



# Elite energy transitions: Leaders and experts promoting renewable energy futures in Norway

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## ABSTRACT

This article shows how energy transitions are advanced by energy elites – the leaders and experts of energy companies. While the dominant literature suggests that elites resist societal changes, this research highlights that energy elites are instrumental in the promotion of energy transitions. The findings in this article are based on 18 months of ethnographic fieldwork in energy companies based in Oslo, Norway, and analysed using anthropological perspectives. The research has found that energy elites, faced with climate change concerns, re-imagined energy futures and accordingly reoriented their careers. Out of a total of 109 energy elites interviewed, 30% decided to leave the hydrocarbon sector in pursuit of careers in renewables. As energy elites left their occupations in oil and gas, they inspired others – including elites and non-elites – to follow suit. This suggests that elites are not only crucial to the pursuit of energy transitions but can also be key pillars of promoting societal changes. What is more, the research demonstrates that elites do not operate in isolation. Factors like social networks, politico-economic contexts, and changes in investor climates all contribute to the promotion of low-carbon energy futures. This article provides a deeper understanding of the multifaceted drivers of energy transitions – in Norway and beyond.

## 1. Introduction

Changes in perceptions as well as technological, economic, environmental, and political reorientations are at the heart of energy transitions. To understand their complex interrelationships requires attention to how people envision and become part of shifts in energy trajectories. With many studies focused on how energy production (or the absence thereof) affects people in different, often unequal ways [1–3], this article instead asks how people shape energy futures. To answer this, I analyse how the leaders and experts of energy companies come to promote energy transitions in Norway. I suggest that essential to the structural shifts towards low-carbon energy futures are ‘transitions’ of energy elites; changes in perceptions followed by professional reorientations of strategically situated industry actors. I show that leaders and experts – energy elites – are instrumental not only in publicly promoting low-carbon, renewable energy production, but also in providing opportunities for other industry professionals to become part of energy transitions in Norway.

Future imaginaries and energy transitions are intimately tied

together. As Benjamin Sovacool noted, “how people imagine energy technologies and their futures is clearly important to understanding how and why people invest in them, financially, personally, professionally, and otherwise, and it is thus a critical social facet of energy transitions” ([4]:211). Energy visions may entail “fantastic futures” and “grand future utopias” ([4]: 210), but they may also form part of more short-term, strategic, and personal choices of how people position themselves at times of perceived changes. It is people’s personal motivations that will be analysed here to show that as energy elites ‘invest’ into their own energy futures, they simultaneously advance energy transitions at large.

In particular, I will examine how oil industry leaders and experts in Norway became the promoters of low-carbon energy production between 2018 and 2020. Norway is a particularly insightful case study as the country’s simultaneous promotion of hydrocarbon<sup>1</sup> and renewable energy production exemplifies the tensions found in many other energy transition contexts. Drawing on ethnographic fieldwork and interviews with over 100 leaders and experts in the Norwegian energy industry, this article recognises that a multitude of actors and developments

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<sup>1</sup> Throughout this article the term hydrocarbons refers to, and is used interchangeably with, the terms ‘oil and gas’, and ‘fossil fuels’.

contribute to energy transitions. Therefore, energy elites are analysed here as strategically situated promoters, not sole leaders of low-carbon energy transitions in Norway. Examining how they navigate these transition contexts is instructive for how leaders and experts more generally may face predicaments in other energy and societal transitions.

Considering the urgency of climate change, and the responsibility and power attributed to corporate actors [5], it is essential to examine how energy elites impact energy trajectories. Yet the literature on energy leaders and experts remains scarce (notable exceptions include: [6,7,52]). Work that examines how strategically situated people may shape energy transitions is even sparser. This concerns particularly qualitative research that takes its starting point in leader's and experts' own perceptions (notable exceptions include: [8–10]). This article highlights the importance of understanding individuals' relations to structural changes. It provides an empirically attuned, person-centred perspective on energy transitions that shows how shifts towards renewable energy futures are promoted by reflexive, strategically situated people.

Throughout this article, I use the term 'energy' in a broad sense particularly when referring to energy companies, the energy industry, and energy elites. This is a conscious choice in order to protect the identity of my interlocutors and their businesses.<sup>2</sup> It also reflects how I see energy production as an interconnected and interconnecting object of study. This is in part due to the subject matter of this article; the ways in which energy leaders and experts manoeuvre between various kinds of energy production. It also stems from my observation of how increasingly renewable energy technology – particularly wind power – was developed alongside hydrocarbon production in the Norwegian energy industry. To assess fully the intricacies and scope of energy transitions, I therefore find it essential to focus scholarly investigations not just on one source of energy and its production, but on how they interrelate.

## 2. Energy elites and ethnographic methods

Over the course of 18 months of ethnographic fieldwork from September 2018 to February 2020, I conducted research amongst strategically situated industry professionals working in oil and gas, renewable, and mixed energy companies in Norway. This article focusses specifically on energy leaders and experts who chose to leave the hydrocarbon sector and move into renewables. 30% out of a total of 109 of my interlocutors became *oljeavhoppere* (oil-leavers); a Norwegian term describing industry professionals who left the fossil fuel sector (Fig. 1). While most of the oil-leavers<sup>3</sup> I encountered moved into equivalent or higher positions in the renewable energy sector, their decisions to leave oil was a decisive and reflexive decoupling from what Sovacool refers to as the "normalisation" of "energy-intensive lifestyle[s]" ([11]: 19). It was a break from their 'oil-intensive professions'. Oil-leavers chose to distance themselves from Norwegian hydrocarbons, which had for decades been associated with high-income jobs as well as the source of national welfare. Particularly to other industry actors and to wider publics, their moves away from fossil fuels – and the media attention following these career reorientations – publicly challenged the Norwegian reliance on oil and gas production. It signalled that energy elites increasingly envisioned futures powered by low-carbon energy production.

In order to gain a nuanced and thorough understanding of how leaders and experts can promote energy transitions, I have examined the interrelation between energy elites' professional capacities and their

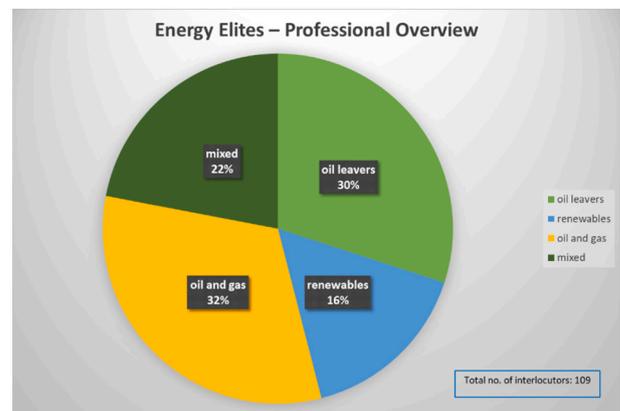


Fig. 1. Breakdown of my interlocutor's professional affiliations; 30% became oil-leavers and moved into renewables, 32% stayed in hydrocarbons, 16% worked in renewables, and 22% worked with both renewables and hydrocarbons.

personal motivations, perceptions and future expectations. Attaining access to such intimate insights into the lives of elites – who are almost always described as “opaque”, “particularistic” and “shielded from scrutiny by outsiders” [12,13] – requires long term interaction and the establishment of relations of trust. This can be achieved by employing a qualitative, ethnographic research method. For this study, my methodology was based on continuous encounters and extensive personal interaction. This allowed me to gain an in-depth understanding of how energy elites themselves relate to energy transitions and dilemmas. Moreover, undertaking the research in Norway's capital, where energy companies are situated in the country's political and financial centre made it an ideal place to examine energy elites within the wider socio-economic and political context of Norway.

During this time, I was based at two large energy companies: a consulting company and an energy production company, which I will refer to here as Energo and EnergyMax respectively. Both were involved in hydrocarbon and renewable energy production and became an important facilitator of my research; they provided me with desk space, access to meetings and introductions to people in leadership and expert positions within and outside of my host companies. Energo and EnergyMax were also a space where I could interact with many differently positioned employees, which helped me gain a broader understanding of the Norwegian energy industry beyond an elite perspective. It was agreed that names of people, businesses and locations would be anonymised, data coded, and people only referred to using pseudonyms in publications. Other than the access – no financial or other incentives were received from these corporations. Moreover, informed consent for all recorded data was obtained prior to undertaking any research activities. This allowed my research to remain independent and acted as a reassurance to my interlocutors that sensitive personal data would be kept confidential.

Meeting people was akin to a domino effect; many interlocutors whom I initially met at my two host companies would introduce me to their friends and families working in the industry, so that by the end of my fieldwork I had interviewed 109 people in leadership and expert positions from almost all major energy companies based in Norway. My research methods consisted of participant observation, semi-structured and unstructured interviews as well as long-term interaction, known in anthropology as ‘deep hanging out’ [14] with interlocutors. Languages used were both English and Norwegian, with participant observation often in Norwegian, while recorded interviews were conducted in English. Excerpts in this article have been transcribed from audio recordings, unless stated otherwise.

While many encounters took place in corporate office spaces and formal meetings rooms, I also interacted with energy elites in their

<sup>2</sup> Names of people and companies are anonymised throughout this article and referred to only with the use of pseudonyms.

<sup>3</sup> From this point, the English translation of this term will be used. Section 5 offers a discussion of the origin of the word.

private spaces; their homes, for after-work drinks or dinners, at parties, as well as during outdoor-leisure activities such as skiing, kayaking, and sailing. It was particularly the long term contact with interlocutors in both formal and informal settings that allowed me to “move past structural analyses, to locate agents and processes at work within economies of energy production” ([15]: 250), and to understand how energy elites’ modes of life interrelated with their careers and energy visions. Ethnographic methods were thus key in attaining personal insights into the lives and perceptions of energy elites that now allow me to analyse why and how oil-leavers became key promoters of renewable energy transitions in Norway.

As ethnographic studies that analyse elite’s own accounts of relating to societal changes remain sparse, this study has focused particularly on experts and leaders’ own perceptions of, and approaches to, energy futures. To advance this area of scholarship even further, there is space for future studies to examine in detail how those around elites – employees, politicians, publics – relate to the changes promoted by leaders and experts. In an energy transition context, examining whether publics and others noticed, were inspired, emulated or even challenged and questioned energy elites’ reorientation towards renewables will provide further insight into the extent of energy elite’s reach.

### 3. On theory: Elites and changes

#### 3.1. Defining elites

Elites are difficult to define. This is partly because ethnographically-based studies of elites – which could shed more light on the intricacies of elite cultures – remain scarce. The difficulty of obtaining access to study elites further means that aforementioned portrayals of elites as “opaque” ([12]: 10) or as enshrouded in ‘mystique’ [13] remain intact. Moreover, the concept suffers from definitional unclarity; the term “elite” is often homogeneously understood yet employed to describe various heterogeneous groups and individuals i.e., “elites”. Here I adopt the plural, “elites”, to emphasise the heterogeneity, distinct perceptions and motivational drivers as well as unique life-paths of elites within the exclusive spaces they share.

In the literature, elites are predominantly defined as people who occupy positions of power, command, or as “makers and shakers” in society ([12]:4; [16,17]). In this vein, they are portrayed as strategically situated minorities making decisions and taking command on behalf of a majority ([18]: 1; [12]: 2). Some, including John Scott, have suggested that advantaged groups or wealthy classes should not be defined as elites [16,17]. Drawing on my research, I observed lifestyles, status, and wealth as important social connectors between elites. Therefore, I argue that a definition of elites must be mindful of such underlying cultural and socio-economic backgrounds. Borrowing from Tijo Salverda and Jon Abbink ([18]: 7), I emphasise precisely such social connectors in my definition of energy elites: people in leadership and expert positions in the energy industry who share a socio-economic background, customs, and modes of life [19].

Most i.e., 70% of the total of my interlocutors occupied leadership positions in the energy industry; they were department heads, section managers, company executives, entrepreneurs and investors. They referred to themselves as *ledere* (leaders), and in their respective positions did exactly what the term implies; they lead teams, strategy, and businesses. However, their leadership positions did not mean that they were all-powerful actors controlling the rest of society, such as perhaps C. Wright Mills conceptualised “the power elite” [20]. Based on my observations, energy leaders’ business decisions were collectively discussed in close consultation with other stakeholders – particularly with energy experts. As George Marcus noted: “[elites] are the force behind

institutional processes in which others – the masses, nonelites – participate with them” ([21]: 9). As such I find it important to also include experts in my definition of elites. Experts formed part of leaders’ teams and contributed their specific skills and knowledge to mutual business endeavours. Even Mills maintained that “the power elite are not solitary rulers. Advisers and consultants, spokesmen and opinion-makers are often the captains of their higher thought and decision” ([20]: 4).

In an energy context, Arthur Mason has shown that experts shape leaders’ decisions via their expert knowledge [7,22]. Together with Stoilkova, he suggested that experts are instrumental in negating uncertainties within energy industries and policy and as such create “communities of consensus around imagined futures”([7]: 89). Mason’s work demonstrates that experts alongside leaders operate in similar spheres of influence, and occupy the same exclusive spaces shielded from outsiders. The energy leaders and experts I encountered in Norway shared educational backgrounds, intellectual capital, common lifestyles, akin economic statuses, and values. This included similar living locations, membership in social clubs, diplomas from the same technical university with a signet ring showing belonging to their alma mater, shared recreational activities such as skiing, hunting, or golfing, as well as similar tastes in luxury goods such as cars and holiday cabins.

Leaders and experts were linked beyond their official positions; they operated in an interconnected, specialist community of top energy professionals related not only by industry but through a shared way of life. As Salverda and Abbink remind us, even elites who do not hold positions of command “may nevertheless have influence on the persons who *are* in those positions” ([18]: 6–7). As such, elites include more than leaders; they are linked to a wider social group that shares a way of life, interests and similarities ([18]: 6). In this article I thus try to encapsulate the professional and social inter-connections amongst leaders and experts of Norwegian energy companies by collectively defining them as ‘energy elites’.

#### 3.2. A revised understanding of elites

There is a tendency in the social science literature to depict elites as resistant and resisting to changes, as shown by the writings of key authors including Vilfredo Pareto, Pierre Bourdieu and Abner Cohen [13,23,24]. This depiction is intimately connected to the ways in which elites are portrayed as insistent on keeping their positions within society. Georg Simmel for example noted that “the highest classes, as everyone knows, are the most conservative [...]. No change can bring them additional power, and every change can give them something to fear, but nothing to hope for” ([25]: 555). Simmel links elites’ alleged ‘conservatism’ to an ascribed desire to preserve their power, status and position. In this article I want to disentangle and challenge these dominant assumptions.

Firstly, I contest the notion that elites are *solely* driven by a desire to preserve their status. While most oil-leavers I encountered moved into equivalent or slightly higher leadership and expert positions in the renewables sector, professional and socio-economic drivers were not their only motivations for their career reorientations. As the ethnographic data will show, leaving oil also entailed ethical, environmental, and larger politico-economic drivers for energy elites.

Secondly, I show that it is precisely their strategic positions that situate elites as ideal promoters of societal changes. While recognising “the darker consequences of the good life in a world where not all have that life” ([26]: 208), I suggest that energy elites’ socio-economic background enables their career reorientations into renewables. Oil-leavers moved into renewables because they were able to and deemed it desirable. This career mobility in turn allowed oil-leaving energy elites to exemplify ‘successful’ energy transitions and to promote a ‘sacrifice-

free' notion of renewable energy futures where continued socio-economic well-being would be ensured.

In this article, I focus particularly on the notion of elites as promoters rather than leaders of change. It is my understanding that the epicentre of change is difficult if not impossible to pinpoint. Mindful of the multitude of actors and processes that shape transitions in the Norwegian energy industry, I argue that energy elites play an important part in popularising energy transitions, but do not necessarily spearhead them. Therefore, I focus this analysis on the socio-economic factors that make this promotion possible, rather than the power dynamics that may underly leadership.

#### 4. Context

##### 4.1. Energy transitions and the Norwegian case

Energy transitions have been described as a "wicked process" as they involve and are shaped by a multitude of stakeholders with conflicting views and interests ([27]:1). They represent a liminal space, and as such are akin to other societal transitions in that they show us "how larger groups or entire societies undergo change and transition, how they live through these uncertainties of the in-between, and how they come out on the other side of it – if at all" ([28]: 1). In this article, I define energy transitions not as clean-cut pathways from 'old regimes' to new technology, but rather as representing a liminal, almost paradoxical period of the 'in-between', where seemingly opposing types of energy can be promoted simultaneously.

Countries experience energy transitions in various forms, but most struggle – at least in part – with energy dilemmas; rising energy demand coupled with increasing anthropogenic climate change concerns that requires sustainable, low-carbon energy supply and a move away from a reliance on hydrocarbons. China for example, one of the world's rising "green superpowers", has built up its renewable – particularly wind power – capacity simultaneously to growing its coal power production ([29]). For China the reason "to encourage the renewable energy transition [is] as opportunities for achieving strategic developmental goals of industrial leapfrogging and energy security" ([29]:73). A strive for increased energy production capacity is not unique to so-called 'developing economies'. Similar dualisms can be found in most other energy transition contexts. In Germany, Hanna Brauers et al. have noticed "a growing tension between the expansion of LNG [liquefied natural gas] infrastructure and climate protection goals" ([30]:2). While natural gas is calculated to be responsible for 35% of global CO<sub>2</sub> emissions since 2009 ([30]:1) it is often advertised as a 'bridge fuel' – not least by major oil and gas producers in Norway exporting it to other parts of Europe. Building up LNG or coal capacity, however, may ultimately work to slow down energy transitions rather than encourage them.

Norway is experiencing a similar dilemma between efforts to increase renewable energy capacity on the one hand, and the continued subsidisation, exploration, and production of fossil fuels on the other. What gives Norway a relative advantage in its energy transition, however, is that Norwegian energy production is "fully renewable" with hydropower making up the largest component in the electricity mix (90%), followed by wind power, and thermal power ([31]: 74 [32]). The use of this renewable electricity is widely encouraged by policymakers to reduce domestic carbon emissions, including for example via subsidies towards the deployment of electric vehicles. Moreover, industry and policymakers are working on the expansion of renewable energy production for export in an effort to become Europe's 'green battery' [33]. Many of my interlocutors thus saw the electricity transition in Norway as completed. To them, the energy dilemma was particularly

rooted in the continued production of Norwegian hydrocarbons.

Norway is considered one of the world's major oil and gas producing countries, with most of the yields exported to be consumed abroad. With oil and gas making up over 40% of the total value of Norwegian exports of goods in 2020, revenues from fossil fuel extraction are a key component of Norway's GDP [34]. State oil incomes – from taxation and the state's own investment in hydrocarbon infrastructure – flow into what is known as the "Oil Fund", the country's sovereign wealth fund, and into the national budget [35]. A perceived socio-economic dependence on oil can, in part, explain the continued subsidisation and flourishing of Norway's hydrocarbon sector. Yet, as is frequently pointed out, this stands at odds with Norway's sustainability initiatives. Drawing on Gregory Bateson [36], Thomas Hylland Eriksen has conceptualised this as the Norwegian "double-bind" ([n.d.] see also [37]). With this term he captures the duality between the continuing Norwegian oil and gas production and its association with national social welfare and economic growth on the one hand, Norwegian investments aimed at reducing carbon footprint and environmental destruction locally and internationally on the other. Norway, as I too have observed it, is thus uneasily situated somewhere between the role of a 'polluter' and a 'climate and environmental leader'.

The 'double-bind' can be viewed as specific to its Norwegian context. Kari Marie Norgaard for example points towards its connection to a particular Norwegian privilege; "the privilege of being a producer of oil and natural gas, the benefits of which are garnered at home and the hazards of which are exported into the common airshed" ([26]: 2019). It is important to recognise that energy transitions are context specific; their driving forces are deeply embedded in historical, economic and socio-political contexts as well as individual expectations and future visions of how energy can bring about "good lives" and "good societies" [38,39]. Yet, the dilemmas inherent in energy transitions are shared across countries, industries, and businesses. Berit Kristoffersen has pointed out that Norway's dual role as a "major oil and gas producer on the one hand, and being politically progressive when it comes to climate change, on the other" can be understood as part of the "global energy dilemma" ([40]: 141). As Norway exemplifies the tensions that arise transnationally between the promotion of renewable energy and reliance on hydrocarbons, the country's energy context provides an ideal case study to examine how energy elites navigate the complexities of energy transitions.

##### 4.2. Norway: Problematising the 'oil-elephant' in the room

When I first started my fieldwork in September 2018, my interlocutors widely described the simultaneous promotion of hydrocarbons and renewables as Norway's "schizophrenia" or "paradox". Despite their acknowledgement of an energy dilemma, and despite the roll-out of corporate re-branding and the increasing adoption of low-carbon initiatives, the energy elites I encountered in 2018 – particularly those working in hydrocarbons – rarely problematised the underlying tensions between the continued reliance on fossil fuel production and growing concerns for climate change. Instead, they chose to emphasise the importance of their extractive activities as a source of revenue for the Norwegian welfare state. At the time, it seemed to me too that climate change was "an issue about which people care[d] and [had] considerable information, but one about which they [did not] really want to know and in some sense [did not] know *how* to know" ([26]: 207). The start of my fieldwork was thus marked by climate change being a concern largely acknowledged by my interlocutors, yet widely avoided as a topic of reflection.



Fig. 2. Student protesting for the climate in Oslo with a placard translating to: “oil-elephant in the room”. Photo credit: Sebastian Dahl.

Over the course of my research however this changed drastically. By the summer of 2019, climate change concerns had grown significantly in Norway – in, as well as beyond, the energy industry. In the public sphere, inspired by climate activist Greta Thunberg, students had created momentum by regularly protesting for the climate (*skolestreik for klima*) and thereby contributed to what grew into a global movement (Fig. 2). *Flyskam*, a term originally coined in Sweden (*flygskam*) in 2018 was increasingly used as a rhetorical device to discourage people from flying. The concept developed into a transnational anti-flight movement which grew popular beyond the borders of the Nordic countries as “flight shame” [41,42]. In Norway, feeling and even attributing shame spilled over to other parts of enviro-social life as various non-environmental behaviours started being monitored by colleagues and friends alike. Moreover, the Norwegian green party (*Miljøpartiet De Grønne, MdG*), with its platform of phasing out fossil fuel production, gained significant traction and won new seats during the municipal elections in September 2019 making them coalition partners in several large Norwegian cities.

Within the energy industry, particularly in the hydrocarbon sector, the corporate atmosphere had also changed significantly. Fossil fuel production and its contribution to climate change had become the inevitable elephant in the room, to which the collective corporate response was the promotion of “low-carbon” and “new energy solutions”, as they were termed by my interlocutors. Adapting business strategy to low-carbon energy visions was no longer a mere side hustle but became engrained in the very structure of the energy businesses where I conducted fieldwork. While hydrocarbon companies particularly prioritised the reduction of carbon emissions, other sustainability projects were also launched, including infrastructure lifespan extension, recycling, and investing in technological innovation. During this second half of my fieldwork, oil and gas businesses re-positioned themselves as companies with the skills and technology available to find climate-sustainable energy solutions (see also [43]). This repositioning was captured by the CEO of a Norwegian hydrocarbon company, when he told me:

We need to come up with solutions that address and solve the CO2 problems. The oil and gas industry can be a key enabler because we have the technology and we are working on it. We need to, and we want to, be part of the solution rather than – how we are perceived today – as a big part of the problem.

The accelerated changes in the energy industry towards low-carbon energy solutions in 2019 to 2020 marked a shift from the continuous, albeit incremental change that had been taking place in the industry in previous years. In a thorough analysis of energy governance in Norway, Guri Bang and Bård Lahn show that it took five years (from 2013 to 2018) to redefine only slightly the long-held understanding of “oil as welfare” to a conceptualisation of “oil as risk” ([44]: 998). During the period of my fieldwork, perceptions favourable to oil and gas were increasingly drowned out by industry voices advocating for the incorporation of renewable and low-carbon technologies into business portfolios. As renewable energy projects and investments expanded in the energy industry throughout 2019 and 2020, so did the career moves of energy elites. During this time, oil-leaving amongst my interlocutors not only became more frequent but was also amplified by media and wider industry attention. Energy elites’ career shifts away from hydrocarbons were seen as a reaction to growing climate change concerns and encapsulated a heightened sense of change as they rendered visions of renewably produced energy futures increasingly tangible.

## 5. Discussion: leaving oil

### 5.1. Career motivations

The first case of oil-leaving I encountered during my fieldwork, was also the most surprising. It was the career move of David, a formerly loyal proponent of the oil and gas sector. He was initially introduced to me in early October 2018 at Energo, the energy consultancy company where I was based for the first year of my research. At the time, David occupied an upper management position in business development and had worked in the hydrocarbon sector since he graduated from university. I first encountered David as the person who most vocally expressed his pride in working for the Norwegian oil and gas sector. Over coffee he told me:

I have always been very proud of being part of the oil and gas industry. It has built the country and is also seen as a high-tech industry where a lot of innovation is driven. The perception of the industry here is very different from what I have seen in other countries. Because in Norway it is considered a special industry; it’s a very valuable industry. It’s the most important industry in the country. And it is where the best people try to get a job; the smartest and most hard-working are employed in hydrocarbons. It’s very high status. That’s why I have always been very proud of working in it.

This excerpt captures well the kind of exceptionalism with which the oil and gas sector was treated by many energy elites when I commenced my research. For them, as for David, working in hydrocarbons was considered a status symbol; it was associated with being “smart” and “hard-working” in a sector perceived as highly innovative and viewed as a crucial contributor to Norway’s socio-economic welfare. As our chat continued, David did note the start of a shift in perceptions within and outside of the industry – away from the seemingly unquestioned appreciation of hydrocarbons towards a more critical and sustainability-oriented stance. His reflections at the time were representative of the way other energy elites too dealt with the aforementioned energy “schizophrenia”. On the one hand, interlocutors like David were

“[perpetuating] their grasp of the present and future by monumentalising the past” ([45]:234), in that they continued to see the production of oil and gas as a crucial component of energy futures. On the other hand, they dealt with the growing uncertainties of a future which they increasingly saw as unable to sustain life in the way it has done in the past.

David concluded our first coffee meeting by saying that: “We are addicted to oil and gas both in the way it is used and in the value it creates. [...] Even if you would like to [get away from fossil fuels], it’s hard to do it because of their physical properties but also because we are so used to the resource”. David emphasised the importance of oil and gas beyond their energy use. He referred to what Jessica Smith describes as the “ethics of material provisioning”; how hydrocarbon extraction provided “the material basis for people’s everyday lives around the world” ([46]: 808). Considering his pride in the fossil fuel sector at the time of our first meeting in 2018, I was surprised by the following exchange we had in mid-January 2019.

We met in passing in the corridors of Energo where, after initial greetings, David smiled and said: “This is my last month at Energo. I’m moving to Wilfred Energy – have you heard of them?” I shook my head. “They are one of the biggest Norwegian renewables companies. I’m going to start working in renewables!”, David elaborated excitedly. I laughed and replied: “You are going to be working in renewables? Wow, that’s unexpected!” Recalling our meeting a couple of months back, where David spoke so proudly of the oil and gas sector, I was intrigued by his decision to move to the renewables sector. We agreed to set a time for a catch-up meeting once he had settled into his new job.

When we met again in late March 2019, David seemed very comfortable in his business development position at Wilfred Energy – an equivalent, yet seemingly more senior leadership position to the one he previously held at Energo. When asked what motivated his professional reorientation he responded:

Of course the renewable aspect was definitely significant when it came to my career-change. I see that the oil and gas sector has a very determined future and sooner or later it will end, it’s just a matter of when that will happen. But that was not my only motivation for seeking another opportunity.

David emphasised throughout our follow-up chat that he still thought the oil and gas sector was an important source of value creation for the Norwegian economy, and underscored that he had not changed his view on hydrocarbons. However, I did notice changes in the way he spoke about the sector. His statement on the inevitable end of fossil fuel production felt decidedly different to his comments a few months prior when he had hardly been able to envision a future free from an ‘addiction to hydrocarbons’.

In this follow-up chat, David also described his experiences working in the renewable sector as being more institutionally supported by government, investors and authorities compared to working in hydrocarbons; “what I notice is that when working with renewables you have [...] more tailwind. This is different from when I was working in oil and gas. With renewables the attitude is more: ‘Is there anything we can do [to help you]?’ It’s much more supportive”. It seemed that David, since our last encounter, had experienced the energy industry’s shifting attention towards renewable and low-carbon energy production. He began to view fossil fuels more critically and started to question the extent to which they would feature in energy futures. Increasingly David seemed to conceive of oil and gas as a sunset industry, and consequently positioned himself at the forefront of what he came to understand as the “new energy future”.

David never explicitly elaborated on the other reasons for his new professional affiliation. Based on our conversations, it seemed to me that his new job in renewables was a conscious career move; motivated by his reoriented views on energy futures, and personal corporate ambitions of pursuing higher leadership positions. Amongst the energy elites I

encountered, David was the first who ‘jumped’ careers from hydrocarbons into renewables during my fieldwork. Soon more energy elites followed suit; an emerging trend that gained so much traction by early 2020 that it was picked up by the Norwegian media. One article in particular, published in the magazine version of Norway’s financial newspaper “Dagens Næringsliv” (Business Today), brought significant attention to the exodus of top industry leaders away from the oil and gas sector [47]. It was forwarded to me by several of my interlocutors – those who themselves went through a career change, as well as by those who kept their oil and gas jobs. The article popularised the term *oljeavhoppere*, which directly translates to “oil-off-jumpers” or simply “oil-leavers”, and from that point onwards was widely employed to describe particularly leaders (but also other industry professionals) who left the fossil fuel sector.

Out of the oil-leavers I encountered, most were leaders (85%), with 15% being experts in senior advisory, consultant and engineering positions. It must be emphasised that the term *oljeavhoppere* became quintessentially associated with those who moved away from oil and gas in order to work in renewables or in sustainability-oriented professions, rather than industries not related to energy. It was a powerful image broadcasted to the public; that energy elites – leaders and experts – formerly deeply established in the hydrocarbon sector, a business that for decades had been associated with Norwegian welfare and wealth, reoriented themselves to work for a different, almost “opposing”, branch of the industry. As such I suggest that these career moves were seen as more than simply changing jobs; they portrayed a reorientation of identity and allegiance, and showed that leaders and experts increasingly envisioned low-carbon energy futures and positioned themselves accordingly.

The aforementioned *oljeavhoppere* news article, which traces the career ‘jumps’ of four top leaders, focuses on the ethical and environmental considerations that prompted leaders to pursue alternative, climate-conscious and sustainability focused career paths [47]. These considerations are detailed along the lines of a moral-awakening that led the oil-leavers to disentangle from their oil and gas professional roles. While all of my interlocutors, including David, listed climate concerns and visions for low-carbon energy futures amongst their motivations for switching careers, only few of the energy elites I encountered explicitly stated them as their main reason for leaving their fossil fuel jobs. One of them was Malin, a successful Norwegian businesswoman in her mid-forties, who gave me the most passionate account of a climate-motivated career move away from the hydrocarbon sector.

## 5.2. Ethical motivations

Malin was introduced to me via another interlocutor – an equally successful businesswoman working in fossil fuel production who had been friends with Malin since childhood. When she initially mentioned her friend Malin’s career-change to me, she did so mostly with admiration, but also with a sense of belittlement. To her, leaving a well-paid top leadership position in hydrocarbons for a job in an environmental start-up seemed praiseworthy yet a little too idealist for her tastes. To Malin however, changing jobs was an urgent matter; working in a sector she understood as directly contributing to climate change was something Malin felt she could no longer ethically justify. In a meeting over after-work drinks, Malin explained to me what changed her energy outlook:

I used to think it was really cool to work in the oil and gas sector, and I was proud of it. At the time I started, 20 years ago, we were not thinking about the environmental effects at all.

What changed my attitude? Well, the protest movements headed by Greta Thunberg, but mostly my children, who are aged 17 and 20 and are really engaged in the climate and environment. My children and I worry that we are heading at full speed into something we don’t

know the effect of. I share my children's concern for the climate future, and I no longer want to be in a position where I feel responsible for polluting the planet.

Instead I'm trying to save the world; I don't have a solution. But at least I'm trying. I'm trying to make a difference with this new job.<sup>4</sup>

Malin was the only oil-leaver I encountered who accepted a new position that was not at an equivalent level of seniority to her previous hydrocarbon job. She knew that taking on a non-leadership role at a start-up was a risky choice professionally. Yet her newfound convictions about the importance of becoming an active part of energy transition and climate mitigation efforts were, as she noted herself, more important to her than preserving her top-management status. Malin's professional reorientation was amongst the few which was also accompanied by a change in personal lifestyle choices. She decided to limit her flying – both privately and for work – and chose, together with her family, to adopt a predominantly vegetarian diet.

The changes she pursued in her professional and private life, as Malin noted, were deeply influenced by her children and climate action movements. This illustrates the importance of analysing how elite's social networks and wider socio-economic and political contexts inform their choices. In Norway, energy elites' decisions to leave oil must be seen in relation to a social and professional environment that grew increasingly favourable to renewable energy production. The advancement of energy transitions is thus not only an 'elite matter'; while oil-leavers further promoted low-carbon energy futures in Norway, they did so by engaging with and reacting to growing societal climate change concerns. Yet energy elites' leadership and expert roles, I suggest, imbue them with a public voice that can animate others to pursue low-carbon energy solutions. In Malin's case, the friend who introduced us and continued working in hydrocarbons, noted that Malin's actions had inspired her to advance climate and emissions targets in her own job. Therefore elites, I argue, do not only bandwagon pre-existing societal trends, but can push transitions forward. In some cases, this applies even if it comes at a personal cost, such as the loss of elites' leadership roles.

### 5.3. Enabling others

Determined to create changes beyond their own careers, two other interlocutors of mine worked on growing "grassroot changes" (as they referred to it) in the hydrocarbon sector when I first met them at the end of 2019. Under the leadership of Harris, with the assistance of Nina, the strong duo had been working tirelessly on a plan to incorporate what they called "green technologies" – offshore floating wind combined with hydrogen production – into the business ventures of a fossil fuel service firm with a base in Oslo, referred to here as PetroSolutions. Harris, whose father had already been an "oil industry leader", had spent most of his career in leadership positions within the hydrocarbon sector. Convinced that something needed to change, Harris stepped out of his oil and gas career trajectory in order to pursue his plans for a 'new energy' section within PetroSolutions. Joined by Nina – an enthusiastic and determined energy expert in her mid-thirties who initially began working on the project in her spare time – they eventually managed to establish a renewables department within PetroSolutions.

During a post-fieldwork catch-up video call with Harris in September 2020, I learnt that the creation of the section had come just in time; the Oslo branch of the company had to let go of 700 employees – a consequence, as Harris explained, of the COVID-19 effect on the industry, as well as of what he referred to as the start of a "complete meltdown"; the – in his view – inevitable decline of the oil and gas sector. As the head of the newly established offshore wind and hydrogen section, Harris was able to provide jobs for a group of 15 former oil and gas employees who

were incorporated into his renewables project. During another catch-up call in March 2021, Harris updated me that his project had grown into successfully becoming a renewable-focused subsidiary of the formerly purely hydrocarbon oriented multinational. His team, he noted, now focused on producing renewable energy in pursuit of a "clean energy future". Harris was determined to lead sustainable change within the Norwegian energy industry, and to provide low-carbon energy solutions to be used globally.

Harris' and Malin's professional reorientations were strongly motivated by their energy and climate visions, in which oil and gas no longer had a place. They actively wanted to lead changes – in their own professional lives as well as within the industry at large. In the process of their own career moves they created new workplaces and opened opportunities for other hydrocarbon professionals to move into renewables. This is one example of the significant number of new job opportunities that were created for people with transferable skills and an interest to work in renewables in Norway throughout 2018–2020 due to reoriented investor climates and new strategic corporate targets. By moving into the renewables sector, oil-leavers also encouraged other energy elites to follow suit. As more energy elites become oil-leavers, I suggest, it is likely to animate those energy elites resisting changes to become more receptive to the pursuit of energy transitions.

### 5.4. Technological motivations

During my stay at EnergyMax – the mixed-energy production company where I was based for the second part of my fieldwork – I witnessed almost daily the introduction of new employees to the renewable section of the company. While some of these new employees were graduates, quite a significant number were people who switched from a career in hydrocarbons to renewables. This in turn included employees moving within the company i.e., from the hydrocarbon department to the renewables department, as well as external professionals who had previously worked for different hydrocarbon firms. While they almost always noted that they too were concerned with climate change and wanted to be part of energy transition efforts, many argued that their main motivation for the switch was the excitement of a new technical challenge. This is reflected in the following excerpt of a conversation I had with the manager of an offshore wind power project, who had recently switched from a job in a hydrocarbon supplier firm to working in renewables at EnergyMax. He told me:

There was the environmental perspective to my choice of course. But I'm not going to pretend like that was the main driver. I spent eleven years in the subsea [hydrocarbon] industry, saw tremendous technological development, which was very exciting. But that is not going to continue in the next ten years. Now it's more about doing things more cost-effective, et cetera, which is important but not so exciting.

To go into [the renewables] field where everything is developing very fast technologically, where there's new solutions coming all the time, that's extremely interesting in itself. It's a field where I can contribute with my knowledge, experience and really make an impact as well. The environmental perspective is important, but it also is extremely motivating just to see that our work in the offshore wind industry is changing things globally.

This perspective showed me that the aforementioned changes taking place in and outside of the energy industry in Norway created a particular environment that encouraged energy elites to switch jobs; following new opportunities and driving innovation was seen as exciting, and as such perhaps comparable to what people previously had experienced work in the oil and gas sector to be like. Working in extreme conditions on the frontier of technological challenges used to be part of the sense of the *Oljeeventyret* (oil adventure) my interlocutors associated with the early days of working in the oil and gas sector [48,49]. Now

<sup>4</sup> Extract from written fieldnotes.

that the external contexts were changing – including increasing pressure to reduce carbon emissions from vocal publics and sustainability-oriented investors – so too was the outlook for the hydrocarbon sector. Renewables, I suggest, were taking up the former position of hydrocarbons particularly in terms of the way they were perceived as innovative and frontier. Energy elites became part of energy transitions by re-aligning their professional identities away from the ‘old glory’ of oil and gas towards the ‘new’ and ‘exciting’ renewables frontier.

This shows how critical shifts in energy perceptions are in bringing about changes in energy trajectories. In Norway, many energy elites came to understand renewable energy production as a technologically demanding, exciting area of work. This change in perceptions was fostered on the one hand via the aforementioned growing public climate change concerns. On the other hand, oil-leaving was encouraged through the increasingly renewables-favouring institutional frameworks; particularly the creation of new jobs and support of the authorities. Leaving oil, for most of my interlocutors, was not a choice they made light-heartedly. Yet it was a transition made easier by a shifting environment that grew increasingly critical of hydrocarbons. This suggests that energy transitions are more likely to be promoted by energy elites (and others) if there is a growing infrastructure and environment favourable to renewable energy production.

### 5.5. Returning to oil and gas

The ‘oil-off-jumping’ accounts of all four leaders depicted in the Norwegian news article mentioned above detail similarly linear stories of the leaders’ career-shifts along the lines of ‘out with the old, in with the new’. It is important to point out that in the case of some of my interlocutors their career-changes were not as smooth and straightforward as those portrayed in the article. After initially leaving the fossil fuel sector in pursuit of working in renewables, some energy elites eventually came back to work in hydrocarbons. Others, particularly leaders working in mixed energy businesses switched seemingly routinely between leading hydrocarbon and renewable sections of their companies to emphasise the inter-connected energy image marketed by those institutions. During my fieldwork, I met one executive in particular who co-lead one of Norway’s largest mixed energy companies. This person, who shall remain nameless and genderless to protect their anonymity, moved from leading a hydrocarbon branch of the company to heading the renewables department, until eventually moving back to lead an oil and gas branch of the company. These moves seemed to reflect the company’s mixed energy branding; that all parts of the business – even the fossil fuel branch – were involved in the corporate goal of contributing to a low-carbon energy future. Such positions, specifically when represented by an executive from a large energy company, provided a sense of security to those remaining in hydrocarbon businesses at this time of transitions. It emphasised the inter-connectedness of various energy technologies, and the anticipation that oil and gas would continue to be an important energy source in the future. As such it seemed to act as means to downplay the effects of oil-leavers and their exodus from fossil fuels. It also suggests that at least some energy elites were acutely aware that their positions allowed them to promote their desired energy visions.

Some of my interlocutors were also convinced that working for a big mixed energy company producing both hydrocarbons and renewable energy allowed them to have a bigger impact on encouraging low-carbon energy transitions than working in a company with a sole focus on renewables. Fredrik – a man who had led a successful career in diplomacy and politics – first made a move into the energy industry when he was offered a high-level management position in a large renewable energy production company I refer to as RenPower. A few

months prior to our first meeting, he opted for another career move; this time into EnergyMax, the aforementioned mixed energy company. Over coffee in the white-in-white, marble, glass, minimalistic cafeteria of his new office building, he detailed his incentives for moving careers to a company producing both hydrocarbons and renewable energy.

Some people say: "You work at EnergyMax, you cannot be serious about the climate." They say: "I don't understand why you chose to work there".

Fredrik shrugged his shoulders, raised his eyebrows, and moved his head side to side to express a sense of exasperation with those types of enquiries.

You know, I came from RenPower, which is one of the largest producers of renewable energy in Europe. I think I can do more with CO2 emissions working in EnergyMax than I can do in RenPower. The competence, the creativity, the engineering brains, the will to invest and the ability to invest is larger in this company than in any other Nordic or at least Norwegian company. But let's face it: the emissions here [at EnergyMax] are very big. There is still more to be done.

While Fredrik’s career reorientation is quite different to those of Malin, Harris, or Nina as Fredrik moved from renewables into a part-hydrocarbon company, Fredrik’s professional change was similarly driven by his motivation to push for more sustainable, low-carbon energy production. In his case it was both an ethical and a strategic choice to work for a company where he expected he could have the biggest impact to pursue his climate and energy visions. Moreover, since he thought at EnergyMax there was “more to be done”, this suggests that he saw renewables-only companies on the right track, or as already successfully energy transitioned. As noted at the outset, many of my interlocutors felt similarly; with a decarbonised domestic electricity production, energy transition efforts in Norway were particularly focused on reducing the carbon impact of the oil and gas sector as well as of other carbon-intensive industries. This differentiates the Norwegian case from other energy transition contexts; the abundance of renewable natural resources – particularly hydropower – places Norway on relatively ‘advanced stages’ of energy transitions.

Despite the apparent and relative advance in energy transitions in Norway, energy elites were confronted with an energy industry in a double-bind; the renewable electricity supply allowed for the promise of a continued, electrified Norwegian hydrocarbon production and export. Moreover, a long and contested history of renewable energy extraction in Norway, particularly hydropower, meant that many energy elites were acutely aware of the limitations of renewable energy production – including social, environmental, and technological problems and impacts. Noting often that there is no “energy utopia” – not even in Norway – the leaders and experts introduced in this article saw a continued and pressing need to advance energy transitions; whether in a carbon-intensive field like Fredrik, or in the renewables sector like other oil-leavers. The Norwegian energy transitions and energy elites are therefore not just an example of a relatively advanced energy system promoted by a privileged group of people, but of complex, liminal, and conflicting developments towards renewable energy futures that can be found in many – if not most – energy transition contexts.

## 6. Concluding remarks

This article has detailed the shifts in personal perceptions and reasons why energy elites decided to become ‘oil-leavers’. It demonstrated that energy elites’ professional reorientations were driven by career,

ethical-sustainability, and technical considerations, and enabled by an industry environment increasingly favourable to low-carbon energy production. While oil-leaving had started years before, the oil and gas exodus of energy elites and migration towards renewables could flourish in 2019 and 2020 in an industry that saw increased investments in low-carbon energy projects, including the creation of jobs in the renewables sector. In this atmosphere of changes, oil-leaving energy elites – empowered by their career mobility and professional status – became key promoters of energy transitions.

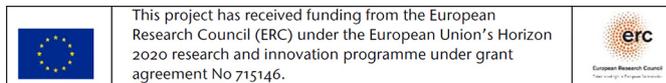
This article suggests that – contrary to the dominant arguments in the literature – elites *can* advance societal changes. While they may choose

than their hydrocarbon alternatives. Energy elites can contribute towards energy transitions efforts but there is still a long way ahead to achieve sustainable, renewable energy futures for all.

### Declaration of competing interest

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

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to do so out of personal interests, – ethical, sustainability, technical, or career related – it is argued here that elites' choices to push for changes have an effect on society overall. Elites can be the figureheads of societal transitions, encouraging others – including other elites – to pursue changes. Due to their strategic positions, they also have the ability to create spaces for non-elites in societal transitions – through, for example, the creation of jobs.

The research also demonstrates that personal decisions of elites are shaped by their wider social circles and via larger trends in society. In the case of oil-leavers in Norway, their career reorientations were influenced by their private and professional networks as well as the wider socio-economic context of Norwegian energy transitions. As such, energy elites' moves to renewable energy businesses were encouraged by their surroundings. This in turn suggests that elites' promotion of changes – influenced by wider society – is likely to be in the interest of at least a part or even a majority of that society. As noted, further research on the topic can provide insights on how 'non-elites' in Norway and elsewhere perceived oil-leaving and the promotion of renewables. Future studies could also analyse how elites may encourage – or perhaps hinder – energy transitions in other countries. Particularly in places where hydrocarbons are also understood as pillars of socio-economic life – such as Russia or Oman [50,51] – this research suggests that once some energy elites start promoting energy transitions, others may follow suit. With an increasing number of elites pursuing rather than resisting societal changes, structural shifts can be accelerated.

In Norway, oil-leaving energy elites promoted themselves as well as the Norwegian energy industry as future-oriented, sustainable and climate-proactive. This low-carbon, renewables-embracing image to some extent allowed the hydrocarbon sector – and those energy elites and professionals who stayed in it or returned to it – to continue to thrive. While many oil and gas companies advanced low-carbon initiatives including the electrification of platforms, or carbon capture and storage programmes, Norwegian oil and gas production and its emissions continue to flourish at the time of writing. Despite the vocal publics who demand an end to the hydrocarbon sector, despite the growth in renewable energy businesses, and despite the promotion of renewable energy production by energy elites, Norwegian fossil fuels continue to be produced and exported. This suggests that energy transitions can only come into full effect once most people find the move towards renewable energy production and consumption more desirable

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### References

- [1] C. Howe, D. Boyer, E. Barrera, *Wind at the margins of the state: autonomy and renewable energy development in southern Mexico*, in: J.-A. McNeish, A. Borchgrevink, O. Logan (Eds.), *Contested Powers Polit. Energy Dev. Lat. Am.*, Zed Books, London, 2015, pp. 92–115.
- [2] H. Appel, Offshore work: oil, modularity, and the how of capitalism in Equatorial Guinea, *Am. Ethnol.* 39 (2012) 692–709, <https://doi.org/10.1111/j.1548-1425.2012.01389.x>.
- [3] G. Weszkalnys, *Hope & oil: expectations in São Tomé e Príncipe*, *Rev. Afr. Polit. Econ.* 35 (2008) 473–481.
- [4] B.K. Sovacool, B. Brossmann, Fantastic futures and three American energy transitions, *Sci. Cult. (Lond)*. 22 (2013) 204–212, <https://doi.org/10.1080/09505431.2013.786999>.
- [5] D.M. Hughes, *Energy without Conscience: Oil, Climate Change, and Complicity*, Duke University Press, Durham and London, 2017.
- [6] M.M. High, Projects of devotion: energy exploration and moral ambition in the cosmoeconomy of oil and natural gas in the Western United States, *J. R. Anthropol. Inst.* 25 (2019).
- [7] A. Mason, M. Stoilkova, Corporeality of consultant expertise in Arctic natural gas development, *J. Od Norther Stud.* 6 (2012) 83–96.
- [8] F.G.N. Li, S. Pye, Uncertainty, politics, and technology: expert perceptions on energy transitions in the United Kingdom, *Energy Res. Soc. Sci.* 37 (2018) 122–132, <https://doi.org/10.1016/j.erss.2017.10.003>.
- [9] R.C.L. Bullock, M. Zurba, J.R. Parkins, M. Skudra, Open for bioenergy business? Perspectives from indigenous business leaders on biomass development potential in Canada, *Energy Res. Soc. Sci.* 64 (2020), 101446, <https://doi.org/10.1016/j.erss.2020.101446>.

- [10] M.M. High, Utopias of oil: energy finance and entrepreneurial ambition in the US oil and gas industry, *Cult. Anthropol.* (n.d.).
- [11] B.K. Sovacool, What are we doing here? Analyzing fifteen years of energy scholarship and proposing a social science research agenda, *Energy Res. Soc. Sci.* 1 (2014) 1–29, <https://doi.org/10.1016/j.erss.2014.02.003>.
- [12] C. Shore, Introduction: towards an anthropology of elites, in: C. Shore, S. Nugent (Eds.), *Elit. Cult. Anthropol. Perspect.*, Routledge, London and New York, 2002.
- [13] A. Cohen, The politics of elite culture: explorations in the dramaturgy of power in a modern African society, *Afr. Stud. Rev.* 24 (1981) 207, <https://doi.org/10.2307/524376>.
- [14] C. Geertz, *Deep hanging out.*, New York rev. Books. (1998) 69–72.
- [15] I.B. Müftüoğlu, S. Knudsen, R.F. Dale, O. Eiken, D. Rajak, S. Lange, Rethinking access: key methodological challenges in studying energy companies, *Energy Res. Soc. Sci.* 45 (2018) 250–257, <https://doi.org/10.1016/j.erss.2018.07.019>.
- [16] J. Scott, Transformations in the British economic elite, *Comp. Sociol.* 2 (2003) 155.
- [17] J. Scott, Modes of power and the re-conceptualization of elites, *Sociol. Rev.* 56 (2008) 27–43.
- [18] T. Salverda, J. Abbink, Introduction: an anthropological perspective on elite power and the cultural politics of elites, in: J. Abbink, T. Salverda (Eds.), *Anthropol. Elit. Power, Cult. Complexities Distinct. Elit.*, Palgrave Macmillan, New York, 2013, pp. 1–28.
- [19] P. Bourdieu, *Outline of a Theory of Practice*, Cambridge University Press, Cambridge, 1977.
- [20] C.W. Mills, *The Power Elite*, Oxford University Press, New York, 1956.
- [21] G.E. Marcus, *Elites: Ethnographic Issues*, University of Mexico Press, Albuquerque, 1983.
- [22] A. Mason, Cartel consciousness and horizontal integration in energy industry, in: S. Strauss, S. Rupp, T. Love (Eds.), *Cult. Energy Power, Pract. Technol.*, Routledge: Taylor and Francis Group, London and New York, 2013, pp. 126–144.
- [23] V. Pareto, The circulation of elites, in: T. Parson, E. Shils, K.D. Naegele, J.R. Pitts (Eds.), *Theor. Soc. Found. Mod. Sociol. Theory Vol. I*, The Free Press of Glencoe, New York, 1961, pp. 551–557.
- [24] P. Bourdieu, *Distinction: A Social Critique of the Judgement of Taste*, Routledge, London and New York, 2010.
- [25] G. Simmel, Fashion, *Am. J. Sociol.* 62 (1957) 541–558, <https://doi.org/10.5937/bankarstvo1801098p>.
- [26] K.M. Norgaard, *Living in Denial: Climate Change, Emotions and Everyday Life*, The MIT Press, Cambridge, Massachusetts, 2011.
- [27] N. Komendantova, Transferring awareness into action: a meta-analysis of the behavioral drivers of energy transitions in Germany, Austria, Finland, Morocco, Jordan and Iran, *Energy Res. Soc. Sci.* 71 (2021), 101826, <https://doi.org/10.1016/j.erss.2020.101826>.
- [28] B. Thomassen, *Liminality and the Modern: Living Through the In-Between*, Ashgate Publishing Limited, Farnham, 2014.
- [29] Y. Cai, Y. Aoyama, Fragmented authorities, institutional misalignments, and challenges to renewable energy transition: a case study of wind power curtailment in China, *Energy Res. Soc. Sci.* 41 (2018) 71–79, <https://doi.org/10.1016/j.erss.2018.04.021>.
- [30] H. Brauers, I. Braunger, J. Jewell, Liquefied natural gas expansion plans in Germany: the risk of gas lock-in under energy transitions, *Energy Res. Soc. Sci.* 76 (2021), 102059, <https://doi.org/10.1016/j.erss.2021.102059>.
- [31] L.H. Gulbrandsen, T.H.J. Inderberg, T. Jevnaker, Is political steering gone with the wind? Administrative power and wind energy licensing practices in Norway, *Energy Res. Soc. Sci.* 74 (2021), <https://doi.org/10.1016/j.erss.2021.101963>.
- [32] SSB, Electricity 2019, Stat. Norw. SSB. <https://www.ssb.no/en/energi-og-industri/statistikker/elektrisitet/aar>, 2020. (Accessed 17 April 2021).
- [33] A.T. Gullberg, The political feasibility of Norway as the “green battery” of Europe, *Energy Policy* 57 (2013) 615–623, <https://doi.org/10.1016/j.enpol.2013.02.037>.
- [34] Norskpetroleum, Exports of oil and gas, Nor. Minist. Pet. Energy Nor. Pet. Dir. (2021). <https://www.norskpetroleum.no/en/production-and-exports/exports-of-oil-and-gas/>.
- [35] Norskpetroleum, The Government’s Revenues, Nor. Minist. Pet. Energy Nor. Pet. Dir., 2021.
- [36] G. Bateson, *Steps to an Ecology of Mind*, Jason Aronson Inc., Northvale, New Jersey, 1987.
- [37] T.H. Eriksen, E. Schober, Economies of growth or ecologies of survival? *Ethnos.* 83 (2018) 415–422.
- [38] J. Smith, M.M. High, Exploring the anthropology of energy: ethnography, energy and ethics, *Energy Res. Soc. Sci.* 30 (2017) 1–6, <https://doi.org/10.1016/j.erss.2017.06.027>.
- [39] K. Araújo, The emerging field of energy transitions: progress, challenges, and opportunities, *Energy Res. Soc. Sci.* 1 (2014) 112–121, <https://doi.org/10.1016/j.erss.2014.03.002>.
- [40] B. Kristoffersen, Opportunistic adaptation, *Adapt. Chall. Clim. Chang.* (2015) 140–159. <https://www.cambridge.org/core/books/adaptive-challenge-of-climate-change/opportunistic-adaptation/E77C3604BBB9654E6A1417CE71A42EDC>.
- [41] K.S. Hasberg, Research Note : Flight Shame, 2019, pp. 25–28, <https://doi.org/10.1093/envis/emu131.Velad>.
- [42] S. Gössling, A. Humpe, T. Bausch, Does “flight shame” affect social norms? Changing perspectives on the desirability of air travel in Germany, *J. Clean. Prod.* 266 (2020).
- [43] S.M. Ali, E.Y. Aasen, K.H. Olsen, E. Strømme-Svendsen, S. Mohamad, Four reasons why young people don’t bother listening to the oil and gas industry. <https://www.norskoljeoggass.no/naringspolitikk/publikasjoner/den-nye-oljen/>, 2018.
- [44] G. Bang, B. Lahn, From oil as welfare to oil as risk? Norwegian petroleum resource governance and climate policy, *Clim. Policy.* 20 (2020) 997–1009.
- [45] M. Herzfeld, Uncanny success. Some closing remarks, in: J. Pina-Cabra, P. Lima (Eds.), *Elit. Choice Leadersh. Succession*, Oxford Berg, Berg, Oxford, 2000.
- [46] J.M. Smith, The ethics of material provisioning: Insiders’ views of work in the extractive industries, *Extr. Ind. Soc.* 6 (2019) 807–814.
- [47] I. Røise Kielland, Toppfolkene i oljebransjen som fikk nok – og ble oljeavhoppere, *DN Magasinet*. <https://www.dn.no/magasinet/klima/statoil/wenche-skorg-e/william-helland-hansen/toppfolkene-i-oljebransjen-som-fikk-nok-og-ble-oljeavhoppere/2-1-732728>, 2020. (Accessed 30 June 2020).
- [48] E. Tolås, *Olje! Historien om det Norske Oljeeventyret*, Pandora Film, Norway, 2009.
- [49] K.A. Mork, *Oljeeventyret. Som kom og gikk*, Spartacus Forlag AS, Oslo, 2020.
- [50] N. Andreassen, Arctic energy development in Russia - how “sustainability” can fit, *Energy Res. Soc. Sci.* 16 (2016) 78–88, <https://doi.org/10.1016/j.erss.2016.03.015>.
- [51] M. Lambert, Reserves, secrecy, and the science of oil prognostication in southern Arabia, in: H. Appel, A. Mason, M. Watts (Eds.), *Subterr. Estates Life Worlds Oil Gas*, Cornell University Press, Ithaca and London, 2015, pp. 340–352, <https://doi.org/10.7591/9780801455407>.
- [52] S. Field, Power and precariousness in the expert hierarchies of the US hydrocarbon industry, *Crit. Anthropol.* 41 (2021) 303–319, <https://doi.org/10.1177/0308275X211038608>.