping wind power developments within their own borders and relying on northern Sweden to continue supplying them with electricity. One angrily concludes *"Stop it! Produce your own electricity"* (NK 2022–03–21). Altogether, the history of previous colonialism and explorations influence framings that acknowledge Sweden's needs for green energy to mitigate negative impacts of climate change in the northern region as well as the southern parts, *"but it must be produced in a way that gives more back to those who have to make the biggest sacrifices"* (VK 2021–12–29).

Discussion

The four years of northern regional media coverage on wind power development covered by our empirical analysis have demonstrated the nature of wind power as a prominent source of societal debate in the Nordic north and highlighted a wide range of expectations and demands associated with welcoming and siting wind power development in the north. Despite the various negative impacts—both experienced and anticipated—and perceived potential injustices associated with the distribution of the benefits and harms among actors of wind power development in the northern regions, it has tended to be reported in cautiously positive terms. The main positive effects represented are local and regional socioeconomic benefits—already experienced in parts of northern Sweden and impatiently anticipated in northern Finland—associated with emergence of the green economy in the Nordic north.

Through a just transitions lens, the above-described demands for tangible local benefits, self-determination and participation and concerns about the distribution of benefits and harm brought on by wind power development speak to justice-related debates from several interlinked viewpoints. Together, the discussions on the impacts of wind power and the distribution of benefit and harm between different actors and scales highlight the complexity of distributive justice in energy transitions:

‘winners’ and ‘losers’ can exist within the same communities and the perceptions of what constitute a benefit and a harm vary between different actors, making ‘just’ management of wind power development both situated and perspectival [22, 30, 31]. In turn, requirements set for how to manage wind power development reflect demands that can be linked to procedural justice claims: i.e., including those most affected by planned decisions in the processes of planning and implementation as well as securing the integrity of the processes and administrative structures in which these decisions are made [21, 23, 25].

During the years of analyzed media coverage, the experienced and expected negative and positive impacts, the demands set for managing them for the maximum benefit for the region and the associated justice claims turn into arguments both for and against siting wind power (with) in the region. Due to the benefits—both experienced and anticipated—actors in northern Sweden and Finland and beyond are increasingly regarding the Nordic north as the ‘right’ places for wind power development. From the viewpoint of spatial justice considerations, reporting on regional wind power development as a techno-economic success and *the* strategy for future local and regional development raises uncomfortable questions about (continued) resource peripheralization and the ways in which pre-existing spatial and power relations shape the choices and opportunities available for rural and peripheral regions. Amidst lack of other accessible opportunities for economic development and against a historical background of resource exploitation, the essence of spatial justice comes down to “the idea that people in rural regions can exercise their rights to determine their future” and the future of their own region “based on their regional priorities rather than a predefined set of ideas by outsiders” [33]. Against this background, it is not surprising that the idea of northern wind power development and the green industries that it is expected to fuel as the developmental strategy for the northern region does not resonate with all of those whose voices are represented in the media materials: for some, wind power is just a continuation of a long regional history of exploitative grasping of northern lands and resources to serve the needs and interests of powers outside the regions (cf. [14–16]).

The empirical observations presented here also empirically demonstrate the well-established mismatch between national level and local acceptance of wind power development, and other sources of renewable energy [88, 90–92]. In the Finnish context, they also highlight shared characteristics of northern and broader national debates about concerns associated with wind power development (cf. [63]). In the Swedish setting, they chime with earlier findings about the role of siting as both a problem and solution [88] for just wind power

development, underlining the multi-dimensional importance of accounting for the spatial aspects of the ongoing low-carbon energy transition (cf. [32]). Together, the diverging local and national expectations and interpretations again highlight the ways in which the pre-existing spatial relations between the population centers and the peripheral regions that are expected to concretely accommodate the nations’ resource development projects “continue to influence current distribution processes, and (re) produce inequities within or across a region” [33–35].

In quantitative terms, wind power-related developments featured much more prominently in the Finnish media materials. Our analysis cannot provide a direct explanation for this difference in emphasis, but the ‘stage’ of the regional green transition in the two countries during the focal period may have contributed. Large-scale wind power development started in Sweden relatively early, and as a result the ‘green’ industrial sector fueled by locally produced wind power is also further developed in Sweden; in Finland, these industries still largely remain expected and imagined. Differences in journalistic factors, preferences and resources might also have contributed to these differences. The Finnish news items often tended to monitor individual projects’ development, reporting on their courses from initial announcement through proceedings in the municipality until the start of its construction, often on several occasions when a planned project raised substantial local discussion or resistance. This also applied to the reporting in Västerbotten, which may at least partially explain why VK published almost twice as many articles as NK on wind power developments. Moreover, earlier studies have noted that both the framings and foci of wind power-related reporting tend to vary across time and between regional- and national-level channels (cf. [88, 92]). In terms of limitations, these observations highlight the need to account for the diverse factors that influence the production as well as the content of media representations when contextualizing empirical findings based upon them.

Conclusions

In this article, we have taken a case study focus on two northern hotspots of envisioned wind power development with and interest in the ways in which its expected impacts and their governance come into play in assigning the ‘right’ places for wind power development in the Nordic north. It has revealed a diverse range of experienced and expected effects—positive and negative, in both local and regional contexts and highlighted concerns about their fair distribution within and between the regions’ communities and between the regions and their respective nation-states. It has also highlighted the variations in the interpretation and perceived fairness of individual

projects and developments, even within community contexts.

To some extent, the news coverage within the regions has highlighted perceived socioeconomic benefits of wind power, including its potential to revitalize local communities and economies, by providing abundant, more secure, and much more environmentally sound energy supplies. In stark contrast, some framings highlight the detrimental effects of wind power developments—including impacts on traditional and nature-based livelihoods, cultural and natural landscapes, human health and biodiversity—for uncertain socioeconomic and/or energy returns. These diverging expectations and experiences and the dividing lines that wind power developments have the potential to cause within community present massive challenges for managing the development and siting of wind power in a manner that the diverse actors in regional energy landscapes would regard as acceptably fair. In this respect, our findings echo and compliment emerging scholarly insights regarding the inherently situated, perspectival and ambiguous nature of justice in transitions and beg the question of whether the large-scale transitions required to slow global warming can even be just—and, if not, what kind of consequences of not transitioning to low-carbon systems would have for both people and the planet (cf. [30, 31]).

The wide range of experiences and expectations associated with wind power development underline the need to consider political, social, economic, environmental, and spatial aspects in energy planning, policy-making, and implementation processes (cf. [58, 94]). Spaces envisioned as ‘empty’ and awaiting development by some are meaningful *places* for others, which highlights the need to understand and pay attention to the pre-existing socio-environmental fabric that planned resource development projects are envisioned to become a part of [93]. At the same time, it is also crucial to acknowledge that it is impossible to reconcile all differences between values, knowledge systems, preferences, and experiences in a manner that all involved actors would accept and experience as just. In such situations, acknowledging and accepting experienced injustices would—paradoxically—be the first step towards more just outcomes, as it would allow realization of not only restorative but also recognition justice.

This article has focused on news media representations of different aspects of *ongoing and planned* wind power development. As for all qualitative research, the generalizability of its findings is constrained by its geographical focus, data selection and methodological choices. While media data are excellent for understanding the “big picture” and dominant discourses within a specific regional context, it is less effective in capturing

the diversity of voices—particularly marginalized perspectives—within societal debates. Nevertheless, when combined with other contributions in the field, each individual article helps build a more nuanced understanding of the interplay between large-scale renewable energy projects and the societal and local realities they intersect with.

Our observations have highlighted the significant ways in which already occurred events and developments continue to shape contemporary resource-related debates and the potent influence of regional histories of resource colonialism and forceful ‘development’ on interpretations of the ongoing green transition in northern contexts. While these deep-seated and traumatic historical injustices are only beginning to be addressed in Nordic contexts, their reconciliation—along with the ability to deliver tangible local and regional benefits—is essential for any large-scale northern resource development project to unfold in a manner that would be perceived and experienced as (more) just. Conversely, experiences of injustice accumulating now in the course of the ongoing broader project of the green transition are bound to be echoed in local reactions to any future state or internationally led socioeconomic reform.

While our observations are deeply rooted in our northern research contexts, they can serve to inform similar research conducted in other sociocultural settings. Most importantly, these findings underscore the need for further research to support the implementation of large-scale (energy) industry projects in a manner that will serve to redress historical injustices rather than reopen old wounds.

Appendix A

Description of themes and the code manual

Background data	Questions or description
Geographical focus	Is this an article with national, regional or municipal/local focus?
National	
Sweden	
Finland	
Regional	
Norrbotten (Swe)	
Västerbotten (Swe)	
Lapland (Fin)	
Municipality/local	Fill in the municipality/site
Year of publication	What year was the article published?

Background data	Questions or description
2020	
2021	
2022	
2023	
Paper/title of article	
NK	
VK	
LK	
View of wind power expressed	
Positive	
Negative	
Combined	
Neutral	

Themes	Questions or description
Actors	1) Whose role is acknowledged? 2) Who are perceived as winner(s) and/or loser(s)?
Electricity sector	Grid operators, etc
Forest sector	Forest companies
Other Government Agencies	Swedish National Board of Housing, Building and Planning, Energy Agency, Swedish Energy Markets Inspectorate, The Swedish National Heritage Board, National Coordinator for Wind Power, Swedish Environmental Protection Agency, etc., and the equivalents in Finland
Legal entities	Courts, lawyers and other legal actors
County/Regional level actors	County Administrative Boards in Sweden and Regionals Councils (Lapland, Oulu)
Politician	
Civil servant	
Defence sector	
Municipality	As an entity/political agent
Politician	
Civil servant (employed)	
The Government	The prime-minister or a minister from the cabinet, government programme
The Parliament	The parliament as a collective and/or single member of the parliament
The population as a collective	County, municipality, village, etc
Individuals	
Locals	Residents of the area as individuals or small groups
Non-specified individuals	The individual is not a landowner or local, mostly in opinion articles where the sender's exact background is unknown/unclear (ex: "worried citizen")

Themes	Questions or description
Cabin owners	Individuals who own a cabin (temporary/seasonal property) in the vicinity of planned/built wind power establishments
Landowners	
Sámi representatives	Sami Parliament, Sámi organisations, etc.; Sami cultural and other rights
Reindeer herders/herder representatives	Actors speaking on behalf of reindeer herding (not specifically as a Sami rights issue but as a livelihood), Sami villages
Tourism industry representatives	
Other livelihood/industry representatives	The Federation of Swedish Farmers, Fishers, etc., mining companies, steel companies, other "green" industries, consultants, etc
Journalist	
NGOs	Non-governmental organisations
ENGOs and Think thanks	WWF, Naturskyddsförningen, etc
Associations	Finnish Wind Power Association, Wind Power Citizen Association, etc
Researchers	
Wind power companies	Wind companies such as Vattenfall and Vestas
Investors	
"Other"	Actors or objects that do not fit in any of the categories (Hydro gas companies, archbishop, hunters, etc.)
Establishment of wind power	What are the perceived impacts/implications? (good and bad)
Cumulative effects of land use	Cumulative effects of land use do not allow another land-use type: wind power risks becoming a tipping point because the landscape already is very exploited
Wind power as a new type of colonialism	Express historical injustices and grabbing of lands, etc
Good for local and regional economy	Subsidies, taxes (Finland) or other economic incentives and/or compensations leads to the creation of jobs, people moving there, infrastructure development, financial compensation to landowners and locals, profit, community development, welfare, social development, rural development
Bad for local and regional economy	Wind power hinders or does not lead to economic profit, property values, financial compensation, job opportunities, no tax or local compensation (Sweden), etc
Good for national economy	
Bad for national economy	
Good for the environment	References to environment, landscape, aesthetics, etc
Bad for the environment	References to environment, landscape, aesthetics, makes the landscape ugly, etc

Themes	Questions or description	Themes	Questions or description
Good for biodiversity	References to animals, plants, etc	Laws and agreements	Policies, regulations, and formal laws; policy goals, court appeals, environmental permits, municipal vetoes or not
Bad for biodiversity	References to animals, plants, noise, lights, vibration, traffic, etc	Knowledge or lack of knowledge	Insufficient research and knowledge about which areas are good; the effects of wind power, etc. OR not taking local/indigenous knowledge into account
Good for climate	Efficient for mitigating climate change and reducing emissions	Planning	Regional land use planning (Finland), Planning at municipal level, participatory processes, collaboration, zoning, etc
Bad for climate	Non efficient climate action, increased emissions	Size and technical details of wind parks	Small-scale parks preferred or large-scale parks, height of wind turbines, etc
Good for human health		Compensation	Profits or benefits gained from wind power construction: tax revenues (Finland), land use compensation, compensation from state to municipality (Sweden)
Bad for human health	Noise, vibration, lights, other health impacts	"Other"	
Social/cultural benefits	Cultural landscape, cultural heritage, recreation, hunting, etc., subsistence	Place	What or where is perceived as the right place for wind power? What or where is perceived as the wrong place for wind power?
Social/cultural burden	Cultural landscape, cultural heritage, recreation, hunting, etc., subsistence	Location not affecting environmental values	
Wind power good for energy system	Wind power is needed in the energy mix and supports energy availability	Location not affecting other livelihoods	Locating wind power so that it does not harm other sectors (reindeer herding, tourism, etc.)
Wind power bad for energy system	Not energy efficient, intermittent, high costs, lack of technology for storing produced energy, lack of research on new technologies, etc., oversupply/price fluctuations	Location in synergy with other livelihoods	Wind power location helps/supports other sectors or industries such as green steel, hydrogen gas production, etc
Wind power development threatening democratic values and principles	Wind power development is being prioritised over democratic values, collaboration and the people's will, municipal veto and local self determination	State-owned land	
Wind power development supporting democratic values and principles	Wind power development processes support and strengthen democratic values, principles, institutions, etc	Privately owned land	
Wind power creates conflict	Threatens local community cohesion, references to division among local communities	Location away from population centers	
Wind power supports cohesion	United against wind power	Location windy	
Wind power in conflict with other livelihoods/sectors	Tourism, reindeer herding, forestry, other industries negatively affected	Location coast	Locating wind power at the coast (including archipelago)
Wind power has synergy benefits for other sectors	Tourism, reindeer herding, forestry, other industries positively affected	Location inland	Locating wind power in inland
Serves national/international policy goals	Decarbonization, energy independence, nature conservation, biodiversity goals, employment, defence, etc	Location mountain	Locating wind power in mountains
Against national/international policy goals	Threatens decarbonization, energy independence, nature conservation, employment, defence, etc	Location north	Locating wind power in northern Sweden/Finland
"Other"	Energy security considering the closeness to Russia and war in Ukraine	Location south	Locating wind power in southern Sweden/Finland
Ways of managing and/or implementing wind power developments		Location sea	Locating wind power at sea
Formal nature conservation	National parks or other protected areas as well as plans for establishing formal protection areas	Location not suitable	Locating wind power at this specific location is difficult/requires large investments because of lacking infrastructure, environmental conditions, green colonialism, the country is already climate neutral, already too much wind power, etc
Collaboration and discussion with stakeholders and communication efforts	Procedural aspects and information, dialogue or lack of it before, during and after projects	Location where the energy is used	
Recognition	All stakeholders and/or rightsholders invited, the rights of indigenous peoples		

Themes	Questions or description
“Other”	Open coding when none of above is applicable

Acknowledgements

We are grateful for inputs on an early draft of colleagues in the Environmental Politics Group at the SWEPSA conference 2023. We also thank members of our Peripheral Visions: When Global Agendas meet Nordic Energy Peripheries project team for their comments and invaluable support, and not least constructive reviewers for their input that helped improve the text.

Author contributions

TB developed the ideas and conception. TB and HL designed the study, conducted the literature review, analyzed media data and wrote the manuscript. TB and HL also jointly revised, read and approved the final manuscript.

Funding

Open access funding provided by Umea University. The research this article is based upon was part of the Peripheral Visions: When Global Agendas meet Nordic Energy Peripheries project funded by the Future Challenges in the Nordics research program (<https://futureordics.org/>).

Availability of data and materials

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 9 September 2024 Accepted: 5 May 2025

Published online: 26 May 2025

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