

Forum: SDG 13

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TOPIC 1: The Issue of the Environmental Impacts of Oil Extraction

I. Introduction to the Topic

As the world is falling short of transitioning to renewable sources of energy such as solar and wind, oil will continue to be the backbone of human civilization for the next several decades. Thus, oil extraction continues to be a hotly debated topic with significant global implications. The environmental impacts of oil extraction are substantial, and wide-ranging, and occur across all phases of oil extraction: Site discovery, site establishment, oil extraction, transportation, and refinery.

Firstly, since oil extraction sites (oil fields) need to be large to accommodate their substantial amounts of infrastructure, large areas of land on and around the tract of extraction are cleared of animals and vegetation, resulting in habitat destruction. This harm is significantly amplified since there are over 65 thousand oil fields across the world. Furthermore, drilling underground also exerts long-lasting harm upon the earth. Thus, oil sites not only displace or destroy animals, plants, and other organisms, but they may also cause the land to be permanently unsuitable for crop production, building construction, and other types of land use. Moreover, what needs to be highlighted is that as oil reserves in easily accessible areas become increasingly depleted, countries are looking towards reclusive areas that have low levels of human habitation, and also most of the world's remaining oil reserves such as the Arctic and deep sea. If this problem is not addressed adequately, habitat destruction will occur on a truly global scale.

Another environmental repercussion of oil extraction is pollution, namely water, air, and soil pollution. Aside from waste disposal and stormwater runoff introduced into nearby rivers and streams from sites, the negative effects of oil extraction also result from the popular oil extraction technique of hydraulic fracturing (fracking), where toxic chemicals are injected into

soil that may be close to sources of drinking water. Meanwhile, oil fields emit several different types of potentially harmful air pollutants, especially Volatile Organic Compounds (VOCs) and methane (from flaring, contributing to global warming). Moreover, the soil under and around oil fields may be contaminated with waste and harmful substances which may not only affect the ability to grow vegetation but also move around and contaminate water sources. The effects of pollution due to oil extraction are well-documented, including risks of cancer, neurological damage, immunodeficiency, liver cancer, and many other human health consequences.

Last but not least, oil extraction accidents result in infamous oil spills, which are especially harmful when they happen over oceans (from oil tankers and oil rigs). Currently, more than one million tonnes of oil is released into the ocean annually via thousands of small and large-scale oil spills. Occasionally, especially big oil spills, such as the Deepwater Horizon and Exxon Valdez oil spills, released millions of barrels of oil into the sea. The consequences of oil spills are far-reaching: Oil is harmful to digest; it blocks sunlight from penetrating the ocean surface; it causes fish and birds to suffocate or die from hypothermia; it also severely affects ocean plant life; ...

Given the prevalence of oil fields, addressing their environmental repercussions is crucial to creating a greener, cleaner, and healthier world. However, the solution will not simply be to remove all oil fields. Instead, delegates will also have to consider the requirements of energy sources and the political, socioeconomic, and technological status quo surrounding oil fields.

- International & Regional

Oil spills, which often occur in the ocean, can affect multiple countries. Another threat to consider is that major oil extraction operations will also affect the habitats and environments of several countries. Therefore, there is an urgent need to cooperate and address this issue.

- National

Countries should seek to establish stringent environmental regulations for oil extraction as soon as possible to minimize the aforementioned harms.

- Local

Oil fields, as have been discussed above, present several pollution and public health threats to cities, towns, and settlements near them.

II. Definition of Key Terms

Gas Flaring: Burning of the natural gas associated with oil extraction. Gas flaring emits about 2.6 kilograms of carbon dioxide (CO₂) and methane into the atmosphere. The seriousness of this is that methane is 80 times more significant than carbon dioxide, contributing to global warming.

Land Use Change: Change over time in the distribution of land uses within a country. Land use changes are a key source of carbon dioxide, nitrous oxide, and methane, which are really significant greenhouse gasses emitted in the atmosphere.

Fracking (Hydraulic Fracturing): A method of oil extraction that involves injecting high-pressure fluids into underground rock formations to release oil and gas, which raises many environmental concerns (i.e. water and air pollution, the strain on resources, contamination).

Natural Resource Management: The practice of responsible planning and utilization of natural resources, including oil, to balance economic interests and demands with environmental preservation.

Oil Spill: When oil is spilled from containers, oil tankers, oil rigs, ... into the environment. Oil spills present major environmental consequences.

Oil Extraction: “Oil extraction” refers to the whole process of finding oil reserves and refining the extracted oil into different products. This process includes: Site discovery, site establishment (including the construction of necessary infrastructure), the extraction itself, transportation of the raw oil, and refining the oil into petroleum products, plastic, ...

III. Key Stakeholders

Federal Energy Regulatory Commission (FERC): An independent agency of the United States government and the primary body that regulates the transmission and wholesale of electricity in interstate commerce and the oil and gas industry.

Organization of the Petroleum Exporting Countries (OPEC): Coordinates petroleum policies among countries to achieve the stabilization of the oil market for consumers, producers, and investors. This stakeholder group may be helpful to minimize the disturbance of land and marine ecosystems.

IPCC (Intergovernmental Panel on Climate Change): A scientific agency established by the UN that assesses scientific information related to climate change. It evaluates the contribution of fossil fuel extraction, including oil, to greenhouse gas emissions and climate change.

IEA (International Energy Agency): An autonomous organization that focuses on energy policy and provides data, analysis, and recommendations related to energy, including oil production, extraction, and its environmental implications.

Oil Companies & Producers: Although this is a group and not a specific entity like the four aforementioned stakeholders, oil companies and producers play arguably the most important role within this debate. After all, they are the ones capable and responsible for modifying and/or decreasing their oil extraction operations.

Populations Near Oil Fields: Cities, towns, and settlements that are situated near areas where oil fields have been established. These civilians face a variety of public health threats.

IV. Key Issues Including Background Information

Pollution: Oil extraction can create extremely bad pollutants, mainly greenhouse gases, in the atmosphere and marine ecosystems. This degrades the overall quality of air and water that humans, animals, and plants depend on.

Damage to Tourism: Oil extraction might disrupt severe tourist industries due to the contamination of coastal areas. This can lead to serious and significant economic and industrial losses or problems for the majority of the countries.

Biodiversity/Habitat Loss: Oil extraction can disrupt natural habitats, including wetlands, forests, and marine environments. This disruption can lead to habitat loss and fragmentation, endangering plant and animal species and reducing biodiversity.

Community Health: Communities near oil extraction sites can experience health issues, including respiratory problems, and social disruptions due to the presence of oil facilities and associated economic changes.

Oil Spills: As has been addressed above, oil spills can present multi-faceted and significant harm to the environment, especially when they are not responded to rapidly and adequately.

V. Timeline of Resolutions, Treaties, and Events

Date	Description of event
1972	United Nations Conference on the Human Environment - A major conference that marked early global recognition of environmental concerns.
1973	Oil Crisis and OPEC oil embargo - An event that highlighted the world's dependence on fossil fuels and the need for energy alternatives.
1997	Adoption of the Kyoto Protocol - An international treaty committing industrialized countries to reduce greenhouse gas emissions.
2015	Adoption of the Paris Agreement - A global accord aimed at limiting global warming to well below 2 degrees Celsius above pre-industrial levels, in line with SDG 13.

2016	Introduction of the Sustainable Development Goals (SDGs) - The UN's comprehensive set of goals, including SDG 13, to address global challenges, including climate change.
2021	Glasgow Climate Pact at COP26 - An agreement outlining commitments from countries to strengthen climate targets and advance global efforts to combat climate change, consistent with SDG 13.

VI. Possible Challenges & Solution

Pollution: It occurs in a global range that requires each individual's effort to reduce pollution to the lowest level. In this case, what would be the best solution to bring out by different countries to ensure the minimization of oil extraction?

Damage to Tourism: Tourism should ensure all the factors including safety, taxes, infrastructures, et cetera. However, once pollution due to oil extraction occurs, it's hard to set it back and bring all the factors back to standard. Then, who would damage this from it?

Biodiversity/Habitat Loss: Implement strict environmental impact assessments (EIAs) before granting extraction permits. Require habitat restoration and conservation efforts as part of oil extraction projects while also establishing protected areas to preserve critical habitats.

Community Health: Implement health monitoring programs in communities near extraction sites. Establish community benefit agreements to ensure local communities share in the economic benefits and consider diversifying local economies to reduce dependence on the oil industry.

Oil Spills: Problems are best solved by preventing them from happening in the first place. There is an urgent need to establish stringent regulations that will minimize accidents and negligence as much as possible. Despite this, however, oil spills will happen due to human error and chance. As such, countries should also develop detailed plans for cohesively, rapidly, and adequately responding to oil spills, both in the short and long term.

VII. Recommendations for Resolution Writing Including Research

To better understand the different nations' various stances on oil extraction and climate change terms, delegates should conduct additional research into the significant impact of oil extraction from different perspectives. This should lead to a successful conclusion where different perspectives are considered for creating triumphant solutions. Delegates are also highly encouraged and recommended to research different effects on stakeholders which will further help to interpret the country's stance in a deeper manner. To construct high-quality resolutions for debate, consider further knowledge through research and perspectives.

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