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## Trade unions' interpretation of a just transition in a fossil fuel economy

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### ABSTRACT

Trade unions have received little attention in sustainability transitions research, despite their capacity to influence policy decisions. This article presents a study of how key unions in Norway a country with a large petroleum sector as well as high union level density – have moved their preferences on transition issues in the period 2007–2019. With a document-based process analysis of trade unions' changing policy preferences and interpretations of a just transition, a concept that aims to bridge the apparent gap between destruction and creation policies, we show how trade unions have used this concept to reconcile different positions among unions. While unions from petroleumrelated sectors are more opposed to phase-out policies compared to non-petroleum unions, the solidarity principle among unions has caused some movement towards a joint support of a just transition. Yet, different unions promote different ideas of what a just transition means depending on their sector affiliation.

### 1. Introduction and background

How socio-technical systems such as the energy system can be transformed has been one of the most thoroughly researched areas within sustainability transitions. Whereas this research typically has focused on opportunities and barriers for growth in new technologies and industries, there has in recent years been a growing interest in the decline or phase-out of fossil fuel industries (Kungl and Geels 2018; Normann, 2019; Rogge and Johnstone, 2017; Rosenbloom and Rinscheid, 2020; Turnheim and Geels, 2013). Phase-out can be stimulated through reduced demand for fossil fuels through the adoption of low-carbon solutions (Klitkou et al., 2015; Sjøtun, 2019) or through emissions trading and fuel efficiency standards (Erickson et al., 2018). However, there has been some recognition in policy circles that restrictions on the supply-side of fossil fuels are needed (Green and Denniss, 2018; Lahn, 2019). This requires supply-side policies such as resource extraction taxes, fossil fuel subsidy removal, or quotas on the extraction of certain fossil fuel resources (Erickson et al., 2018; Gaulin and Le Billon, 2020). These policies challenge powerful and established industries, making them politically contested and opposed by key actors in the system (Geels, 2014; Heyen, 2017).

Empirical studies of attempts to phase out established industries often highlight resistance to change by large firms (Leipprand and Flachslund, 2018). However, an important aspect of decline is that phase-out policies also threaten state income and employment. This means that trade unions have a big stake in any phase-out policies (Nugent, 2011; Snell and Fairbrother, 2011). Still, trade unions have until recently not received much attention in the sustainability transitions literature. Trade unions are for instance not mentioned at all in the recently published agenda for sustainability transitions research (Köhler et al., 2019).

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Workers organise in trade unions as a way to counter-balance the power controlled by the employers. Trade unions can use their collective power to negotiate conditions at the workplace such as tariffs, job security, and health and safety. Yet they are also strategic actors who seek to influence public policies in accordance with the interest of their members (Berkhout, 2013). In doing this, unions will often want to influence policies in favour of the employers as this may affect workers' conditions (Mildenberger, 2020). In the context of sustainability transitions, trade unions therefore have a stake in, and influence on, energy and climate policy (Prinz and Pegels, 2018).

The evidence of trade unions' engagement with climate and energy policy suggests that unions have a particular power that can be both a force for continuity and a force for change (Prinz and Pegels, 2018). Unions may work collectively for either of these two directions. The organizational structure of umbrella trade unions that organize unions with diverse interests and resources may however bring about internal conflicts and power struggles, either within certain unions or between unions that organise different worker groups. The trade unions have increasingly promoted the idea of a just transition as way to reconcile the interests of both petroleum workers and the climate. However, the underlying conflict of interest remains, the outcome of which determines the extent to which unions in a particular context represent a force for continuity or change.

In this paper, we explore the following question: How do trade unions position themselves in the context of sustainability transitions, and what role does the concept of a just transition play in establishing trade unions as a force for continuity or change? We explore this question by assessing how trade unions engage with the notion of just transitions and transition policies in a fossil fuel economy by the case of Norway and the Norwegian Confederation of Trade Unions (LO). As a carbon-dependent economy in a nation state with corporatist traits, the Norwegian case is considered a typical case of what Mildenberger (2020) outlines as the burden of double representation; fossil fuel interests are represented both by industry groups and by trade unions. This combination is particularly powerful in the Norwegian context. Union density is high and trade unions are regularly included in decision-making processes on both firm level and in national policy-making. Based on a document-based process analysis, we explore the internal processes and deliberations in the LO and show that the pathway of double representation is challenged from within. Our main argument is that just transition as a concept has the potential to bridge a conflict of interest around the future of fossil fuel production. However, because the concept allows for multiple interpretations, uncritical references to a just transition can cover up these conflicts without bridging this conflict in a manner that creates sufficient acceptance for policies that aim to phase out fossil fuel production. In the next section, we present the theoretical background from which we develop our analytical model. We then proceed with a presentation of the case of Norwegian petroleum policy and the Norwegian trade unions in Section 3. This section also includes a description of our data. Section 4 contains a narrative of our selected trade unions' policy preferences over time. In the Section 5, we discuss the implications of the findings before we return to our research questions and sum up the main points of the paper in our conclusion.

## 2. Theory and analytical model

To address our research question we draw on two literature streams: (1) studies of socio-technical transitions and (2) studies of trade unions and the concept of a *just transition*.

### 2.1. Socio-technical transitions

Put simply, a socio-technical transition of the energy system requires a phase-out of the production and consumption of fossil fuels combined with the scale-up of new renewable energy production to meet (1) the void left by reduced fossil fuel production, (2) the increased demand from electrification of other sectors such as transport, and (3) the increased demand for energy due to rising consumption levels. The decline of fossil fuels and growth in renewables is intertwined as increased production of renewables can contribute to decreased demand for fossil fuels, whilst decreased supply of fossil fuels can lead to increased support for the diffusion of renewables (Kivimaa and Kern, 2016; Rogge and Johnstone, 2017).

The sustainability transitions field has advanced our knowledge about how policy can stimulate the diffusion of new renewables (Bergek et al., 2008; Raven et al., 2016; van der Loos et al., 2020). However, stimulating a rapid decline of industries that are still profitable or still enjoy subsidies that are difficult to remove requires a more deliberate policy approach to decline (Kivimaa and Kern, 2016; Rosenbloom and Rinscheid, 2020). Scholars have therefore recently attended to how policy can contribute to the decline of fossil fuels (e.g. Leipprand and Flachsland 2018, Rogge and Johnstone 2017, Rosenbloom 2018). Even though we recognise that industry phase-out can be driven by other factors than deliberate decline policies, such as changes in markets, technology, broader societal shifts and exogenous events (Geels, 2002; Turnheim and Geels, 2012), our focus is on the conditions for the introduction of policies that aim to reduce the production of fossil fuels.

In a much cited publication, Kivimaa and Kern (2016) developed a framework that attempts to bring together approaches to study both industry development and deliberate industry decline. According to Kivimaa and Kern, a transformative policy mix should consist of a set of *creation policies* that aim to stimulate growth in new, green industries and a set of *destruction policies* that aim to phase out fossil fuel industries. Examples of creation policies are R&D support, incentives for experimentation and market subsidies, and are considered comparatively uncontroversial. Destruction policies, however, can include removal of fossil fuel subsidies, stricter regulations, reduced R&D support, or the banning of certain activities. Such policies are for the following reasons deeply contested.

There is in fossil fuel economies often a mutual dependence between the state and the fossil fuel industries (Baker et al., 2014) that creates a political lock-in not easily resolved (Campbell and Coenen, 2017; Johnstone and Stirling, 2015). Fossil fuel firms have vast resources that can be deployed to influence the policy process through direct lobbying or indirectly through advertising (Geels, 2014). The fossil fuel industry may also engage in issue framing, for instance by diverting attention to benefits of fossil fuels or by pitting a safe

climate against jobs and a healthy economy (Erickson et al., 2018). Thus, despite the theoretical rationales for introducing policies that limit fossil fuel production, such policies are, due to a lack of political feasibility, pursued with much greater reservations than policies that stimulate new industry formation (Jewell and Cherp, 2020; Smith et al., 2010).

Transitions, and especially phase-out policies, are intensely political (Healey and Barry, 2017), and involve power struggles over the distribution of gains and losses following from the transition. This perspective shifts the attention towards traditionally overlooked actors including workers who are dependent upon those industries that are potentially left behind in a phase-out of fossil fuels (Johnstone and Hielscher, 2017). Workers, organized in trade unions, are generally associated with the pursuit of socio-economic transitions, yet the wide-spread consequences of sustainability transitions has promoted trade unions as an increasingly salient actor on policy issues concerning sustainability transitions (Prinz and Pegels, 2018). In the following, we look closer at the role of trade unions in sustainability transitions with particular attention to the just transition concept.

## 2.2. Trade unions and a just transition

The main objective of trade unions is to represent workers' interests. If a proposed policy can improve the conditions for the workers, the unions will generally be positive to such a policy change. Since sectors are affected differently by energy and climate policies, the positions of unions differ according to the sectors in which most of their members are employed (Clarke and Lipsig-Mummé, 2020; Rätzl and Uzzell, 2011). For instance, workers in renewable energy sectors are likely to benefit from policies that stimulate a transition away from fossil fuels, whereas workers in the coal industry could lose their jobs. Different parts of the trade unions have therefore responded differently to climate and energy policy proposals (Snell and Fairbrother, 2011).

Studies of how unions engage with energy and climate policies suggest that unions are more likely to support environmental protection policies than policies that aim to stimulate deeper industrial transformation (Rätzl et al., 2010; Snell and Fairbrother, 2011). Trade unions have on many occasions worked towards environmental regulations. Examples include the Canadian Auto Workers Union that negotiated for toxics use reduction, the Transport and General Workers Union in Great Britain that was a leader in promoting environmental issues at the firm and public policy levels, and the Finnish tourist industry unions' promotion of eco-audits and waste reduction (Roelofs, 1999). However, the unions are more likely to oppose policy change when it is perceived to run against the interest of workers. Evidence from the chemicals industry and the coal industry in Germany shows how the unions have been divided on major policy issues (Grant, 1988; Jacob, 2013; Leipprand and Flachslund, 2018). Whereas unions representing workers in non-affected sectors have advocated stricter regulations and coal phase-out, the unions representing workers in affected sectors have successfully lobbied against such policy change (Leipprand and Flachslund, 2018). However, unions do not always resist change. Following a decline in profitability from coal mining in Europe in the 1950s, the Dutch mining union was a driving force for the phase-out of coal mining in the Netherlands (Moharir, 1979).

The examples above show that we should not treat trade unions as a homogenous group of actors. Moreover, how trade unions influence transition policies may change over time. Such change can happen within different unions, but it may also occur through shifts in the dynamics between unions, as well as shifts in the relations between different unions and wider parts of society. Finally, climate policy can lead to job losses in some carbon-intensive sectors, giving root to a jobs versus climate frame that has often dominated trade union energy transition thinking (Healy and Barry, 2017). A *just transition* framing opens up a space for bridging this conflict through a mutual understanding of how the conflict between jobs and climate mitigation can be resolved.

The concept of a just transition came out of the US trade unions' movements in response to new regulations to prevent water and air pollution in the 1970s and 1980s (Newell and Mulvaney, 2013), but the term has gained increased attention in recent years (Healy and Barry 2017). With its growing popularity, the concept has also become more contested (Stevis et al., 2020). The main motivation behind unions' call for a just transition has been to protect workers and local communities from the negative effects of the desired transition (Mayer, 2018; Snell, 2020). Through the just transition concept, it is possible for trade unions to take a constructive position towards a transition, focusing especially on employment, retraining and regional development (Galgóczy, 2019). However, once we look beyond the general idea of a just transition, we can observe that the concept allows for different interpretations of what the end result of a transition should look like and the pathways to getting there (Clarke and Lipsig-Mummé, 2020; Weller, 2019). These differences have consequences for the types of policy measures that unions will advocate.

Generally, we can distinguish between three broad approaches to a just transition in the literature. A first interpretation adopts a *market-based* approach, also referred to as the *shared solution* approach (Stevis and Felli, 2015). This approach recognises how some jobs will disappear, whilst other jobs will be created. With a narrative of green growth, the emphasis is on the creation of new, green jobs helped by a combination of market-driven innovation and industrial restructuring (Clarke and Lipsig-Mummé, 2020). In this approach, green policies are solutions to social problems rather than environmental problems, and there is little attention to the phase-out of fossil fuel industries beyond what is shaped by the market.

A second interpretation adopts an *ecological modernisation* or *differentiated responsibility* approach (Clarke and Lipsig-Mummé, 2020) and is distinguishable from the market-based approach in that it focuses more on defending the losers of a transition (Stevis and Felli, 2015). Emphasis is therefore on protecting existing jobs and creating new jobs within affected industries that are compatible with a low-carbon society. An important argument is that rather than a phase-out of existing industries, a transition can be achieved through technological fixes within existing industries (Rätzl and Uzzell, 2011). The goal is thus to prevent or delay the decline of fossil fuel industries, whilst at the same time achieving sufficient emissions reductions. Unions that adhere to this approach may promote policies that stimulate investments in carbon capture and storage or electrification of petroleum production. For example, due to pressure from climate change, the Australian Workers' Union worked for emissions reductions from production, rather than for changes in what was produced (Snell and Fairbrother, 2011). In addition to protecting jobs in the fossil fuel industry, the *ecological modernisation* approach

also recognises the need to create new, sustainable jobs. However, in contrast to the market-based approach, the ecological modernisation approach calls for state-led industrial policies that aim to create new jobs in new industries (Steviss and Felli, 2015). A just transition framing thus recognises the need to for an economic restructuring that includes the disappearance of some jobs and the creation of new jobs. Importantly, considering the emphasis on protecting workers, such restructuring should include policies that facilitate the transfer of workers to new sectors (Newell and Mulvaney, 2013). Just transition policies should therefore include wage subsidies, job transfer programs, retraining and skills upgrading (Ciplet and Harrison, 2020; Galgóczi, 2019; Snell, 2020).

Both the market-based and ecological modernisation approaches recognise the future decline of fossil fuels, and adopt different approaches to how this decline should be met. However, in terms of policy, the emphasis is more on creation policies rather than destruction policies that according to Kivimaa and Kern (2016) are a necessary part of a transformative policy mix.

A third and final interpretation adopts a *radical and transformative* approach to a just transition (Clarke and Sahin-Dikmen, 2020). This approach, also referred to as the *social ecological approach* (Steviss and Felli, 2015) follows a more confrontational line, arguing that a transition requires fundamental societal change including a reduction in overall economic production. A just transition can therefore also represent a decision to live in a different type of society, not simply a low-carbon version of the current one (Healy and Barry, 2017).

In terms of policy, a just transition requires a mix of different policies, many of which we can recognise from the literature on sustainability transitions (e.g. Rogge and Reichardt 2016). Yet, the way in which different policies are given priority depends on the interpretation of a just transition. A just transition may range from a call for green jobs creation, via a fossil fuel jobs destruction, to a radical critique of capitalism and green growth (Steviss et al., 2020). These differences have implications for how unions view the future of fossil-fuel industries and what should be appropriate policies.

### 2.3. Distinguishing between a just transition within and away from fossil fuels

In Section 2.1, we showed how a sustainability transition requires a mix of policies that both stimulate new industry creation and the deliberate phase-out of fossil fuels. Creation policies are politically feasible, but on their own not sufficient for a transition. Phase-out policies are necessary, but in the shorter term not politically feasible. The just transition concept opens up a space for policies that aim to bridge this gap between destruction and creation policies. It pursues a low-carbon transition whilst protecting workers and regions. It emphasizes how phase-out efforts should be accompanied by policies that both contribute to diversification and reallocate resources from fossil fuel industries towards low-emission industries. Such reallocation includes job transfer programs and retraining. Moreover, a just transition highlights the need to compensate potential losers in a transition, such as those employed in fossil fuel industries. However, the concept allows for multiple interpretations that translate into different priorities in terms of the policies pursued. In particular, we suggest that a distinction between policies that aim to stimulate a *transition within* fossil fuel industries and

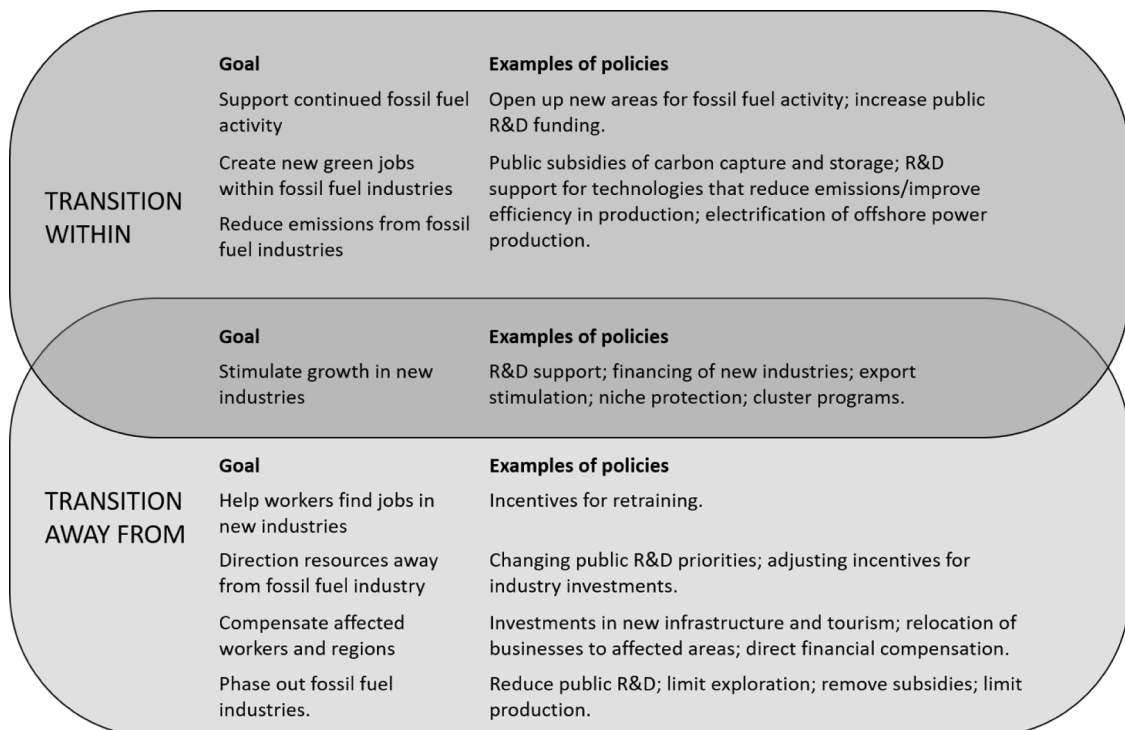


Fig. 1. Analytical model for investigating different interpretations of a just transition.

policies that aim to stimulate a *transition away* from fossil fuels is useful to understand how trade unions engage differently with the very idea of a transition.

A *transition away* implies policies that aim to reduce economic activity in certain industries (such as fossil fuels). Support for such reduced activity can be achieved through a combination of policies that stimulate new industry formation and discourage continued investments in fossil fuels (Kivimaa and Kern, 2016). Just transition policies should also actively stimulate the movement of workers away from certain sectors, and help those workers to qualify for employment in new industries. On the other hand, a *transition within* refers to the protection of jobs in existing industries by transforming these industries so that they become better aligned with a zero-emission society. A just transition can therefore imply public support towards stimulating new industry formation (such as renewables) whilst protecting existing industries through publicly funded initiatives to reduce emissions from fossil fuel production.

Fig. 1 shows how these different interpretations of a just transition, and thus different outlooks on how fossil fuel industries can adapt to increased pressure from climate change, translate into policy preferences. In terms of goals and policy instruments, the two interpretations are different. However, there will also be goals and policies that can be acceptable to a wider set of actors, both among those that support a *transition within* and a *transition away from* fossil fuels. Policies that aim to stimulate new industries that are important for a transition fall within this space. Policies that aim to reorient fossil fuel industries towards other industries such as renewable energy may also be acceptable to a broader set of actors, but this remains an empirical question, which we address in this paper.

### 3. Case description, data and methods

#### 3.1. Norwegian oil and gas

Norway has a large petroleum sector and despite declining production since the peak in 2004 (Ryggvik 2015, p. 15), the sector accounts for between 8 and 14% of GDP, and an estimated 5% of total employment (Statistics Norway, 2019). Moreover, if the offshore oil and gas supply industry was to be defined as a stand-alone industry, it would be Norway's second largest export industry, following oil and gas (Thune et al., 2018). At the same time, Norway has cultivated ambitions on climate leadership, which has put political leaders in a situation where they have had to reconcile two goals that are seemingly hard to reconcile (Lahn, 2019). In the 1990s and 2000s, this was achieved by separating climate and petroleum policymaking into separate domains (Asdal, 2014). Climate goals were addressed through international agreements and domestic demand-side policies, leaving petroleum production outside the realm of climate policy (Boasson, 2015). In the Norwegian tripartite cooperation on policy-making, climate and petroleum policy has also been treated as two separate policy domains.

In the last decade, however, climate and petroleum policy has become increasingly interconnected in the Norwegian policy discourse (Lahn, 2019). There are in particular two issues that have brought climate and petroleum together. The first issue concerns the potential opening up of new, vulnerable areas outside Lofoten, Vesterålen and Senja (hereinafter referred to as LoVeSe) in the North for oil exploration. This issue, which has been pursued by the petroleum industry for a long time, has enraged climate and environmental activists. For this reason, LoVeSe has been one of the most salient issues on the national climate and petroleum policy agendas and therefore an important matter in Parliament, which has the final saying in deciding whether the areas should be opened by issuing an impact assessment of the areas. The second issue raises the question of whether a world with reduced demand for oil and gas should mean a steered phase-out or a protection of the Norwegian oil and gas industry. In Section 4, we describe how climate and petroleum policy has become more integrated also in the trade unions, with particular attention to these issues.

#### 3.2. Norwegian trade unions

Despite declining union membership numbers, union density in Norway is high. Around 50% of Norwegian workers are represented by trade unions (OECD, 2020), ranking union membership in Norway amongst the highest in the world. The Nordic model of policy-making with tripartite cooperation means that trade unions are accepted as credible partners in consultations with business interests and the state. They are provided a regular seat at the table when national decisions about regulatory measures and economic distribution are made. At the company level, union representatives embody ideals of workplace democracy and cooperation between labour and capital and are key players in change processes (Alsos and Trygstad, 2018). While these features pave the way for a consensual style of policy-making in Norway, it has also been noted that this represents a hurdle to progressive climate policy: An important obstacle for the introduction of destruction or phase-out policies in Norway has been that the fossil fuel interests have been represented by both industry groups and trade unions, in what Mildenerger (2020) refers to as double representation.

In our study, we focus on the Norwegian Confederation of Trade Unions (hereafter LO), which is the largest umbrella organisation for trade unions in Norway. LO is traditionally also the most powerful trade union in terms of political influence: since its establishment it has nurtured close links to the Norwegian Labour party by having formal cooperation agreements and mutual representation on each other's decision making bodies (Allern et al., 2007). LO organises workers across most sectors and industries, but most importantly for our study, it organises the main unions that represent workers in the oil and gas and offshore supply industries (see Table 1).

While each union formulates its own policies in national meetings, LO as an umbrella organization formulates its shared policies through a democratic process every four years in the LO Congress. Congresses are prepared by pre-committees proposing various resolutions, which are then debated and decided in the Congress. However, decision-making routines within LO allow the unions most affected by a particular policy to define the position of LO on these issues (Kasa 2000, p. 111), which means that it is not necessarily the numerical majority in Congress that decides. LO's policy on petroleum-related issues has therefore largely been shaped by the interests

**Table 1**  
The six largest LO unions.

Non-oil and gas-related unions	Cross-sectoral: Petroleum-related/ renewable energy unions	Petroleum-related/power-intensive unions
<i>NTL/ Handel og kontor / Fagforbundet</i> 483 000 members*	<i>EL &amp; IT</i> 39 000 members*	<i>Industri Energi /Fellesforbundet</i> 220 500 members*

\* Numbers are collected from the webpages of the unions.

of the petroleum unions (Angell, 2018). As the empirical analysis will show, the non-petroleum related unions have over time challenged this routine of issue ownership within LO.

### 3.3. Data and methods

The study is a document-based process analysis of trade unions' changing policy preferences and interpretations of a just transition in the period between 2007 and 2019, which is when the issue of phase-out emerged and became a hot topic in LO. This implied first to reconstruct the timeline of events based on a compilation of our selected data sources, and second to trace how different unions positioned themselves on the matter of linking climate and petroleum policy with labour policies and how they referred to a just transition throughout the period. The primary data consist of trade unions' written submissions and oral hearings in Parliament, official statements, media records, and summaries from LO Congresses. Documents were selected in a two-step process. First, we identified the relevant corpuses of documents where trade unions have expressed their policy preferences. Then we selected the documents covering the topics of relevance for our study for further analysis.

For our collection of written submissions, we investigated submissions from our selected trade unions for a total of 27 hearings between 2007 and 2019. We selected hearings based on their relevance for climate, energy or industrial policy. The written submissions responded to Official Norwegian Reports (green papers), Propositions to the parliament (resolutions and bills), and Reports to the parliament (white papers). The submissions were retrieved from the Norwegian Parliament webpage and the trade unions' webpages. Additionally, we used video recordings from 15 oral hearings, also available from the Norwegian Parliament webpage. 9 of the oral hearings were on the Fiscal Budgets in the Standing Committee on Business and Industry and the Standing Committee on Energy and the Environment. The hearings consisted of short presentations by the trade unions' on their main positions and proposals in response to the proposed budgets, followed by questions from the members of the relevant Standing Committees. The remaining 6 oral hearings were on white papers relevant for energy, climate and industry policy.<sup>1</sup> In addition, we also conducted a media search (using the Retriever.no media service) on the keywords "rettferdig omstilling [just transition]", "omstilling [transition]" + our selected trade unions.

From our data material, we recorded the trade unions' positions and proposals on the topics of petroleum, energy, industry, and climate policy. The recorded data were coded, based on our main analytical constructs presented in Section 2.3. We also noted when trade unions did not comment on a particular issue in an oral hearing or written submission. E.g., we consider it relevant if a white paper has discussed the need for a transition of the Norwegian economy but a trade union have not commented on this particular topic.

In addition, we have analyzed summaries from the LO Congresses of the Norwegian Confederation of Trade Unions, retrieved from the digital archive of the Norwegian labor movement (arbark.no). The summaries contain detailed minutes of propositions and comments given by members from the speaker's platform at the Congress and provide a direct access to the developments of the deliberations between the unions and the proposals that settle disagreements. We also included yearly reports of LO from 2000 and onwards, written by the central secretariat of LO. For our analysis, we traced how industry and climate policies in general and the question of phase-out in particular has risen on the agenda internally in LO, as well as the arguments presented by various actors in the debates.

## 4. Norwegian trade unions' policy preferences over time (2007–2018)

We make an account of the recent history of how trade unions climate policy preferences have developed. Our analysis begins in 2007 and 2008, when climate change had surged on the national political agenda (Normann, 2015), and resulted in a cross-partisan compromise on climate policy (the climate settlement) in early 2008 (Tellmann, 2012). The view held by LO at the time was that the Government should stimulate more renewable energy, and also suggested that electrification of petroleum platforms should be facilitated. Policies to restrict petroleum production were, however, not on the agenda in 2007. Rather, in the yearly reports up until then, climate and industry policies were discussed separately, with climate policy being framed as a case of 'sustainable development and a foreign policy issue'. In commenting upon the test drilling in the Barents Sea (Goliat), the yearly report of LO tellingly states that "We follow the development (...) and we try to influence the developers to establish as many jobs in the region as possible" (LO 2008, p. 52).

### 4.1. Linking climate, energy and petroleum policies

Prior to the LO Congress in 2009, early signs of climate and petroleum policy interaction surfaced in the trade unions as EL & IT

<sup>1</sup> See the Appendix for a detailed overview of the written and oral hearings used for our analysis.

(representing workers in electrical installation and ICT) submitted a proposal to the LO Congress that suggested to restrict petroleum exploration in the vulnerable areas outside the LoVeSe archipelago (Gram, 2009). The proposal was however turned down in the Congress, and LO decided instead to support an impact assessment of oil exploration in LoVeSe, arguing for the importance of oil and gas to the Norwegian economy and industrial development. Nevertheless, later in the same year, LO contributed with one representative in the Norwegian delegation to the COP in Copenhagen, where their main concern was the inclusion of ‘just transition’ into the final document (which they succeeded with). For the first time, LO this year related climate to energy in the congress document, and renewable energy was promoted as a climate friendly alternative to fossil energy, suggesting a budding awareness of ‘transition within’ in the union.

EL & IT, as a union with members in both the petroleum and the renewable energy sector, alternated between support towards greening of oil and gas and phase-out proposals. Mostly, statements focused on energy policy and the need to strengthen grid infrastructure and energy security. In a written submission on climate policy in May 2010, it also argued for electrification of offshore petroleum production as a means to reduce emissions, but did not mention the need to transition away from oil and gas. However, later in 2010, Jan Olav Andersen, then lead negotiator and later union leader for EL & IT, contributed to an opinion piece arguing for the need to transition away from oil and gas.

That same year, LO centrally also began to talk about the need for a just transition and how new, green jobs had to be created. At the same time, it continued to argue for increased petroleum exploration, in particular in the north, and was critical towards cuts in public support towards petroleum related research. While it argued that emission free solutions should be considered for new offshore installations, it simultaneously raised concerns about the consequences for the supply of electricity on-shore. In general, LO advocated gas turbines to supply power offshore, and was sceptical towards offshore electrification. Thus, to LO, a just transition did not at that time entail reduced petroleum activity. Moreover, despite the potential for green jobs in a transition towards offshore wind, there were traces of resistance towards offshore wind in 2011 due to potential conflicts with oil and gas.

#### 4.2. Growing tensions about the need of a just transition

In 2011, the Government launched a white paper on climate policy that spurred a set of responses among the unions, revealing the different views on the climate issue. The unions from the petroleum sector proposed increased petroleum activity as a response to climate change, arguing that the Norwegian petroleum industry was among the cleanest in the world. LO, however, avoided the topic altogether by making no connection between climate change and petroleum policy in its written submission. Instead, it maintained arguments for emissions cuts in other sectors such as transport, as well as public investments in CCS. However, the non-petroleum unions became more vocal on petroleum policy. In a climate policy manifesto, several unions, including EL & IT, argued for the need for a just transition. A just transition here entailed a decline of fossil fuel industries and a build-up of green industries, without such changes coming at the expense of the individual social and economic safety (Madssen, 2012). The manifesto provided few concrete suggestions (such as compensation schemes or retraining) as to how to achieve a shift away from fossil fuel investments beyond scaling up new green technologies. Yet, the manifesto provided a first taste of a conflict that would build up between the petroleum and non-petroleum unions.

The conflict reached the surface at the LO Congress in 2013, where there was a heated debate about exploration outside LoVeSe. While the LO secretariat had prepared a document that supported further impact assessment and utilization of petroleum resources in new areas – arguing that Norwegian petroleum production was cleaner than elsewhere – several non-petroleum unions proposed to preserve these areas. Their arguments emphasised, in addition to climate concerns, the fish stocks in the area and the potential loss of jobs in fisheries, thus challenging the solidarity with the petroleum unions. The final decision of the Congress nevertheless adhered to the principle of issue ownership and reconfirmed the previous support of an impact assessment of oil exploration outside LoVeSe. In the Fiscal Budget hearing towards the end of 2013, LO once more argued for the continued support towards the petroleum industry, and called for increased funding of oil and gas research and for new areas for petroleum exploration.

#### 4.3. Silenced debate as a result of the fall in oil prices

In 2014, we can still see no references to the need for a transition away from oil and gas within LO. Rather, with the dramatic fall in the oil price towards the end of 2014, the trade unions representing the petroleum industry focused on proposals that could help a supply industry in a crisis, and LO stated that the number one priority was the rising unemployment in the petroleum sector. LO made no connection between the crisis in the supply industry and a need to a transition away from oil and gas, but pointed instead to the need for improved framework conditions for the sector.

The push for policies that could sustain oil and gas activity through a difficult period continued throughout 2015 with reiterated concerns about rising unemployment in the supply industry, without any references to a potential transition to other industries. Instead, they anticipated further high petroleum activity in the future. However, there were mixed signals coming from EL & IT. The final statement from the 2015 Congress stated “we must reduce the rate of exploitation and not open new areas. We must move on to a phase where we transition to a society and an economy that is not so dependent on oil” (EL og IT, 2015, p. 67). Even though the statement included few proposals of how policy should facilitate the transfer of workers from fossil fuels to renewables through e.g. retraining, it explicitly recognised the need to scale back petroleum production and scale up green industries. However, in a statement later in 2015, EL & IT voiced concerns over layoffs in the petroleum sector, and highlighted that the activity in the oil and gas industry had to be picked up again.

#### 4.4. Towards a deeper gap between supporters of ‘transition within’ and ‘transition away from’

The emphasis on measures that would lead to increased petroleum exploration and sustained investments in oil and gas research continued in 2016. LO and Industri Energi did make references to a just transition in a shared hearing statement, and LO established a ‘Just transition office’, despite its continued emphasis on an expansion of oil and gas. However, in the hearing for the Fiscal Budget for 2017, LO’s statement represented a notable shift from the previous years’ focus on supporting the petroleum industry to a focus on renewable energy. Even though the need for a transition away from oil and gas was not mentioned directly, the focus on renewable energy and climate change represented a change from the previous years. EL & IT stood out by arguing for a just transition. However, this meant policies that could reduce emissions from petroleum production and support for new renewable energy, rather than policies that would stimulate a decline in petroleum production. Thus, in 2016, climate policy and petroleum policy were still treated as separate issues by LO and the petroleum unions, and there was not yet a strong link between the two policy issues in the EL & IT policy statements.

However, towards the end of 2016, EL & IT announced that it would suggest to the LO Congress in 2017 that “*LO should work towards permanent protection against oil exploitation in the areas outside Lofoten, Vesterålen and Senja (LoVeSe)*” (Viggen, 2016). Moreover, non-petroleum unions called for a protection of LoVeSe. This led to a major conflict between some of the largest trade unions in LO, and provoked Industri Energi and Fellesforbundet to threaten to leave LO (Budalen and Thonhaugen, 2016). It also raised the temperature within EL & IT, whose members were divided on this issue.

#### 4.5. The congress of 2017: open conflict on transition strategies

The conflict on petroleum and climate policy reached a climax at the LO Congress in May 2017. Two issues were of particular importance. First, there was an increased public recognition that reduced demand for oil and gas due to climate change would put increased pressure on the Norwegian oil and gas industry. As an example, the 2017 Government white paper on industrial policy (Meld. St. 27, 2016-2017) suggested that one solution to this challenge could be diversification from oil and gas. At the time, neither of the petroleum unions nor LO responded to this proposed solution. EL & IT, however, argued explicitly for a *transition away from* oil and gas by pointing to a need for policies that could enable a soft landing in the petroleum industry. It stated that the oil industry would not last forever, and that there was a need to accelerate the transition of the petroleum industry. A few days later, EL & IT published a statement that it would be possible to phase out, through policy, petroleum activities and that this could reduce both national and global CO<sub>2</sub> emissions (EL og IT, 2017). The statement, which referred to a report delivered to a coalition working for a Norwegian petroleum phase-out (Gran et al., 2017), focused on measures to restrict new petroleum activity combined with measures to stimulate in new industries, whilst it had little to say about measures to transfer resources (including workers) between fossil fuel and renewable industries.

At the 2017 LO Congress, the anticipation of a transition of the petroleum industry had found its way into the Congress statements: “*In order for us to cope with the transition to a climate-friendly industry, it is necessary that the state assumes responsibility beyond the facilitator role the state has had in recent years*” (LO 2017, p. 107). However, the section on ‘industry and production’ promoted further oil extraction, arguing that “*The need for long-term investments requires that the framework conditions for the industries must be predictable and stable. There must be no uncertainty about the availability of mineral resources, forest resources, and long-term access to land for exploration for our oil and gas resources*” (LO 2017, p. 114). Thus, there was still an open question as to what kind of a transition LO supported as the Congress commenced.

The second major issue was whether LoVeSe should be permanently protected. Prior to the Congress, EL & IT and the non-petroleum unions had submitted proposals for the protection of LoVeSe, arguing for a downscaling of the petroleum industry and a stronger stance on the climate issue with reference to among other things the protection of work places in the fisheries. Fellesforbundet, representing petroleum workers, in turn proposed that “*LO will work actively to maintain and further develop the oil and gas industry. The authorities must also be actively involved in this. It is a requirement that the activity should provide ripple effects and jobs on land in Norway*” (LO 2017, p. 256). Thus, jobs in different sectors were set up against each other, exemplifying the status of jobs as a salient argument in debates on transitions.

While the editorial committee of the Congress originally proposed to continue the statement from the prior Congress on an impact assessment of LoVeSe, it landed on the compromise decided by the Labour Party a few weeks before the Congress after an ad hoc proposal by Fellesforbundet. It had realized that a continued unconditional support for oil extractions in LoVeSe was improbable, and therefore sought to approach the position of those who argued against this. The compromise involved a protection of 50 km outside of LoVeSe, an impact assessment of the Nordland 6 area, and more knowledge on the other areas. This was seen as major setback for the petroleum industry.

#### 4.6. A tentative just transition on the regular agenda of LO

Towards the end of 2017 and throughout 2018, we find further evidence of divergent views on whether a transition was needed, but also different interpretations of a transition between the major trade unions. In the Fiscal Budget hearings in 2017 and 2018, the petroleum unions kept access to new areas for exploration and increased R&D funding as their priorities, and did not refer to any need to diversify or transform the petroleum industry. Moreover, in a response to a government white paper on climate strategy in 2018, neither of the petroleum unions referred to the petroleum industry or petroleum policy. EL & IT, however, announced at the very end of 2017 that it was to join the alliance called ‘The bridge to the future (Broen til fremtiden)’. The alliance called for a politically governed



‘transition away’ that would create 100 000 climate jobs and a slowing down of oil exploitation (EL og IT, 2018).

Despite a seeming lack of interest in LO for a transition away from oil and gas, the notion of a just transition has become increasingly visible in statements from LO during these years. In the hearing on climate strategy in 2018, LO raised the issue of a just transition as the first of three priorities. However, it is here noteworthy that to LO a just transition meant to “develop [utvikle]” jobs, not to “remove [avvikle]” jobs (Stortinget, 2018). In the Fiscal Budget hearing later that same year, LO pointed again to the need for a just transition. However, when asked by the Standing Committee on Energy and the Environment about the role of petroleum in a low-carbon future, LO simply responded that petroleum is important in many products. Thus, whilst LO seems to have increasingly acknowledged the need to transform the petroleum industry, its interpretation of a transition was still more in line with the needs of the petroleum unions than those of the other major trade unions.

## 5. Discussion

In the following, we sum up the main findings from our empirical narrative focussing on how the position of different unions changed in the period of our study. Generally, we observe that the sustainability transition issue reached the agenda of LO from within, notably via the non-petroleum unions. Over time, the trade unions representing workers in the oil and gas industry and in the supply industry (Industri Energi and Fellesforbundet) have consistently argued for continued policy support towards further expansion of Norwegian oil and gas production. At times when a transition has been high on the public agenda, either due to attention to climate change or reduced demand for oil and gas, these trade unions have maintained a focus on increased R&D support towards oil and gas and the opening up of new areas for exploration.

### 5.1. Incremental steps towards a transition away from fossil fuels?

Traditionally, LO’s adopted policies on energy and climate has reflected the preferences of the petroleum unions. LO has consistently prioritised the maintenance of high activity levels in the oil and gas industry. Climate policy has been reduced to an issue that can be dealt with through international agreements or through domestic measures targeting other sectors such as transport. However, over the last 10 years, we see some adjustments in LO’s approach to petroleum and climate policy. First, LO emphasised in 2016 the need to develop new green jobs to a greater extent than what we could observe in the previous years. Second, LO’s adopted policy on opening up LoVeSe for exploration changed from a clear support towards impact assessment (seen as a first step towards exploration) to a compromise that included permanent protection of some areas. Within our framework, we interpret this as a first, albeit small, example of destruction policy. In the following, we highlight two developments that explain this change within LO.

First, as mentioned in Section 3.1, national climate and petroleum policy had increasingly become a common issue area. We observe this development also in the trade unions as the notion of a just transition was increasingly adopted by several of the trade unions and by LO. As it became accepted to link petroleum policy to climate change in the public debate (Lahn, 2019), it opened up for the non-petroleum unions to challenge the principle of issue ownership in LO (Houeland et al., 2021). Even though non-petroleum unions proposed various destruction policies at the LO Congress in 2013, they kept a relatively low profile on petroleum policy until around 2016. In 2016 and 2017, these unions became more vocal on the need to develop a strategy for fossil fuel phase-out. This legitimacy for challenging the principle of issue ownership was supported by the logic that petroleum policy has an impact on the climate, which in turn affects everyone.

Second, we observe a shift in policy preferences within EL & IT over time that has challenged settled alliances in LO. EL & IT represents workers in both fossil fuel and renewable energy industries, and has met with LO’s other petroleum unions under LO’s oil and gas committee, where petroleum policy has been a central theme. In the period from 2010 until around 2016, EL & IT repeatedly supported continued petroleum exploration and other policies for sustaining oil and gas activity in Norway, even though it also issued statements in favour of a transition away from oil and gas from time to time. The Congress of EL & IT in 2015 represented a clear shift, however, when its climate policy statement argued for reduced rate of extraction of oil and gas. EL & IT then supported destruction policy proposals at the LO Congress in 2017 and it later joined the *Bridge to the future alliance*, with a clear phase-out agenda.

### 5.2. Just transition as a bridge towards deliberate decline

Our analysis shows that in a fossil fuel economy like Norway, the just transition concept has been increasingly embraced in an attempt to bridge diverging interests within the trade unions. The combination of the changes in EL & IT and the pressure from non-petroleum unions to change LO’s petroleum policy has increased the conflict between jobs and the climate within LO. One way in which LO has attempted to handle this conflict is by referring to the need for a just transition, which we see as particular visible from 2016 and onwards. Across those unions who have argued for a just transition, certain aspects of the concept are common: the state should take greater leadership; a plan for a transition needs to be developed between employers, employees, and the government; and justice for those affected by a transition is important. This return to industrial policy is in line with the *ecological modernisation* approach to a just transition.

However, beyond these commonalities, we observe clear differences between the different unions’ interpretations of a just transition. A distinction can be made between the trade unions that suggest that a just transition can be achieved by shielding existing work places and industries (a transition within) and the trade unions that argue that a just transition must include measures to phase out fossil fuel production combined with measures that protect workers (i.e. transition away from). These different interpretations have implications for the policies supported, and much of the conflict between jobs and climate remain visible despite the agreement over

the need for a just transition.

To the non-petroleum unions, and in recent years EL & IT, a just transition has meant that workers need to be protected, new jobs should be created, but certain jobs must be phased out. These unions have argued for shifting investments and R&D resources away from oil and gas, for limiting new areas for exploration, and for reduced extraction of oil and gas. Such proposals reflect a goal of *transitioning away* from oil and gas. Yet, there are also elements of a just transition that are missing, such as measures to help workers in fossil fuel industries develop new skills and competences suitable for green industries, and compensation schemes for regions negatively affected by fossil fuel decline. This shows that even among the actors advocating a fossil fuel phase-out, there is room for a more transformative interpretation of a just transition.

EL & IT has also argued for electrification of oil and gas production and for reducing emissions in the industry, which reflect a *transition within* perspective, but also the need to create new, green jobs in related industries. Such proposals overlap with some of the proposals supported by the petroleum unions, and when we look at LO's interpretation of a just transition, we can see that LO has accommodated its understanding of a just transition to the petroleum unions. When we compare with our analytical model (Fig. 1), LO has been rather selective regarding which elements it has included in its interpretation of a just transition. It has mainly supported continued support to the oil and gas industry, in particular in times of crises. LO has also proposed policies that could stimulate emissions reductions from production, which represents a transition within oil and gas, rather than away from oil and gas. Thus, despite an increased acknowledgment of the need for a transition in LO's policies, and a strong focus on just transitions, there has been little room for a *transition away* from oil and gas in LO's interpretation. In the end, this shows how it is possible for trade unions to support a just transition within the fossil fuel industry and simultaneously oppose the deliberate decline policies that are necessary for a sustainability transition.

## 6. Conclusion

We started out this paper recognising that a transition of the energy system requires both the creation of new industries and the decline of fossil fuel industries (Kivimaa and Kern, 2016). Even though Kivimaa and Kern recognise that deliberate (i.e. policy driven) decline is politically difficult, they do not go particularly far in terms of suggesting practical solutions to this problem. Trade unions are one type of actor that in most circumstances have had a preference for creation policies whilst resisting decline policies. If trade unions are to become a force for change, they also need to support deliberate decline policies. We therefore set out to analyze whether a just transition can represent a compromise that allows trade unions to propose policy measures that are sufficiently transformative but also politically feasible.

What do our findings mean for the potential of the just transitions concept to enable trade unions to become a force for change? We suggest that the concept of a just transition does hold the potential to bridge the conflict between different trade unions, and therefore also within LO. In this view, just transition appears as a concept with a unifying appeal, despite different interpretations of its content, which has spurred some signs of a shift that, if it continues, could open up for the introduction of destruction policies. The main reasons for this shift have been increased legitimacy for non-petroleum related unions to engage in petroleum policy debates and a shift within one of the larger trade unions, which has altered the balance between the pro- and anti-decline coalitions. This also shows the potential of unions to break the burden of double representation on distributional issues such as phase-out policies (cf. Mildenerger 2020).

However, our findings further show how just transition has become a blurry concept (Clarke and Lipsig-Mummé, 2020), from which we see two problematic consequences. First, it is evident that in practice the concept can be adopted without having to be concrete about the many specific measures suggested in the literature on just transitions. The lack of references to movement of workers between industries, compensation and reskilling are some examples of measures that have been missing from the Norwegian debate. Second, the concept is blurry in the way the Norwegian trade unions interpret a just transition differently, where we observe a dividing line between those that understand a just transition as a necessary change within the fossil fuel industries and those that see it as a change away from fossil fuels. When dealing with the concept of just transition, we need to be aware of these differences, their implications for policy preferences, and ultimately for a transition in fossil fuel economies. As long as there are such different understandings of the concept, the conflicts seems to persist and LO continues to resist proposals that could accelerate a fossil fuel phase-out. Our case therefore shows that much of the resistance towards the decline policies, which are needed (Leipprand and Flachslund, 2018; Rosenbloom and Rinscheid, 2020), does not necessarily disappear with the adoption of the just transition concept as long as the transition away interpretation remains dominant.

As shown in our analytical model, however, there is a space for policies that could gain broader support within the trade unions. Such policies include stimulating new, green job creation, but may also include policies that support the transfer of workers from fossil fuel to new industries. This space is rendered possible not only by the movement of positions of single unions, but also by the democratic structure of the LO Congresses which allowed unions to challenge the so-called issue ownership. However, this space needs to be expanded if the trade unions can become a force for change in a fossil fuel economy. To us, this raises questions that we believe merit further research: How have the trade unions approached crises and phase-out in the past? Do the trade unions have a tradition for supporting such reorientation policies? If so, what might it take for a broader part of the trade unions to follow this tradition also in the case of oil and gas? These are questions for future studies.

Finally, our analysis shows that just transition is an evolving concept. The concept has changed since it grew out of environmental concerns in the 1970s and 1980s, and it has changed over the last decade of the Norwegian climate and energy debate. We can see that a transition away interpretation has had a growing (albeit minor) impact on the general perception of the concept. It should in our opinion be a goal for sustainability transitions research to study further *how* a transition away interpretation can gain a stronger foothold across the trade unions and amongst other actors that have embraced the just transition concept.

In conclusion, it is vital to understand how decline policies can become politically feasible. The policy approach towards an energy transition needs to encompass measures that not only simulate the creation of new industries and the decline of fossil fuel industries, but also measures that stimulate transfer of resources and compensate losers. This is a main idea of a just transition. A greater attention to just transitions within the sustainability transitions literature more generally, and the decline literature more specifically, can be a useful remedy to solve issues of feasibility. We believe just transition as a concept has the potential to bridge an important conflict within the trade unions between jobs and climate. However, if we allow just transition to be used uncritically, the concept can also cover up the conflict of interests in a way that slows down a transition away from fossil fuels. We therefore need to maintain a nuanced understanding of the concept and recognise that there are important differences in how it is interpreted by different actors.

### Declaration of Competing Interest

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

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### Appendix. Overview of relevant written and oral hearings (2007-2019)

Year	Title	Recipient	Source type
2109	Official Norwegian Report NOU 2018:17 Klimarisiko og norsk økonomi [Climate risk and the Norwegian economy]	Ministry of Finance	Hearing
2018	State Budget 2019	The Standing Committee on Energy and the Environment	Hearing (oral)
2018	Konsesjonssøknad om anlegg for kraft frå land til Johan Sverdrup fase 2 [License application for power from land to Johan Sverdrup phase 2]	The Norwegian Water Resources and Energy Directorate	Hearing
2018	Forslag om blokker til utlysning i TFO 2018 [Proposal for areas]	Ministry of Petroleum and Energy	Hearing
2018	Klimastrategi for 2030 - norsk omstilling i europeisk samarbeid [Climate strategy for 2030 - Norwegian transition in European cooperation]	The Standing Committee on Energy and the Environment	Hearing (oral)
2017	State Budget 2018	The Standing Committee on Energy and the Environment	Hearing (oral)
2017	State Budget 2018	The Standing Committee on Business and Industry	Hearing (oral)
2017	Lov om klimamål [Law on climate targets]	The Standing Committee on Energy and the Environment	Hearing (oral)
2017	Industrimeldingen «Industrien – grønnere, smartere og mer nyskapende» [White paper on industry policy]	The Standing Committee on Trade, Industry and Fisheries	Hearing (oral)
2017	Forslag om blokker til utlysning i TFO 2017 [Proposal for areas]	Ministry of Petroleum and Energy	Hearing
2016	Forslag til klimalov [Proposal for climate law]	Ministry of Climate and Environment	Hearing
2016	State Budget 2017	The Standing Committee on Energy and the Environment	Hearing (oral)
2016	State Budget 2017	The Standing Committee on Business and Industry	Hearing (oral)
2016	Official Norwegian Report NOU 2015: 15 Sett pris på miljøet. Rapport fra grønn skattekomisjon [Put a price on the environment. Report from the Green Tax Commission]	Ministry of Finance	Hearing
2016	Energimeldingen «Kraft til endring - Energipolitikken mot 2030» [White paper on energy policy]	The Standing Committee on Energy and the Environment	Hearing (oral)
2016	Forslag om blokker til utlysning i TFO 2016 [Proposal for areas]	Ministry of Petroleum and Energy	Hearing
2015	State Budget 2016	The Standing Committee on Energy and the Environment	Hearing (oral)
2015	Forslag om blokker til utlysning i TFO 2015 [Proposal for areas]	Ministry of Petroleum and Energy	Hearing
2015	Konsesjonssøknad og konsekvensutgreiing - Etablering av overføringsanlegg for kraft frå land til Johan Sverdup-feltet [License application and impact assessment - Establishment of transmission plant for power from land to the Johan Sverdup field]	The Norwegian Water Resources and Energy Directorate	Hearing
2015	Åpen høring om Norges største industriprosjekt - utbygging og drift av Johan Sverdup-feltet med status for olje- og gassvirksomheten [Open consultation on development and operation of the Johan Sverdup field]	The Standing Committee on Energy and the Environment	Hearing (oral)
2014	Eksportløsning for olje og gass fra Johan Sverdrup feltet - Konsekvensutredning [Export solution for oil and gas from the Johan Sverdrup field - Impact assessment]	Statoil ASA	Hearing
2014	Ny hovedstrategi [New main strategy]	The Norwegian Research Council	Hearing
2014	State Budget 2015	The Standing Committee on Energy and the Environment	Hearing (oral)
2013	Havvind - Strategisk konsekvensutredning [Offshore wind - Strategic impact assessment]	Ministry of Petroleum and Energy	Hearing

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Year	Title	Recipient	Source type
2013	Konsekvensutredning i åpningsprosessen for petroleumsvirksomhet i havområdene ved Jan Mayen [Impact assessment in the opening process for petroleum activities in the sea areas off Jan Mayen]	Ministry of Petroleum and Energy	Hearing
2013	State Budget 2014	The Standing Committee on Energy and the Environment	Hearing (oral)
2012	Forslag om blokker til utlysning i TFO 2012 [Proposal for areas]	Ministry of Petroleum and Energy	Hearing
2012	Official Norwegian Report NOU 2012:9 Energiutredningen - verdiskaping, forsyningsikkerhet og miljø [The energy investigation]	Ministry of Petroleum and Energy	Hearing
2012	Norsk klimapolitikk (Meld St 21) [White paper on climate policy]	The Standing Committee on Energy and the Environment	Hearing (oral)
2012	Forslag til program for konsekvensutredning etter petroleumsloven for det tidligere omstridte området vest for avgrensningsslinjen i Barentshavet sør [Proposal for impact assessment following the Petroleum Act for the previously disputed area west of the boundary line in the Barents Sea]	Ministry of Petroleum and Energy	Hearing
2011	Forslag om blokker til utlysning i TFO 2011 [Proposal for areas]	Ministry of Petroleum and Energy	Hearing
2011	State Budget 2012	The Standing Committee on Energy and the Environment	Hearing (oral)
2011	Official Norwegian Report NOU 2010:10 Tilpassing til eit klima i endring [Adaptation to a changing climate]	Ministry of Climate and Environment	Hearing
2011	Forslag til utredningsområder for havvind [Proposal for offshore wind areas]	Ministry of Petroleum and Energy	Hearing
2010	Økt utvinning på norsk kontinentalsokkel [Increased recovery on the Norwegian continental shelf]	Ministry of Petroleum and Energy	Hearing
2010	Klimakur 2020 (report)	Ministry of Climate and Environment	Hearing
2010	Forslag om blokker til utlysning i 21. konsesjonsrunde	Ministry of Petroleum and Energy	Hearing
2009	Official Norwegian Report NOU 2009:16 Globale miljøutfordringer - norsk politikk [Global environmental challenges – Norwegian policies]	Ministry of Finance	Hearing
2007	Utkast til forskrift om støtteordning for produksjon av elektrisk energi fra fornybare energikilder [Draft regulations on support schemes for the production of electricity from renewable energy sources]	Ministry of Petroleum and Energy	Hearing
2007	Utkast til Norges strategi for bærekraftig utvikling [Draft proposal for Norway's strategy for sustainable development]	Ministry of Finance	Hearing
2007	Utkast til endring av lov om kvoteplikt og handel med kvoter for utslipp av klimagasser (klimakvotelovent) [Draft amendment to the Act on quota obligations and trade in quotas for greenhouse gas emissions]	Ministry of Climate and Environment	Hearing
2007	Official Norwegian Report NOU 2006:18 Et klimavennlig Norge [A climate friendly Norway]	Ministry of Climate and Environment	Hearing

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.eist.2021.09.007](https://doi.org/10.1016/j.eist.2021.09.007).

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