

# Climate Change, Green Development, and the Indigenous Struggle for Cultural Preservation in Arctic Norway

Trevelyan Wing

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Sámi herders corral their reindeer in Snekkernes, Norway. Photo by Trevelyan Wing



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1400 16<sup>th</sup> Street, Suite 430, Washington DC 20036

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**Abstract:**

The resilient Sámi People, Northern Europe's iconic reindeer herders, have survived substantial changes through the centuries – from large-scale socio-economic upheaval to political revolution – with their culture intact. Today, climate change and development initiatives threaten their age-old way of life. Of immediate concern are proposals, promoted by the Norwegian government in the name of climate mitigation, to construct large wind farms on traditional herding lands, which boast high wind potential. The Sámi have opposed these plans, viewing them as unprecedented land grabs and a fundamental threat to their culture. Although only a small percentage of modern-day Sámi herd full-time, the practice remains central to the population's indigenous identity. Reconciling their concerns with government plans is therefore key if the proposed wind farms and other development schemes are to be accepted by local communities.

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## *Introduction: Into the Fells*

The Sámi, Europe's only recognized indigenous population, inhabit the northern regions of Norway, Sweden, Finland, and Russia – a vast territory called 'Sápmi,' extending across 388,000 square kilometers from the forests of central Sweden to the open expanses of Russia's Kola Peninsula.<sup>1</sup> Over the past two centuries, they have increasingly come into conflict with the priorities of nation states eager to exploit the Arctic's vast natural wealth. For modern-day Sámi, green development poses a particular threat – both to their way of life and cultural heritage. Entire villages have been abandoned or relocated to make way for hydroelectric dams, and wind farms now endanger their ancient herding lands.

The ensuing tensions have become most pronounced in Norway. Large-scale projects have been proposed to construct wind turbines across the nation's Arctic counties, which also support the largest indigenous population. This latest arena of struggle, pitting cultural and environmental preservation against the stated imperative for green development and climate mitigation, highlights the inherent complexities of centralized plans being implemented at the local level.

This paper explores these issues, investigating how Sámi society is coping with externally generated, far-reaching, and multilayered change. It draws on personal field research and life experience among the Sámi, interviews with stakeholders onsite and at the November 2015 UNESCO *Indigenous Peoples and Climate Change* conference in Paris, as well as the current literature to provide insight into the complex, ongoing challenges experienced by the Sámi in the age of climate change.

## *A People of Eight Seasons*

Termed the 'Fenni' in 98 AD by Tacitus, the Sámi have over millennia generated a livelihood in the windswept landscapes of Arctic Europe – creating, in the process, a vibrant culture persisting to the present day.<sup>2</sup> They have captured the popular imagination as nomadic reindeer herders, a "People of Eight Seasons" living alongside their animals in harmony with the rhythms of nature. Having practiced reindeer husbandry since at least as early as 800 AD, the Sámi historically traveled long distances with their herds each year between summer and winter grazing areas.<sup>3</sup> Fishing constituted an important further means of subsistence.<sup>4</sup>

Traditional herding entails the diffusion of animals across large, sparsely populated areas. Reindeer are allowed to roam more or less freely, to be rounded up periodically for marking and slaughter in accordance with long-established herding cycles.<sup>5</sup> This method of loose control has worked successfully through the centuries, thanks to a sophisticated system of traditional ecological knowledge (TEK) passed down through generations.

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Some 10 percent of modern-day Sámi continue to herd reindeer for a living – 10,000 of the estimated 100,000 Sámi still inhabiting the European Arctic.<sup>6</sup> Norway, which sustains the region’s largest indigenous population, supports approximately 240,000 reindeer, with an estimated 40 percent of its mainland designated as pastureland for the animals.<sup>7</sup> Today’s Sámi are as likely to be small business owners, nurses, or farmers as they are herders;<sup>8</sup> the age when the Sámi led their animals over long distances without regard to national boundaries is long passed.<sup>9</sup>

Nevertheless, reindeer herding retains great cultural importance. The ancient custom represents one of the last means by which the Sámi can support themselves with a traditional pursuit, providing one of the few remaining outlets for sustained cultural expression and pride.<sup>10</sup> Reindeer husbandry is still taught in indigenous schools, and remains a cherished side occupation among those Sámi working in the formal economy.<sup>11</sup> It also serves as an important facilitator for the transfer of TEK. According to Olaf Johansson, a Sámi herder in Sweden, “the whole family takes an active part in the work, both the elders, the women, the kids and the men. That’s how the knowledge and skills are passed down through the generations.”<sup>12</sup>

Today, however, this tradition is threatened from a number of quarters. Increasing numbers of non-Sámi are moving into the region, and along with these settlers – viewed as colonizers by some Sámi – the various national governments have pushed forward with a myriad of development initiatives.<sup>13</sup> Norway is taking the lead, with more industrial, infrastructure, and resource extraction projects targeting the nation’s resource rich Arctic counties.<sup>14</sup> This accelerating trend has left herders anxious, fearing their traditional reindeer pastures will be compromised or lost altogether, and it holds broader implications for all Sámi. Many community members are concerned that their culture and languages – to a significant extent maintained and perpetuated by the families of reindeer herders – are being sacrificed in order to create prosperity for Norway’s dominant, non-indigenous society.<sup>15</sup>

## *The Climate Crisis*

According to current science, the Arctic region is warming at 2.5 times the global average, and annual polar ice coverage is shrinking at an unprecedented rate.<sup>16</sup> In the words of herder Jonna Andreas Utsi, “This is climate change. We see it every day in our work and life. Normally during this time of the year the temperature is between -20°C and -30°C, but it’s really warm this year: it’s -4°C. We have had warm autumns previously, but never earlier were they so long.”<sup>17</sup> Across the European Arctic, the Sámi have been eyewitnesses to climate change, and how it threatens their way of life.

The immediate impacts are both visible and troubling. Stretches of unseasonably warm temperatures in wintertime have led to partial snowmelt. This results in the formation of hard layers of ice close to the ground when the cold returns, sandwiched between the usual layers of snow.<sup>18</sup> The consequences for reindeer are severe: the animals can dig through snow, but most are unable to penetrate layers of ice; when the ground is thus covered by layers of both ice and snow – as is

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increasingly the case – the reindeer are unable to access the precious ground lichen and other plants upon which they depend in wintertime.<sup>19</sup> According to Sámi herder Anders Kroik, “the snow becomes like sheet metal here, and the reindeer that eat from the ground don’t have the strength to get through that layer,” leading many to starve.<sup>20</sup> This inability to procure forage constitutes one of the greatest climate-related challenges confronting herders. In the words of Anders Oskal, director of the International Centre for Reindeer Husbandry, “It doesn’t matter if your refrigerator is full of food [when] you can’t open the door.”<sup>21</sup> Catastrophic declines in herd numbers can occur as a result.

In this situation, herders may be forced to move their reindeer down to the forests, so the animals can survive on tree lichen and bark – supplemented in turn by purchased feed, an added expense that further undermines the delicate economic balance of reindeer husbandry.<sup>22</sup> Aside from the inconvenience and monetary costs, bringing their reindeer to the forests can also place herders in direct conflict with non-indigenous locals operating tree plantations. The result is greater friction between the Sámi and non-Sámi populations, often leading to bitter legal disputes.<sup>23</sup>

## **A Changing Landscape**

Along with new weather patterns, Sámi lands are experiencing substantial ecological change. The tree line is migrating north as temperatures rise – leading to higher tree densities and the introduction of new species, which in turn deprive existing ground-level vegetation of sunlight – a precious commodity in the Arctic; the ground lichens and other plants forming the core of a reindeer’s diet suffer as a consequence.<sup>24</sup> Meanwhile, shrubs – which reindeer refuse to penetrate – have expanded across the tundra, forcing Sámi herders to abandon centuries-old migration routes.<sup>25</sup>

Unseasonably warm summers have also meant burgeoning populations of mosquitos and other insects that prey on reindeer. They can be deadly in large numbers, leaving newborn calves particularly vulnerable.<sup>26</sup> Parasites like the mosquito-borne filarioid nematode *Setaria tundra*, for example, thrive in a milder climate and may spread disease and death among reindeer; an outbreak in 1973 killed tens of thousands of reindeer in Finland – a devastating economic blow to herders.<sup>27</sup>

## **TEK as Tech: Indigenous Adaptation**

Despite these issues, many Sámi believe that their traditional ecological knowledge (TEK) will enable them to manage the negative effects of climate change and facilitate adaptation.<sup>28</sup> Drawing on environmental learning accumulated over countless generations, they carefully adjust the composition of herds to reflect weather conditions from year to year.<sup>29</sup> As their climate has grown increasingly warm and irregular, the Sámi castrate more of their male animals. Castrates are the largest and strongest members of a herd, serve to calm the other animals and, crucially, prove better able to withstand challenging winter conditions – including a greater ability to dig through hard ice to access the ground lichens below, upon which the herds depend.<sup>30</sup>

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Many other examples of indigenous adaptation grounded in TEK exist, and taken together represent a source of hope for many herders facing increasingly unstable times. Nevertheless, fears remain, and some TEK has already been lost due to environmental changes that have compromised the ability of Sámi herding families to continue the traditional vocation. According to 29-year-old Briita-Marja Nutti, a Sámi woman who grew up in a reindeer family but now works as a massage therapist, “A lot of knowledge is gone because we aren’t living with the herd and following it always. Already when I was growing up, this changed. My father was always with the herd.”<sup>31</sup> Climate change, however, is not the only major challenge confronting today’s Sámi. For many herders, something else presents a more imminent threat to their way of life: development.

### *Building Destruction: Development and the Sámi Response*

The topography of the Norwegian Arctic is changing at a rapid pace, and Sámi herders are feeling boxed in. The warmer climate has fostered a growing interest on the part of the national government, corporations, tourism industry, and other interests to exploit Sámi herding lands for other purposes. Indeed, it has been estimated that reindeer herders in the Barents region – encompassing Sápmi – have lost 25 percent of their pastureland over the past fifty years as a result.<sup>32</sup> Official government reports, meanwhile, trumpet Arctic warming as an opportunity for heightened migration and economic development.<sup>33</sup>

Due to new land use claims resulting from multiple development initiatives – in particular the disruptive effects of wind, hydroelectric, oil, gas, and mining schemes, alongside an expanding military presence – reindeer pastures have become increasingly fragmented.<sup>34</sup> According to the International Centre for Reindeer Husbandry, this will lead to a further loss of grazing land, reduce reindeer numbers, undermine herding practices, and decrease the ability of both herders and reindeer to weather climate-related and other future problems.<sup>35</sup> This concerns the Sámi, because for reindeer husbandry to remain economically and ecologically sustainable the animals must have sufficient pastureland – particularly for calving.<sup>36</sup>

The situation is compounded by the fact that, while Norway voted to adopt the UN Declaration on the Rights of Indigenous Peoples in 2007 and was previously the first country to ratify ILO Convention 169 on Indigenous and Tribal Peoples in 1990 – recognizing the rights of indigenous peoples to their culture, way of life, lands, natural resources, determination of developmental priorities, and the principle of free prior informed consent – Norwegian law does not adequately reflect these agreements; Sámi land rights, in particular, are not ensured.<sup>37</sup>

These trends exacerbate ongoing damage resulting from prior natural resource exploitation. Disturbances caused by extensive logging, for example, have already deprived Sámi herders of large tracts of pastureland crucial for winter forage; forests with valuable tree-hanging lichen have been

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destroyed in many areas.<sup>38</sup> The result has been a continued struggle between indigenous herders and their supporters, on the one hand, and those intent on developing the increasingly accessible resources of the region on the other.<sup>39</sup>

For herders, the threats are only increasing. As new industrial, infrastructure, and resource extraction projects have accelerated, often curtailing access to herding grounds, Sámi have been forced to transport their animals from summer to winter pastures by boat, truck, or other means.<sup>40</sup> This is an expensive process necessitating legal compensation, which for them has been inadequate; courts consistently overrule herders' objections to favor one-off payments that fall far short of meeting long-term economic losses.<sup>41</sup> On another front, southern conservationists seeking new protections for lynx, eagles, and other reindeer predators interfere with herders' efforts to protect their animals.<sup>42</sup> This nexus of issues reflects a broader trend that is progressively undermining the foundations of Sámi herding culture. In the words of wildlife biologist Nicholas Tyler, "the problem is that [the Sámi] are compromising on a downhill slope....It is the cumulative effect of all the encroachments that is eroding the basis for reindeer husbandry."<sup>43</sup>

### *"Green Colonization" and the Renewables Dilemma*

Green energy has long been a source of contention between the Sámi and Norwegian state. Indeed, the birth of the modern Sámi rights movement can be traced back to mass projects in 1979-1981 over a hydroelectric plant in Alta. Expansion of Norway's existing export-driven, hydrocarbon-based energy sector into renewables under the banner of climate mitigation poses the latest threat to their reindeer herding tradition – eclipsing the challenge represented by climate change itself, in the views of many.<sup>44</sup> Wind farms are being installed in the country's north, across the Sámi-inhabited counties of Troms, Trøndelag, Nordland, and Finnmark. While some Sámi have supported these projects for the energy security and jobs they offer, herders and the Sámi Parliament have stiffly opposed their construction – believing reindeer populations, and in turn the indigenous herding culture, will suffer further should they be allowed to proceed.

Parliament President Aili Keskitalo fears that politically powerful groups based far away from the Arctic are running roughshod over Sámi rights, using the threat of climate change as an excuse to appropriate and develop Sámi land without consent.<sup>45</sup> These concerns are rooted in history, and the scars run deep. Norway and Sweden once imposed brutal regimes on the Sámi in hopes of westernizing and "modernizing" them, undermining their culture, language, and way of life; this includes the imposition of energy projects. In Keskitalo's words, "It's 'green' colonization, colonization in the name of the climate" – a view shared by numerous Sámi.<sup>46</sup>

Reflecting the current situation in Sápmi, Soledad Mills, CEO of Equitable Origin, has written that "a rush to de-carbonize the energy system with renewable energy development that lacks proper planning and safeguards could profoundly disrupt local communities and irreversibly damage local

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ecosystems.”<sup>47</sup> Indeed, researcher and Arctic expert Emma Wilson told me that “people are encouraged (globally) to think renewable projects are ‘good’ while extractive industries can be ‘bad.’ But the effects can be comparable.”<sup>48</sup> The Gáldu Resource Centre for the Rights of Indigenous Peoples – headquartered in Sápmi – has worked on extractive industry and wind farm issues, and is creating a guide for locals “on what to do when a man in a suit comes to their community and says there is going to be a ‘project.’”<sup>49</sup> According to Wilson, Gáldu “chose wind farms rather than mining as the focus of the guide, which is significant.”

The conflict centers on the fact that the reindeer pastures of northern Norway possess excellent conditions for wind energy: high winds, elevated altitudes, and cold air.<sup>50</sup> Eager to exploit this resource, the wind and hydroelectric developer Finnmark Kraft has plans for four new wind farms with a total capacity of 700 megawatts (MW), supplementing a 40 MW island installation that has existed since 2002; in the words of the company’s CEO, John Masvik, “Norway’s wind potential is in Finnmark.”<sup>51</sup> The proposed farms would ostensibly provide power for local communities, continuing oil and gas development, and other projects in the county – coincidentally inhabited by more than half of Norway’s 40,000 Sámi, who have largely opposed these developments.<sup>52</sup> Keskitalo explained their position: “As all traditional livelihoods of the Sámi are nature-based, all activities that disrupt that way of life will be a challenge” – including wind farms.<sup>53</sup> Reindeer do not cope well with major disturbances to their environment, and herders fear that wind farms will jeopardize their ability to monitor and gather herds. Previous attempts to develop similar infrastructure in Sápmi have already resulted in negative impacts for herders and their animals.

The Norwegian government has largely ignored these concerns, and in April 2016 began constructing Europe’s largest onshore wind farm in Fosen, Trøndelag, the seat of South Sámi culture – the language of which is listed as “severely endangered” by UNESCO.<sup>54</sup> The installation – 278 turbines (1000 MW) with 241 kilometers of service roads – will double Norway’s wind capacity and power 170,000 homes.<sup>55</sup> The Sámi have objected strongly, as the site extends over important reindeer pastures. Notably, the farm was cancelled in 2015 when Statkraft – the government-owned firm backing it – announced the project would not be commercially viable, given the existing energy surplus in the Nordic market. However, following pushback from investor Credit Suisse and Norwegian politicians, Statkraft reinstated the project – which Sámi herders deemed a betrayal.<sup>56</sup>

Economists have joined the Sámi in opposing these plans.<sup>57</sup> They maintain that the installations are redundant, given Norway’s energy surplus; in 2015, the country generated 143 TWh of electricity, while consuming only 128 TWh.<sup>58</sup> They also highlight the lack of socioeconomic benefits: revenue from selling power to neighboring countries could fall along with electricity prices due to increased generation – countering the government’s arguments that additional wind capacity is necessary to increase Norway’s domestic electrification and export potential to Europe.<sup>59</sup> Indeed, 98 percent of Norwegian electrical power already derives from renewables, principally hydroelectric.<sup>60</sup> On the climate mitigation front, more green energy in Norway may contribute little to net European emission reductions, given the EU Emissions Trading System – which has created surpluses in

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emission allowances, keeping down carbon prices and lowering incentives to further curb emissions.<sup>61</sup>

The scientific literature largely supports the Sámi view as well. Recent studies tracking the ongoing effects of wind farms maintain that they negatively impact reindeer, with even small installations affecting animal behavior – particularly use of pastures and herding corridors.<sup>62</sup> This has been corroborated both by continuing research and monitoring among herders and outside observers, which suggest a clear causality between wind farms and shifting norms in reindeer habitat usage. Scientists have also suggested that reindeer are avoiding wind farms due to ultraviolet light emitted from their power line cables, which negatively affects the animals’ sensitive eyes.<sup>63</sup> In wintertime, wind turbines also release packs of snow and ice through the air, frightening away reindeer.<sup>64</sup> Given this evidence, researchers have advised against rushing ahead with these developments in grazing areas.<sup>65</sup>

In Fosen, the Sámi are taking matters into their own hands through legal action, and plan to take their case to the Norwegian Supreme Court and the UN Human Rights Committee if necessary; in the words of local herder Arvid Ja□ ma, “It is like David’s battle against Goliath.”<sup>66</sup>

## *A Different Approach*

Despite her vehement opposition to current wind energy initiatives, Aili Keskitalo is not against them on principle. She and her colleagues have stated that viable offshore wind proposals, for example, would be welcomed – as would projects on land, provided they are constructed with Sámi consent, in a way that minimizes environmental damage, and on lands that are not important for reindeer grazing.<sup>67</sup>

This view is supported by other Sámi. At the UNESCO *Indigenous Peoples and Climate Change* conference in Paris ahead of COP 21, Gunn-Britt Retter, a Norwegian Sámi leader and head of the Sámi Council’s Arctic and Environment Unit, discussed with me Norway’s renewable energy schemes. It became clear that – while much suspicion remains regarding the motivations of the national government – there may be room for wind farms and reindeer to coexist. Retter cited one example from Sweden, where a wind installation was constructed around a hydroelectric dam. This meant that it could make use of the existing grid and infrastructure at that location, while significantly reducing impacts on local herding grounds.<sup>68</sup>

In her opinion, this proves that common solutions are possible – provided Sámi input is taken seriously and they are respected as serious partners in negotiations regarding where to build.<sup>69</sup> In Retter’s view, only when local indigenous communities are included in the decision-making process will regional green development initiatives be truly sustainable.

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Non-Sámi experts agree, believing indigenous rights must be protected in the region and important reindeer pastures identified and preserved — in part to delineate for potential investors what lands need to be safeguarded for herding purposes, and which might be developed sustainably.<sup>70</sup> In the words of Aili Keskitalo, “They should ask us for our concerns, and we should be the ones to make invitations [to build] if we decide that we want that kind of development in our homelands, because we live here, and we have been here always, and we will be here in the future.”<sup>71</sup>

## *Towards the Future*

To a visitor seeing them for the first time, large expanses of the Norwegian Arctic appear untouched by modernity. Great swaths of land remain undeveloped, and Sámi herders continue to tend their reindeer in the tundra, fells, and forests — much as they have over past millennia. This is deceptive. Development in various forms has, over the past 100 years, reduced undisturbed reindeer habitat in Norway by 70 percent, fundamentally altering the landscape and reshaping the way indigenous reindeer husbandry is carried out.<sup>72</sup>

No single factor today poses an existential threat to the Sámi and their reindeer, but if current trends continue, the confluence and cumulative impact of modern-day pressures — development projects in the form of wind turbines, dams, high-voltage power lines, roads, pipelines, live-fire military zones, and the myriad effects of climate change — may spell the end for their age-old way of life. In this context, the conflict over wind farms in northern Norway provides an appropriate prism for examining the broader nexus of contemporary environment-development issues facing the Sámi.

Will this indigenous society be able to withstand the growing pressures on traditional livelihoods posed by the combination of turbines, other environmentally-framed projects, and the panoply of associated infrastructure and development initiatives Norwegian authorities intend for their lands? Especially given the accelerating number slated for construction on ancient reindeer pastures, can such intrusions into the region ever be socially sustainable? The optimistic answer, it seems, is a qualified maybe.<sup>73</sup> Clearly this will depend on the manner in which proposals are implemented, and the extent to which local people are consulted, have a say — with some degree of veto power — and can sustain popular oversight. Little progress, however, has been made in these areas so far, and Sámi herders fear that the coming years will leave them and their reindeer behind — along with the cultural values and traditional knowledge systems they hold most dear.

*Trevelyan Wing is a Graduate Research Fellow at the Climate Institute. Founder of the Indigenous Youth Forum on Climate Change and former Stefansson Fellow at the Institute of Arctic Studies, he holds an MPhil in Environmental Change and Management from the University of Oxford.*

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