

# **No Race for the Arctic? Examination of Interconnections between Legal Regimes for Offshore Petroleum Licensing and Level of Industry Activity**

## **Highlights**

- Arctic holds large deposits of offshore petroleum resources.
- Access to such resources is determined by many factors including States' licensing regimes.
- Such regimes can be characterised on a spectrum from 'stringent' to 'lenient'.
- The licensing regime is found to be insignificant for the level of industry interest in the Arctic.
- Other factors such as environmental laws, location, and infrastructure might play a bigger role.

## **Abstract**

*Despite the expectation of potentially vast petroleum resources in the offshore Arctic over the last decade, actual exploration and production rates are rather low. As of today, there are only two producing oil fields and one natural gas field in production. While technical challenges and a low oil price are among the explaining factors, the legal regimes for awarding licenses in Arctic waters may have a significant impact on industry interest as well. Offshore licensing regimes in Arctic countries range from State-centric in Russia to market-based in the United States. Further, some States developed additional requirements for companies wishing to operate in the Arctic waters. This paper examines the interconnections between the legal regimes for offshore licenses and the rates of industry activity in petroleum development in Arctic waters. It does so by devising an analytical comparative framework for the licensing regimes across five Arctic States. The results are then analysed in the context of actual exploration and production rates in Arctic waters. The analysis sheds light on the role*

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*of licensing regimes on the level of industry interest and corresponding exploration and production rates.*

Key words: Arctic, oil, gas, petroleum licenses, offshore petroleum, legal regimes

## **1. Introduction**

Arctic petroleum<sup>2</sup> resources are an important issue on the Arctic discussion agenda ever since the receding sea ice has sparked hopes and fears about accessing thus far undiscovered resources in Arctic offshore areas (see *eg* [1-3, 93]). The expectation of potentially vast resources in the Arctic, however, did not lead to a wide industry uptake of offshore petroleum exploration and production activities. To date, there are three producing petroleum fields in Arctic waters: one in Russia and two in Norway. Commentators have explored a number of factors that could explain the lack of industry interest [26, 27]. The low oil price since late 2014 has indeed led many companies to announce and forecast slowed or even halted exploration and production activities [4]. However, the oil price is all but one factor in determining the pace and extent of petroleum exploration and production. There is a number of factors significantly affecting industry interest and the pace of exploration and production. Among the most influential are geography, geology, environmental regulations, political climate, availability of infrastructure, and past history of petroleum development in different parts of the Arctic. These have been explored by scholars [5, 28-30, 89], but are constantly evolving and warrant further research. A crucial and

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<sup>2</sup> Throughout the paper the word ‘petroleum’ is used as a collective term for hydrocarbons and includes both oil and gas, in line with the definition of the Norwegian Petroleum Directorate accessible at <http://www.npd.no/en/About-us/Information-services/Dictionary/>.

thus far overlooked aspect is the nature of the licensing regimes in different countries and how they might affect the level of petroleum activities. This paper builds on existing research in energy law and policy [118-120] to examine the interconnections between upstream petroleum regulation, State policies, and offshore exploration and production activities in Arctic States. Scholars have examined in-depth both the legal character of petroleum licenses [13, 41] and licensing regimes in various States [41; 12]. The analysis of licensing regimes in the Arctic, however, has been presented in a rather fragmented manner in scholarly work. The licensing regimes of separate Arctic States are considered in volumes edited by Hunter [12] and Daintith [41]. Other authors look at licensing in passing when considering offshore legal regime more generally. Pelaudeix compares legal regimes for offshore drilling across Canada, Greenland, and Norway, considering the financial liability for oil spills, taxation, environmental assessment, and public consultation requirements. She further analyses the reasons behind the adopted legal regimes, which she sees in the value of resources to each State as reflected in their energy policies [28]. Bankes conducted a comparative analysis of the legal frameworks for offshore petroleum development in Canada, Norway, Russia, and the US with a brief discussion on the award of licenses and associated requirements [29]. A detailed overview of offshore development in the Arctic, including licenses, is presented by Henderson and Loe [30].

Despite the breadth of literature on the subject, there is a lack of a comprehensive up-to-date comparative study on the licensing regimes across all five Arctic coastal States. Further, no previous study attempted to test the relationship between the licensing regimes and the level of industry activity in the Arctic.

Another telling puzzle is that over the years we can observe very different responses to licensing rounds issued by Arctic states. While in some rounds, especially in

Norway, we observe a high response rate from energy companies, other regions have seen very few or even no bids coming in response to licensing rounds [6] or even their outright cancellation [7].

This article thus analyses the licensing regimes of the five Arctic coastal states in relation to their Arctic offshore petroleum resources, *ie* including Canada, Denmark (Greenland), Norway, Russia, and the US, as a possible additional factor influencing the pace and extent of Arctic petroleum activities. The core research question of the article is: Is there a connection between the level of offshore petroleum activities in the respective States and the licensing regime? The according hypothesis is: A stricter licensing regime means less petroleum activity in offshore Arctic areas, while a more lenient licensing regime means more activity.

After an overview of petroleum licensing regimes (section 2), the analytical framework outlines the relevant factors for characterising a licensing regime as strict or lenient (section 3). The following country analysis (section 4) presents the licensing regimes of the five Arctic coastal states analysed in this paper. These findings are then juxtaposed with an overview of the level of petroleum activity in the five Arctic states since the 1960s with a particular focus on post-2008 activities<sup>3</sup>, allowing the testing of the hypothesis if countries with relatively lenient license regimes show high petroleum exploration and production activity and countries with stricter regimes show less activity (section 5). Section 6 concludes and suggests other factors for explaining levels of petroleum activity.

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<sup>3</sup> During the 1950s and 60s the first large Arctic oil and gas fields have been discovered in Russia, Alaska, and Canada [9, p. 14-16]. In 2008, the US Geological Survey published a report that estimates that up to 22% of the world's undiscovered oil and gas may be located in the Arctic [78].

## **2. Overview: Petroleum licensing regimes**

The right of States to grant licenses for the exploration and production of petroleum resources to companies stems from the notion of State sovereignty over their natural resources [10]. The UN Convention on the Law of the Sea confirms the sovereign rights of States ‘for the purpose of exploring [...] and exploiting [...] natural resources’ within their Exclusive Economic Zones and on their continental shelves [11, art. 56, 77, Part VI]. Petroleum regulatory systems can be divided into contractual, and licensing and concession systems [12, p. 37]. Contractual systems include risk service and petroleum sharing contracts and are used almost exclusively in developing and emerging nations [12, p. 37-40] (but see section 4.4 on the use of Production Sharing Agreements in Russia).

Licensing is

the identification by government of potential (upstream) petroleum investment opportunities in the national territory, their subdivision into discrete contract areas of prospective size, their offering to international oil companies by a suitable tendering process and the establishment and negotiation of technical, financial and contractual terms and conditions (for award) consistent with their petroleum prospectivity and with the national interest [13, p. xxii].

The legal nature of petroleum licenses is not definite and regulatory frameworks for awarding petroleum licenses have undergone considerable changes representing shifting priorities of States holding oil and gas resources [28]. While some highlight the elements of the contractual character of licenses, others emphasize their regulatory features [14-16]. Indeed, like other activities subject to licensing (*eg* driving or gun ownership), petroleum exploration and development is potentially hazardous and might interfere with other important maritime activities, such as navigation or

fisheries. Licenses do not merely give permission to conduct exploration or production but also set out conditions and rules. Licensing further contributes to State revenue collection; however, for oil and gas activities the licensing itself is a less important income generator than the tax on the production and the resulting profits [16, p. 54; 17].

The national authority responsible for license awards varies among States. In some, there is a designated agency responsible for awarding petroleum licenses (*eg* Norwegian Petroleum Directorate in Norway), while in others this is done through the ministry of natural resources or other ministries (*eg* Ministry of Indian Affairs and Northern Development in Canada). Since the *Deepwater Horizon* blowout, the functions of awarding petroleum licenses, revenue collection, and overseeing the enforcement of health and safety regulations are increasingly performed by separate agencies to ensure the independence and avoid conflict of interests. In federal States, the federation units often retain authority to oversee offshore petroleum licensing regimes, while in some this may be restricted to certain offshore areas (*eg* in the US).

The award of licenses is usually done in four steps:

- 1) Identification of areas and division into blocks

The identification of areas to be opened for petroleum activities is usually done by States. The areas are then divided into smaller blocks, which are offered to companies. Licensing blocks vary in size and are nominated either by companies or by the State itself [20, sec. 3-1; 21, sec. 14-2].

- 2) Announcement of licensing round

Licensing rounds, as a rule, are announced publicly, specifying the areas and criteria for applicants' selection. Licensing rounds can be held on a regular or on an *ad hoc* basis [15, p. 78].

### 3) Evaluation of applications

There are two main ways of selecting applicants: by bid (auction) and discretionary [12, p. 46; 22]. Under the bidding method, the licenses are awarded through auctions to the highest bidder. The bids can be in form of cash or a work programme in which case the license 'is awarded to the applicant that bids to spend the highest amount of work, in dollar terms, on exploration for petroleum' [12, p. 46] in the defined area. Bidding is an efficient way to avoid corruption through a transparent and open process and maximise State profits. However, where the geological properties of the area offered are not fully known, the interest from prospective licensees might be low resulting in only few or no bids at all. The discretionary method allows the competent authorities to select the licensees based on criteria they develop, such as technical competence and financial capacity [23, sec. 10]. In some States, licenses may be awarded exclusively to national oil companies (see section 4.4). In contrast, other jurisdictions, *eg* those subject to European Union law, require equal treatment of national and foreign companies.

### 4) Award of licenses

Licenses for offshore petroleum activities are usually divided into exploration (EL) and production (PL) licenses. In some jurisdictions, other types of licenses are introduced to maximise recovery from a petroleum province, encourage industry to exploit resources in new, un(der)explored areas, or incentivise production in locations with challenging conditions [24]. Exploration and production licenses are awarded for

a defined amount of time, usually with the possibility for extension subject to the approval of the respective authority.

Licenses outline duties and rights of licensees. They further specify conditions under which licenses may be revoked. Whereas the licensing conditions are generally the same for all offshore areas of a State [25], some features of the licensing framework may have different implications for petroleum development in Arctic waters.

### **3. Analytical framework**

As licensing regimes are part of national legislation, there are crucial differences but also striking similarities between Arctic States' approaches to licensing [25]. To determine whether the level of industry interest in offshore Arctic petroleum depends on the type of licensing regime, this paper relies on the hypotheses that there are features of a licensing regime that petroleum companies, *ie* the applicants for petroleum licenses, might generally favour and others which they might interpret as more restricting for the achievement of their goals. Based on the information about licensing regimes as outlined in section 2, this enables us to establish indicators for 'strict' and 'lenient' licensing regimes from the perspective of the petroleum industry, which in turn – according to our hypothesis – could be an indicator for the likelihood and extent of petroleum activities in the offshore Arctic.

A first indicator is the specific award method. Generally, the bidding method can be interpreted as a preferable license method for companies in contrast to the discretionary model since the open and transparent auction procedure provides them with more leeway and influence on the outcome of the licensing process. Further, a



more complex award method requires many pre-qualifications or eligibility requirements for those companies, which can obtain licenses.

A further indicator is related to the number of authorities involved in the licensing process, with several levels (*eg* at federal and state level) and institutions engaged in the licensing process indicating a more complicated licensing regime for companies.

An indicator for a lenient licensing regime is the possibility for companies to nominate blocks themselves as this provides them with an opportunity to directly influence the content of the license on offer. Further, companies are likely to prefer frequent and regular license rounds since this provides them with opportunities to get engaged in more offshore projects and in planning their production and revenue base for the future. Companies also favour calls for license applications on demand, since this gives them the possibility to influence the timing of licensing issuance.

Finally, companies favour long duration times of licenses, which gives them more planning leeway in the offshore petroleum sector, which is usually plagued with large uncertainties as to the amount and quality of resources that can actually be developed. In the Arctic, this is especially relevant due to very short ice-free drilling seasons and the possibility of facing litigation from environmental groups. Accordingly, companies also favour the possibility to extend and adjust licenses and thus to postpone investment and development requirements. Related to this, companies favour only a few conditions set by States in order to be able to achieve the retention of an expiring license.

A number of requirements linked to the issuing of a license induce more costs on the side of petroleum companies, such as various kinds of fees. Some States also impose a duty to conduct obligatory works on the license holders, such as to conduct a certain

coverage of seismic studies, local content, or drilling of a certain number of wells by a certain date. Finally, companies prefer to be granted so-called exclusive licences, which give them the exclusive right to exercise the rights conferred in the license, while non-exclusive licenses also allow other parties to be active in the respective area.

Table 1: Indicators for “strict” and “lenient” licensing regime

<b>Indicator</b>	<b>Strict</b>	<b>Lenient</b>
Award method	Discretionary	Bidding/Auction
Prequalification/Eligibility requirements	Many and/or difficult to meet	Minimal to none
Authorities involved	Several institutional scales involved, many authorities	One institutional scale involved, one or few authorities
Nomination of blocks by companies	Not possible	Possible
Frequency of issuance and regularity	Seldom, irregular/ad hoc	Often, regular, on demand
Duration, extension, adjustment	Shorter duration, strict requirements for extension, adjustment not possible	Longer duration, easy to extend, adjustment possible
Fees	Apply	Do not apply
Duties under the license	Obligatory works	No obligatory works
Exclusivity of licenses	Non-exclusive	Exclusive

## **4. Country analysis**

### **4.1 Canada**

The management of Canadian Arctic offshore oil and gas resources is mainly exercised under federal statutes and regulations: the Canada Petroleum Resources Act (CPRA) [33] regulates the allocation of rights for resources and collection of royalties.

Canada adopts the bidding method for awarding Exploration Licenses [35]. The Minister of Aboriginal Affairs and Northern Development announces calls for bids and issues Exploration, Significant Discovery, and Production Licenses [33, sec. 13(1), 14]. The calls for bids take into account requests by the industry and remain open for at least 120 days [33, sec. 14]. Canadian legislation does not set any pre-qualification requirements for bidders.

In 2016, then-US President Obama and Canadian Prime Minister Trudeau issued a joint statement calling for a moratorium on new licenses for the Arctic offshore [8]. The Canadian authorities are implementing the moratorium and no call for bids was announced in 2016 or 2017 in Canadian Arctic waters. The moratorium in Canada is to be ‘tested every five years by a science-based, life-cycle assessment, taking into account marine and climate change science’ [45]. President Trump overturned the ban in April 2017 [92].

There are three types of licenses: EL, PL, and Significant Discovery License (SDL). An EL is granted for a nine-year term [33, sec. 26(2), 27(1)-(3)]. The SDL, a special feature of the Canadian petroleum regime, allows the operator to not engage in production activities immediately after the discovery of a significant petroleum

deposit but to hold on to the exclusive rights to apply for a PL in the future. The Minister reserves a right to request that the license holder drills a well in any SDL area [33, sec. 33]. There can be conditions precluding such immediate production such as low oil or gas prices, infrastructure investment, or lack of technology. In the Arctic, these difficulties are especially pronounced. A SDL grants rights identical to those under the EL and is valid for an indefinite term as long as the Declaration of Significant Discovery issued by the NEB remains in force [33, sec. 29, 32(3)]. PLs are granted by the NEB and are valid for 25 years [33, sec. 35, 38, 41(1)].

ELs are non-renewable and non-extendable unless the drilling has commenced and has not been completed before the expiration date or if the EL is on ‘frontier lands’, including Canada’s continental shelf [33, sec. 26(2, 5), 27(1-3)]. PLs can be extended if ‘on the expiration of the term of a production licence, petroleum is being produced commercially’ [33, sec. 41(3)].

License holders are obliged to pay forfeitures (successful bidders are required to post 25% of the work proposal bid as security against the performance of work), refundable and non-refundable rentals, and fees [45]. The amount is decided by the Minister pursuant to sec. 24(1) of the CPRA. The work deposit is refundable against expenditures. Rental payments have been on the decline in the past five years, with 53,195 CAD profit for the government in 2012 and under a 1,000 CAD in 2015 and 2016 [45]. In 2016, the revenue from issuance fees and fees for service was 2,708 CAD [45].

An EL grants the non-exclusive right to explore for petroleum and exclusive rights to drill and to obtain a PL [33, sec. 22]. A PL confers upon the licensee exclusive rights

to drill for and produce petroleum and the title to such produced petroleum [33, sec. 37].

Despite the current moratorium on new licenses in the Canadian Arctic waters, the long-term policy outlook prioritises the exercise of sovereignty and promotion of Northern economic development, and petroleum exploration and production activities have been identified as appropriate means to achieve this goal.

#### **4.2 Greenland (Denmark)**

Following the adoption of the 2009 Act on Greenland Self-Government, the powers to administer rights over offshore petroleum resources in Greenland were devolved to Nuuk. For Greenland, extracting natural resources is a substantial part of its strive towards even further independence from Denmark [46]. The management of petroleum development is regulated by the Greenland Mineral Resources Act (GMRA) [47].

Under the auspices of the Ministry of Mineral Resources, the Mineral Licence and Safety Authority is responsible both for issuing licenses and safety matters. Greenland's Oil and Mineral Strategy indicates that the goal of the country's licence strategy for oil and gas is to 'cultivate and maintain industry interest in oil exploration activities in Greenland' [48, p. 9].

The Greenland Government uses a discretionary method to award licenses based on the applicants' previous experience, financial background, work programme, and safety systems [47, sec. 24]. The GMRA requires that only limited liability companies with a registered office in Greenland and appropriate loan capital may obtain a license [47, sec. 16].

Licenses are awarded through licensing rounds, while allowing companies to make applications outside these rounds (*eg* where the application is made for an area neighbouring an existing license) [47, sec. 23]. The latest round was held in December 2017 and no bids were received. The Government attributed the absence of interest to the ‘global recession within the exploration industry’ [49].

The following types of licenses can be granted: Prospecting, Exploration, and Exploitation license. The Prospecting license is issued for up to five years; Exploration and Exploitation Licenses are granted for up to ten years or, if special circumstances exist, for up to 16 years [47, sec. 15, 22]. Where commercially exploitable deposits are discovered, the license may be extended with production rights for 30 years [47, sec. 22]. An Exploration and Exploitation License may be extended with a view to exploration by up to three years at a time. Any further extensions remain at the discretion of the Government but the total period cannot exceed 50 years [47, sec. 16, 22, 25]. The Exploration and Exploitation licenses are exclusive while Prospecting licenses are not [47, sec. 15, 16].

For the Prospecting license, the fee payable on the granting of the license is adjusted annually. As of 1 January 2017, it amounted to the equivalent of 3,921 USD [52]. For the Exploration and Exploitation License, GMRA required a fee for granting a license and an area fee [47, sec. 16, 17]. The model license for 2017 indicated a license fee equivalent of 34,024 USD [53, 54]. The same amount is payable on each extension of the license. Although the GMRA states that the area fee is calculated on the basis of the size of the area covered by the license, the model license indicates the amount equivalent of 162,050 USD ‘regardless of the size of the area’. The costs are higher compared to other States, but exemptions may be granted at the discretion of the Government [47, sec. 17].

Under an Exploration license, work commitments can be established and the area of the license can be reduced in accordance with the fulfilment of such commitments [47, sec. 16]. Further, the license might require the use of local labour and services unless such labour is not available or companies are not commercially or technically competitive [47, sec. 18].

Despite the lack of interest in the latest licensing round, the Greenlandic resource development policy indicates interest to open new areas in an effort to attract private investment in oil exploration [48]. The licensing framework appears to be straightforward and lenient, which supports the Government's resource development ambitions. The lack of industry interest may be attributed to other factors, such as the failures in previous exploration activities [50], remote location, and scarce infrastructure [51].

### **4.3 Norway**

The oil and gas industry is 'the largest contributor to the Norwegian economy' [55, p. 20] and Arctic waters are increasingly in the focus for exploration given the maturing of fields in the Norwegian and North Seas. The government expects that 43% of the undiscovered oil and gas resources on the Norwegian continental shelf are located in the Barents Sea [55, p. 6-7].

The main legal basis for oil and gas development in Norway is the Petroleum Act [20] supplemented by the Petroleum Regulations [23]. It outlines the conditions of granting licenses, production of petroleum, liability for pollution damage, safety requirements, and the management of the State's participation in petroleum activities.

In Norway, licenses are awarded at discretion based on ‘factual and objective criteria’ [23, sec. 4-5] including technical competence, financial capacity, the applicant’s exploration and production plan, and previous experience [23, sec. 10]. The Norwegian system assigns licenses to groups of companies [59, p. 368; 60]. Each participant gets a license share and is required to enter into a joint operating agreement (JOA) [61]. The State participates in such joint ventures through Statoil, in which the Norwegian State retains 67% of the shares [62, p. 110-111], and Petoro, which is wholly owned by the State [20, sec. 3-6; 23, sec. 12, 64].

The Ministry of Petroleum and Energy (MPE) is responsible for the Norwegian petroleum sector as a whole. Subordinate to it, the Norwegian Petroleum Directorate *inter alia* exercises authority over petroleum development, issues relevant regulations, and collects fees from the petroleum industry.

An annual system of so-called ‘Awards in Predefined Areas (APA)’ was established in 2003, covering mature parts of the Norwegian continental shelf [65], which today constitute almost the entire North Sea and some areas in the Norwegian and Barents Seas [66]. So-called ‘frontier areas’ – large areas of the Barents Sea that are less explored and with fewer infrastructure in place [66] – are subject to ordinary concession rounds. These have been held since 1965 and in recent years usually every second year. The rules under the APA and the frontier areas system differ predominantly in the stages before licensing rounds are announced. For example, companies can nominate a limited number of blocks to be included in new frontier areas licensing rounds but not for mature blocks [71; 66]. Final decisions on whether to open new areas for licensing lie with the Norwegian Parliament [20 sec. 3; 23 sec. 6d].



After an area is open, the MPE may grant an EL ‘for a period of three calendar years unless another period of time is stipulated’ [20, sec. 2-1]. A PL is granted for up to ten years [20, sec. 3-9]. In case a company has fulfilled the work obligation in relation to the area covered by the PL, it may apply for an extension for up to 50 years, or even further under certain circumstances [20, sec. 3-9]. On the other hand, the MPE may also decide that exploration drilling or development of a deposit shall be postponed or even that the license shall be revoked [see *eg* 20, sec. 4-5, 3-13]. Within the timeframe of the PL and with a three months’ notice, the licensee may relinquish parts of the area covered by the production license or even surrender the PL in its entirety [20, sec. 3-14, 3-15].

Licensees must pay a fee for filing an application for a license [23, sec. 9]; in 2017 the fee was set at 123,000 NOK [67]. For an EL, companies have to pay 65,000 NOK per year and for every seismic survey planned a fee of 33,000 NOK is charged [23, sec. 5, 9]. For a PL, companies pay an annual ‘area fee’, which is calculated per square kilometre of the area covered [66; 72]. However, companies may apply for exemptions, *eg* if the area is actively explored, production is taking place, or a company is following the mandatory work programme [66; 73].

Work obligations may be imposed such as ‘exploration and exploration drilling of a certain number of wells down to specified depths or geological formations’, to be specified for each individual PL [20, sec. 3-8].

An EL grants the licensee the non-exclusive right to explore for petroleum and does not provide any preferential right for a PL [20, sec. 2-1]. A PL entails an exclusive right to exploration, exploration drilling, and production of petroleum in the license area [20, sec. 3-3, 3-9].

#### **4.4. Russia**

Upstream petroleum regulation in the Russian offshore area is heavily controlled by the State [74; 34]. The main legislative basis for rights management in offshore petroleum is the Subsoil Law [74]. It establishes the conditions for granting, transferring, and terminating licenses; State oversight; and payable fees [74, art. 6, 12].

Sites on the continental shelf are subject to exclusive federal regulation [74, art. 2.1]. While Russian petroleum legislation gives preference to the auction method [74, art. 10, 13.1], the licenses for developing offshore Arctic resources are awarded using the discretionary method [74, art. 10.1(1); 75, art. 7; 79]. For the Arctic offshore, there are no licensing rounds as such, and issuances of licenses are made at the discretion of the Government. The (few) qualified companies that can operate in the Arctic offshore can apply for licenses in particular areas [79].

The State governs offshore petroleum production through the Ministry of Energy (Minenergo), which administers the energy sector as a whole; and the Ministry of Natural Resources and Ecology (Minprirody), which oversees the licensing regime for petroleum production through the Federal Agency on Subsoil Use (Rosnedra) [80]. Rosnedra is responsible for the issuance and registration of licenses and the establishment of regular payment rates for the use of the block [80, art. 5.3.8, 5.3.12, 5.3.2].

Since 2009, Russian law imposes restrictions on awarding licenses for development on the continental shelf limiting foreign companies' participation in upstream activities. The Subsoil Law requires that license holders on continental shelf blocks are legal entities with an experience of operating on the Russian continental shelf of at

least five years, and with a share owned by the Russian State of no less than 50% [74, art. 9]. Thus, the only companies eligible to hold licenses in the Russian Arctic offshore are Gazprom and Rosneft' and their subsidiaries. The five-year experience requirement also precludes special purpose companies incorporated by foreign companies in partnership with Gazprom and Rosneft', as the newly formed company will not have the experience. The law does not explain whether the mother-companies' experience would count. Russian experts conclude that it would not [82, p. 43]. Such special purpose companies created with foreign partners can operate the field but not hold the license. This model has been used in the Russian Arctic by Eni and ExxonMobil to partner with Rosneft' for exploration operations in the Barents and Kara Seas [83].

Another form of foreign companies' participation in the Russian Arctic offshore development is through a Production Sharing Agreement (PSA) [85]. The PSA is different from the Norwegian JOA in that the State is a necessary party to the agreement [85, art. 3.1]. Investors carry all the risks, cover all the expenses, and get a share of the produced petroleum in return [85, art. 2.1, 8]. PSAs are currently not widely used by companies [81, p. 320]; all three of the existing PSAs were concluded prior to the adoption of the PSA Law (Sakhalin- I, Sakhalin –II, and Kharyaga. [86, p. 157]).

Russian law distinguishes between Exploration, Production, and Combined Licenses [84, art. 6], the latter including several types of subsoil use (*eg* exploration and production) [84, art. 6]. ELs on the continental shelf are awarded for up to ten years [74, art. 10]. PLs are awarded for as long as defined in the feasibility study for the development of minerals [74, art. 10].

The Subsoil Law regulates fees and payments, including one-off payments (*eg* for changing the boundaries of the license area) and regular payments [87, 74, art. 39]. The regular payments are collected for activities such as geological prospecting and construction of certain structures [74, art. 43]. Their size depends on the geographical and economic conditions, size of the license area, type of the resource, risk, and other factors [88]. The subsidies provided by the Russian State to petroleum development in Arctic waters are significant and include government investment in exploration, infrastructure development, and tax breaks [89, p. 1].

Licenses can contain information on the agreed volume of produced petroleum [74, art. 12]. Further, the license holder has a number of standard obligations, such as adhering to the environmental and safety legislation [74, art. 22]. Any resource development activities within the license area are reserved exclusively for the license holder. However, if activities are restricted to non-invasive prospecting, the Government may grant permissions for such activities to more than one company [74, art. 7].

In September 2016, the Russian Government announced a temporary moratorium on issuing new licenses on the Arctic shelf, citing the macroeconomic instability and the significant workload for State companies on the fields already in development [90].

The depleting resources onshore push the Russian industry north and offshore to maintain its leading position as a petroleum exporter. Yet, the technological expertise of Russian companies and the infrastructure in the Russian North are limited. Although Russia was the first country to start producing oil in the Arctic offshore in 2014 (from the Prirazlomnoe field), development has proven to be more costly and time-consuming than expected [89]. Although private companies press for the

liberalisation of the offshore legal regime so as to grant them access to the continental shelf, changes are not expected in the near future [91, p. 5-6].

#### **4.5 US**

According to the 1953 Submerged Lands Act, US states have rights to the natural resources of submerged lands from the coastline to no more than three nautical miles (§1312). Therefore, federal laws apply on the Alaska Outer Continental Shelf (OCS). The licensing regime (referred to as leasing in the US) is regulated by the Outer Continental Shelf Lands Act (OCSLA) [94; 32], which determines a four-stage leasing process: (1) a five-year plan, (2) preleasing activities and lease sale, (3) exploration, and (4) development and production [95; 96 p. 5]. While literature offers comprehensive accounts of US offshore petroleum regime [31, 32], this section focuses exclusively on licensing.

The US uses a bidding system for lease sales [94, 1337(a)]. There are three main authorities involved in regulating activities on the Alaska OCS. The Bureau of Ocean Energy Management (BOEM) oversees rights management; the Bureau of Safety and Environment Enforcement is responsible for health, safety, and environmental regulation; and the Office of Natural Resource Revenue manages fees and royalties collection.

Before acceptance of any bid, the OCSLA allows an antitrust review of proposed lease sales. If it is found that a proposed lease sale is inconsistent with antitrust law, the Secretary of the Interior may refuse to issue the lease or refuse bids for the lease [94, 1337(c)]. Further, a company may not submit a bid if it is not meeting due diligence requirements on leases it already has [94, 1337(d)]. The Code of Federal

Regulations sets qualification requirements for potential lessees concerning nationality and company registration in the US [97, 30 CFR 256.35].

The actual lease process starts with BOEM publishing a call for information and nominations regarding potential lease areas and it ‘may receive and consider indications of interest in areas for mineral leasing’ [95; 96, p. 10; 97, 30 CFR 556.23, 556.25]. State or local government representatives ‘may submit recommendations to the Secretary regarding the size, timing, or location of a proposed lease sale’ [94, 1345(a)]. Further, the law hints at the possibility for companies to be involved in the nomination of license blocs [94, 1344(a, 2, E)].

The Secretary of the Interior schedules and maintains the leasing program, which takes into account the national energy needs for a five-year period [94, 1344(a)]. The management of the OCS must consider economic, social, and environmental conditions and concerns [94, 1344(a)(1)] but scheduling of lease sales is otherwise left to the discretion of the Secretary.

A lease is granted for an initial period of up to five years. This may be extended to ten years if ‘necessary to encourage exploration and development’ in areas with adverse conditions [94, 1347(b)(2)], which applies to Arctic offshore areas. The production period can last indefinitely as long as ‘oil or gas is produced from the area in paying quantities’ [94, 1337(b)(2)]. This does not mean that the production must be profitable, rather it must ‘exceed only day-to-day costs of well operations’ [104, p. 167]. Concerning postponements and adjustments, lessees may request an approval of suspension for all or parts of a lease. Suspension can either refer to a postponement of the requirement to produce (Suspension of Production (SOP)) or of conducting leaseholding operations (Suspension of Operations (SOO)) [30 CFR 250.168].

Successful lessees must deliver various up-front and performance payments [94, 1337(a)(7); 97, 30 CFR 556.52-556.59]. Rental payments and other financial commitments are decided on a sale-by-sale basis [103, p. 10-19]. Lessees may have work or other commitments, such as ‘prompt and efficient exploration, development, and production’ [94, 1334 (a)]. Further, companies must sell 20% of produced resources to small or independent refiners [94, 1337(b)(7)]. Finally, lessees have to provide for the suspension or cancellation of a lease if certain circumstances occur [94, 1337(b)(5), 1334]. According to the OCSLA, an oil and gas lease ‘shall entitle the lessee to explore, develop, and produce the oil and gas contained within the lease area’ [94, 1337(b)(4)], hinting at the exclusive character of the license.

## **5. Analysis**

The findings from the analysis of the five Arctic States’ licensing regimes are summarised in Table 2. Concerning award method, the US and Canada provide the most favourable system for companies, while Greenland, Norway, and Russia use the more stringent discretionary model. The US has the highest number of authorities involved (three) in the licensing process, which is further complicated by the necessity to involve affected US-States. In Greenland, only one government agency is engaged, while in Canada, Norway, and Russia the process is administered by two authorities.

All five States apply eligibility requirements for companies to be able to apply for licenses, but these are different across States. Canada and the US only require few and relatively easy to fulfil pre-qualifications, while in Greenland and Norway the eligibility standards are quite demanding. Russia is an obvious outlier; access to

license ownership in Russian Arctic waters is restricted to companies with a majority State ownership and over five years of operating experience on the Russian continental shelf.

In Canada and Greenland, licensing rounds are held on demand. Norway applies regular and frequent licensing rounds, while Russia and the US show less favourable criteria. Issuing of licenses in Russia is left to the discretion of the Government, and together with the very limiting eligibility criteria for the Arctic offshore make for unfavourable conditions for all foreign and many Russian companies. In the US, license sales are part of five-year plans, and the State keeps significant discretion as to the frequency of lease sales. All States allow (at least *de facto*) the nomination of potential license blocs by companies; only Norway prohibits this for mature blocks.

The five States provide exploration durations between three and ten years; the relatively short three-year period in Norway is not set in stone and other time periods may be stipulated. Concerning production/exploitation licenses, all five States appear to be flexible on license term extensions as long as drilling operations and/or petroleum production is continuing (only Greenland sets a (albeit generous) time limit at 50 years). Canada, Greenland, and the US allow requests for extension/suspension of licenses, but the US practice has shown that companies may have their request denied [101, 102]. Norway, in contrast, only provides the possibility to relinquish parts of or an entire PL. The Canadian SDL further allows companies to delay production activities once the discovery has been made.

All States require licensees to pay various kinds of fees. In Greenland and Norway, however, basically all fees may be waived under certain circumstances and most of the fees and payments in Canada are refundable. Russian law does not prescribe



refund of payments, but the final amounts are specified in the license itself. In the US, the required up-front and performance payments are substantial and quite a burden to companies. Another common practice is the possibility of placing work obligation on the licensees with a possibility of early license expiration if the required work operations are not conducted. Finally, all five States allow for the suspension or cancellation of a license if the licensee violates relevant laws or license terms. Four of the five States deem non-invasive exploration licenses as non-exclusive, but as the drilling starts, the production licenses grant exclusive rights to the area. Only the US provides exclusive rights to explore, develop, and produce oil and gas in a given license area.

The comparative analysis of these findings can be broken down into two steps: access to licenses and operation. With regards to access, Canada appears to have the most lenient system with a bidding method, few authorities involved, minimal pre-qualification requirements, possibility for companies to nominate blocs, and licensing rounds held on demand. Greenland and Norway share many of these lenient features but are put apart by the discretionary award method and stricter eligibility criteria. While lenient on award method, pre-qualifications, and nomination by companies, heavy US bureaucracy, infrequent license calls, and the heavy influence of inconsistent attitudes of political administrations might create difficulties and uncertainties for potential license applicants in US Arctic waters. Russia proves the strictest in terms of access by using the discretionary method, license calls on discretion of the government, and especially by putting in place very restricting eligibility criteria.

In terms of operation, all five States show overall relatively lenient licensing regimes. Comparatively, Norway appears to apply the strictest regime because of potentially

short durations of ELs, comparatively stricter duties under the license, and non-exclusive ELs. Russia and the US take a middle position. Russia shows non-waivable fee requirements and non-exclusive exploration/prospecting licences. The US requires substantial and non-waivable up-front and performance payments as well as extensive duties under the license; albeit, the US shows the most favourable situation in terms of exclusivity of licences. Canada and Greenland have been found to be the most favourable system with a non-exclusive prospecting license the only fly in the ointment for companies.

Table 2. License regime indicators

	Canada	Greenland	Norway	Russia	US
Award method	Bidding	Discretionary	Discretionary	Discretionary	Bidding
Authorities/scales involved	2	1	2	2	3
Pre-qualification	Yes but minimal	Yes, quite demanding	Yes, quite demanding	Yes, very limiting	Yes but minimal
Nomination by companies	Yes	Yes	APA: no, Frontier areas: yes	Yes <sup>4</sup>	Yes
Frequency of issuance and regularity	On demand	On demand	APA: annual, Frontier areas: every second year	At discretion of the Gov-t	5 year plans; sales frequency under discretion of DOI

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<sup>4</sup> In the Russian system, companies do not nominate blocs as there are no license round calls for Arctic waters. But qualified companies can *de facto* apply for licenses by lodging specified documents to Rosnedra [79].

Duration, extension and adjustment	EL: 9 years, SDL: as long as declaration is valid, PL: 25 years. EL extendable if drilling started. PL extendable if petroleum is being commercially produced.	Prospecting license: 5 years. Exploration and exploitation: 10 or 16 years, extensions 3 years at a time. For production, license extended for 30 years for areas with deposits. Discretion of the Gov-t for further extensions, but total period up to 50 years	EL: 3 years, PL: 10 years, extension to 50 years and beyond possible	EL: 10 years, PL: as long as required to complete the development	Initially 5 years, extension to 10 years possible; production: as long as covers costs of well operations; request for suspension possible
Fees	Forfeitures, rentals, fees, may be waived	License and area fees, may be waived	Various but many may be waived	One-off and regular payments	Up-front and performance payments, rental payments and other financial commitments
Duties under the license	May apply	May apply	Apply but may be waived	Agreed volumes, standard obligations	May apply
Exclusivity of licenses	EL: exclusive rights only to drill; PL: exclusive; SDL: exclusive rights to apply for PL	Prospecting: non-exclusive; Exploration and exploitation: exclusive	EL: non-exclusive; PL: exclusive	Exclusive, but where non-invasive prospecting, other companies may be granted similar rights in the area	Exclusive
Regime for access	<b>Most lenient</b>	Rather lenient	Rather lenient	<b>Most strict</b>	Rather strict
Regime for operation	<b>Most lenient</b>	<b>Most lenient</b>	<b>Most strict</b>	Rather lenient	Rather lenient

To test the hypothesis on whether a more lenient licensing regime results in more petroleum activity in offshore Arctic areas, this paper now turns to the figures on the current rates of activities. If the hypothesis were confirmed, States with most activities would include Canada and Greenland, while less activity would be observed in Norway and Russia. Table 3 below outlines the number of active petroleum licences for Arctic offshore areas, number of currently producing fields, and the rate of exploration activities.

Table 3. Numbers of active ELs and PLs

	Canada	Greenland	Norway	Russia	US
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Number of active licenses	As of end 2016, 15 ELS in the Canadian Arctic offshore, all Beaufort Sea; no PLs in Canadian Arctic waters; 69 SDLs in the Beaufort Sea, Arctic Islands of Nunavut, and Eastern Arctic Offshore [45]	As of January 2018, 9 non-exclusive prospective licenses; 11 exploration and exploitation licenses (2 expire in May 2018) [106]	As of April 2018, 60 licenses in the Barents Sea, 8 of which awarded in the 2017 APA; exploration acreage in Barents Sea expanding [67, 110, 116]	As of January 2017, 28 combined licenses for Rosneft <sup>5</sup> ; as of 2016, 21 for Gazprom [107; 108]	As of April 2018, 54 active licenses (35 of which have operations suspended) [40]
Number of producing fields	0	0	2 - Gas field Snøhvit and oil field Gøllat	1 – Oil field Prirazlomnaya	0 <sup>5</sup>
Number of exploration wells drilled/fields explored	142 since 1970 (92 in Beaufort Sea); last wells drilled 2005, although regular drilling activity finished in 1989 [109]	15 since the commencement of drilling activity in 1975, no commercial deposits [28]	Exploration drilling on 5 licenses in 2017; one well drilled in 2018 [111, 112]; 11 discoveries in the Barents Sea, in 6 production deemed likely [105]	Rosneft <sup>5</sup> : 2 commercial discoveries announced in the past 4 years. [107]. Gazprom – data n/a for Arctic projects separately [117].	2 wells in the past 3 years (1 in Beaufort Sea, 1 in Chukchi Sea) [113; 114].
Notes	Moratorium	No applications in the latest round, relinquishment of licenses in recent years [115]		Sanctions	Moratorium, but overturned

Table 3 shows that the State with the most active petroleum development in the Arctic offshore is Norway with two producing fields and a growing number of exploration activities. The most recent APA 2017 licensing round marks the largest expansion of exploration acreage yet in the Barents Sea with 53 included blocs [67]. In early 2018, the government announced plans to extend the APA area by another 56 blocs in the Barents Sea [39]. The 24<sup>th</sup> ordinary licensing round for frontier areas, announced in June 2017, included 93 blocks in the Barents Sea. During the 23<sup>rd</sup> licensing round in 2016, for the first time since 1994 a new area for production was opened up, namely in the south-eastern Barents Sea [69]. For APA 2017, a record number of 39

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<sup>5</sup> There are, however, fields producing within the Alaska OCS using artificial islands. One is the Northstar in the Beaufort Sea (in production since 2001). The final Environmental Impact Statement for another such field, Liberty, has been approved by the BOEM in August 2018.

companies sent applications; 75 PLs were awarded, 8 of which in the Barents Sea [110].

Russia is second most active. Although not a lot of data is available on the current rate or exploratory drilling, there is a producing oil field and a good number of active petroleum licenses. The US ranks third with a tendency for license relinquishment and no producing fields. The same holds for Canada but is augmented by the moratorium on new ELs in Arctic waters. The country with the least activity is Greenland with lower industry interest and rather low exploration activities.

This data suggests that there is very little correlation between the stringency of the licensing regime and the rate of offshore petroleum activity in the Arctic. Norway shows rather strict criteria on many factors analysed, and even shows the strictest regime in terms of license operations, but is most active in Arctic offshore petroleum development. In contrast, Greenland has been found to be most lenient on license operations but shows the lowest rate of activities. Equally, Canada has overall a very lenient licensing regime but very little exploration and no production activity. The strict license access in Russia does not correspond with comparatively high petroleum activities. Only the US could fit the hypothesis with a mix of strict and lenient licensing regime factors corresponding with medium level of industry activity. Overall, the rates of petroleum activities in Arctic waters are generally low, despite predictions of a 'race for Arctic riches' [37; 38].

While the stringency of the licensing regime is not the decisive factor for industry interest and petroleum activities in Arctic waters, there are a number of other factors that might provide a better explanation. Although a detailed analysis of these factors

is outwith the scope of this paper, they are briefly outlined below with references to further studies.

## **6. Additional Factors**

### **6.1 Companies' testimonies**

To elucidate on the potential factors of companies disinterest in Arctic offshore petroleum licenses, a survey of the relevant companies' testimonies was conducted from the statements provided on their websites or given to the media. While the companies do not comment on every decision to (not) participate in licensing processes, they usually provide more details when they withdraw from existing licenses. We considered 11 cases of withdrawal from licenses in the US, Canada, and Greenland. Only in one case, concerning Greenland, was the high price of maintaining licenses quoted as part of the reason for withdrawal [100]. In another case, in Canada, unfavourable license terms were cited as the primary reason for withdrawal.<sup>6</sup> In all other cases the reasons for withdrawal were associated with other factors, such as disappointing drilling results (Shell, Alaska, 2015) (Statoil, GDF Suez, Greenland, 2015<sup>7</sup>) (Statoil, Alaska , 2015<sup>8</sup>), high costs of operation (Shell,

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<sup>6</sup> Imperial Oil and BP said 'under the current licence term, there is insufficient time to conduct the necessary technical work and complete the regulatory process.' They reiterated that the price of oil did not play a role in the decision [99].

<sup>7</sup> Statoil gave back three of their four licences in Greenland as they 'saw no further potential'. GDF Suez said it did not see any prospects of actually drilling any wells. Cairn Energy has been the biggest explorer in Greenland but yielded no commercial finds [98].

Alaska, 2015), ‘challenging and unpredictable federal regulatory environment’ (Shell, Alaska, 2015),<sup>9</sup> establishment of a marine conservation area (Shell, Baffin Bay, 2016 [45, 76]), and lack of economic stability in the industry (Chevron, Canada, 2014 [70]).

In Russia, a number of companies expressed dissatisfaction with the current licensing regime and are eager to participate if the access to licenses is open to private and/or foreign companies [68]. Another important factor for the lack of activities is the ongoing sanctions from the European Union and the US [56; 42]. In February 2018, ExxonMobil confirmed that it is pulling out of its Arctic cooperation with Rosneft’ in the Kara Sea because of the sanctions [57].

## **6.2 Regulatory requirements other than licensing**

Obtaining a license is only the first step in developing petroleum resources. The regulatory frameworks associated with obtaining drilling permits, health and safety, and taxation regimes arguably take up a lot of companies’ legal and financial resources. Adhering to these rules is essential to perform work commitments under the license and to ensure that licenses are not revoked due to violations.

Some Arctic States have developed specific rules for operations in Arctic waters [43; 58]. Moreover, usually acceptable operation requirements can become a hurdle in the

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<sup>8</sup> Statoil exited 16 Statoil-operated leases, and its stake in 50 leases operated by ConocoPhillips, all in the Chukchi Sea, mainly because of ‘the results of the prospecting in the neighbouring bloc conducted by Shell’ [77].

<sup>9</sup> Given that no fundamental changes in the licensing regime were observed at the time, but rather a new regulation on the exploratory drilling rules was adopted, the licensing regime was unlikely to have caused Shell’s decision [114].

Arctic due to remote locations and short drilling seasons. Despite arguably favourable licensing conditions in the Canadian Arctic, the requirement for a same season relief well has been quoted as one of the main reasons making deeper exploration ‘not feasible’ [63]. In the US, Shell quoted an unpredictable legislative framework as a reason for withdrawal in September 2015 [114]. Current developments in the Norwegian offshore petroleum tax regime might lead to divestment movements on the Norwegian continental shelf [44]. Conversely, tax incentives for offshore production in Russia are quoted by companies to have sparked increasing interest by foreign companies to enter into Strategic Cooperation Agreements with Russian companies for offshore exploration.

### **6.3 Location and infrastructure**

More activity in Norway could be explained by its milder climate and more developed petroleum infrastructure compared to the US and Canadian Arctic. Further, the possibilities of transportation of oil and gas are not equal across the Arctic. Large-scale development requires pipelines infrastructure and/or ports large enough to accommodate tankers. In the case of gas, either access to pipelines or liquefied natural gas infrastructure is required. These concerns might be an important factor in the petroleum companies’ decision-making on investment in the Arctic offshore.

## **7. Conclusions and Policy Implications**

Energy law literature sheds some light on the balance between energy development, environmental and climate concerns, and considerations of energy security [118-120]. Building on the existing literature analysing the Arctic petroleum regimes [28, 30, 32,



34] and the role of licensing in energy development [12, 41], this paper explored if there is a connection between the level of offshore petroleum activities in the five Arctic coastal States and their respective licensing regime. Very little correlation could be found between licensing regime type and petroleum activity, highlighting the role of other factors in determining the pace and extent of offshore petroleum exploration and production in the Arctic. The additional factors outlined above provide ample food for thought and further investigation as well as for other, thus far not considered determinants in the academic debate.

The comparative analysis of the five Arctic coastal States' licensing regimes found that all systems are relatively lenient, especially when it comes to operation activities in the Arctic offshore. This mirrors the States' interest in revenues from offshore oil and gas development, which stems mostly from tax on oil and gas production and the resulting profits.

This paper has further shown that the legal, political, and economic conditions for offshore petroleum activities are very different across Arctic countries, warranting further research efforts on country-specific circumstances in relation to Arctic offshore oil and gas. Some efforts are discernible in this regard, for example in explaining the relatively high foreign industry interest in getting involved in cooperation agreements on the Russian continental shelf to rather unfavourable license and production conditions [36, p. 279-299].

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