The exam includes three components, each of which constitutes 1/3 of the final grade.

I. Provide short (e.g., one paragraph) descriptions for each of the following five terms:
   - Hjemfallsrett
   - Production Sharing Agreement
   - Sliding Scale
   - Embedded Autonomy
   - Carried Interest

II. Respond to one of the following two essay questions:
   - Is it ethical for Norway to continue pumping oil and gas out of the ground?
   - Or
   - What can a country rich in petroleum resources do to build local competencies (increase local content)?

III: You have been asked to advise the President of an impoverished country that has just discovered a huge reservoir of offshore oil and/or gas. The President wants to gather all her national expertise in a single National Oil Company, which will be responsible for developing national petroleum policy, regulating and monitoring petroleum activity, and conducting commercial operations. Is this a good idea? What are the costs and benefits of such a strategy?

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   - Hjemfallsrett, and is based on the German Heimfall, which means that the land, or block, ‘falls’ back to the state after a certain period of time. Based on the principle of escheat, it was the central component of the 1906 panic laws, which granted permission, for a limited time, to companies willing to exploit the resource—but where ownership of the resource returned back to the state after a fixed period of time.
   - Production Sharing Agreement (PSA). One of three main contract types described in the course (concessions, service agreements, and PSAs) Production sharing agreements (PSAs) are a common type of contract signed between a government and an IOC concerning how much of the petroleum extracted from the country each will receive (PSAs are also used in other sectors, e.g., mining, but we focus here on petroleum). The first modern PSA was used in Indonesia in the 1960s. In a PSA, the country awards the execution of exploration and production activities to an oil company. The oil company bears the mineral and financial risk of the initiative and explores, develops and ultimately produces the field as required. When successful, the company is permitted to use the money from produced oil to recover capital and
operational expenditures, known as "cost oil". The remaining money is known as "profit oil", and is split between the government and the company (often at about 65/35, favoring the state or NOC). In most of the production sharing agreements, changes in international oil prices or production rate affect the company's share of production. Production sharing agreements can be beneficial to governments of countries that lack the expertise and/or capital to develop their resources and wish to attract foreign companies to do so. They can be very profitable agreements for the oil companies involved, but often involve considerable risk.

- **Sliding Scale.** A formula used by the Norwegian government to ensure that the government’s participation share increased with the size of a field’s productive capacity. As the size of production increased, so too did the Norwegian government’s share (via Statoil). Introduced in the 3rd Allocation Round, dropped in the 10th (1985); it is no longer used.

- **Embedded Autonomy.** This term originates in the work of Peter Evans (1995) and refers to the complicated relationship between government and non-governmental actors in facilitating economic development. Evans argues that government agencies cannot effectively involve themselves in economic matters without obtaining detailed information from non-governmental actors (they need to be embedded), but these same agencies need to be independent of private interests (autonomous). The term can also be used to describe the delicate balancing act between policy/regulatory/commercial activities in the tripartite model.

- **Carried Interest.** When a working interest partner (most usually a NOC) in the exploration or development phase of a contract pays a share of costs and expenses that is disproportionally lower than its working interest share. Typically, NOCs are carried through the exploration phase, at which point the government takes up a working interest (or “backs in”).

II.  

a. *Is it ethical for Norway to continue pumping oil and gas out of the ground?*

This is obviously a difficult and contentious question, and there are many ways to respond to the question. In doing so, student should consider all the relevant variables, and explain their argument in a balanced and reasoned way.

In the book, we suggested that it was not ethical for Norway to continue, given our growing realization that substantial amounts of petroleum will need to stay in the ground if we are to avoid global warming. If we accept this constraint, the question is: Who should be responsible for the (limited) amount of oil that might legitimately (ethically) brought to market? Given Norway’s wealth, I think an argument can be made that this opportunity should be left to less fortunate members of the global community (e.g., the developing world), but only if this production can be done in a way that protects the surrounding community and environment. In other words, it would not be ethical to stop petroleum extraction in Norway and encourage it in a context which ignores environmental protections and exacerbate social and economic inequalities. But if developing countries can manage the resource in a way that is as environmentally, socially and politically sensitive as the Norwegian authorities have done, *ceteris paribus*, then the more ethical production would be in the developing world. Absent that capacity to develop the resource in a politically,
socially and environmentally sustainable manner, however, then Norwegian production remains ethical.

b. **What can a country rich in petroleum resources do to build local competencies (increase local content)?**

Students should begin by defining what is meant by local content (e.g., registered address in a country), and then consider any number of policies/institutions use to promote these. E.g., a strong political signaling (e.g. 10 Commandments); a NOC which is carried; protectionist regulations, Technology and Goodwill Agreements; licensing agreements that include local partners; local supplier requirements; visas for foreign workers, etc. Examples from Norway can and should be used to illustrate the argument. It would also be good to show an awareness of international agreements that can constrain many of the tools previously used for local content policies (e.g., GPA, ISDS, etc.).

**III:** You have been asked to advise the President of an impoverished country that has just discovered a huge reservoir of offshore oil and/or gas. The President wants to gather all her national expertise in a single National Oil Company, which will be responsible for developing national petroleum policy, regulating and monitoring petroleum activity, and conducting commercial operations. Is this a good idea? What are the costs and benefits of such a strategy?

Here we are looking for a discussion of the tripartite model (ala Farouk Al-Kasim), and the utility of having the three different responsibilities of government (with respect to petroleum) will be both embedded and autonomous (ala Evans, see above): i.e. that policymakers need to be familiar with the commercial industry and its needs, and yet be independent enough to make policies that benefit the entire country (not just the industry). The same balancing act is necessary with regard to the relationship between regulators and the industry; and regulators and the policymakers. At the same time, we expect students to recognize the utility and importance of both NOCs and IOCs in developing the resource.