

## **Committee/Council: Environmental Committee**

**Issue: Preventing the degradation of maritime environment due to off shore oil mining**

**Student Officer: Lida Arapogianni**

**Position: Chair**

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### **Introduction**

First of all, I would like to welcome you all to the Environmental committee of the 19<sup>th</sup> DSA-MUN Conference. My name is Lida Arapogianni and I will serve as the Chair of this year's Environmental Committee. Together with the other chairs of the committee, we will help you and guide you throughout your preparation and the three-day long conference. Therefore, if you have any questions do not hesitate to contact me via email. My email is: [lidaki632@gmail.com](mailto:lidaki632@gmail.com)

"It is a curious situation that the sea, from which life first arose, should now be threatened by the activities of one form of that life. But the sea, though changed in a sinister way, will continue to exist: the threat is rather to life itself."

— Rachel Carson, Marine Biologist

Rachel Carson's words may seem overdramatic at first glance, yet humanity needs to understand that life on this planet depends on the existence of oceans and its biodiversity. Not only Rachel Carson but also other scientists have warned that the continuous destruction of the maritime environment will lead to a plethora of problems, which may also pose a threat to human's existence.



*Figure 1: "An offshore drilling platform"*

"Preventing the degradation of maritime environment due to off shore oil mining" is an issue of high importance while we are facing a very serious environmental crisis. Taking into consideration that maritime environment is one of the most important factors of biodiversity, ecosystem functioning and climate's regulation, the degradation of maritime environment has to be prevented. It is a fact, that oceans cover three quarters of the surface of earth. Meanwhile, this issue is also a controversial one since oil is a very common energy source and scientists believe that the demand for this fuel will increase rapidly in the future. Behind the scenes, many other issues concerning the prevention of the degradation of maritime environment arise due to off shore mining. Oil companies have invested billions

of dollars into the building and the development of offshore oil platforms. Oil companies play a major role in international markets. Due to technological development and increasing overpopulation there is a high need and demand for petroleum. All the aforementioned factors affecting the issue will be analyzed in the other sections of this study guide.

## **Definition of Key-Terms**

### Degradation

In geology or in geography the term “degradation” refers to the lowering of a surface for example of cliffs or rocks due to erosion or weathering or other physical processes.

### Erosion

The term is used to describe the process by which a surface is worn away by water, winds, waves etc.

### Maritime Environment

A geographical area especially connected with the sea (maritime comes from the Latin word *maritimus* –*mare-* which means sea). Marine biology is the science that studies the species and the organisms living in the seas and in the oceans. For example, the Mediterranean is maritime environment, which can be divided into smaller maritime environments.

### Offshore oil mining or offshore drilling

The term refers to the mechanical process carried out in order to first explore a marine area for oil wells and then export the petroleum. Offshore mining is an environmental risk by itself and this kind of oil production involves high risks of accidents such as the oil spill of the Gulf of Mexico in 2010, which caused a huge environmental damage to the maritime environment of the Gulf.

### Petroleum or oil

“A thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface, can be separated into fractions including natural gas, gasoline, naphtha, kerosene, fuel and lubricating oils, paraffin wax, and asphalt and is used as raw material for a wide variety of derivative products.”<sup>1</sup>Petroleum is used for

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<sup>1</sup> \* American Heritage Dictionary : <http://www.aapg.org/about/petroleum-geology/petroleum-through-time/what-is-petroleum>

transportation, industrial power, petro-chemical industry, lighting, heating and lubricants and by products .It is a main source of energy.

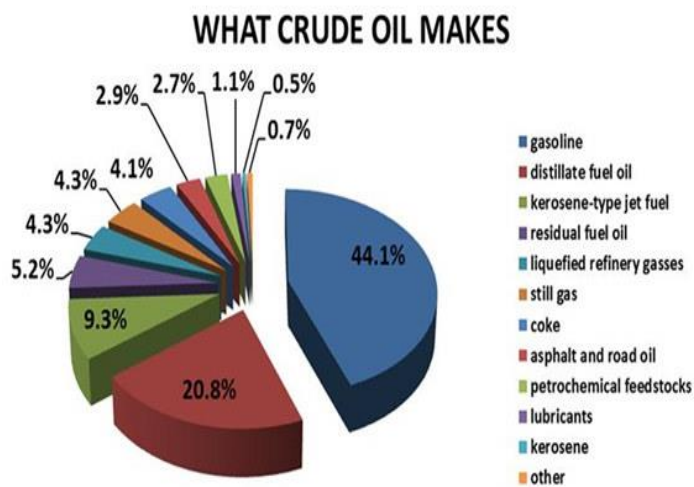


Figure 2:” What crude oil makes”

### Oil Platform

The use of an oil platform is to extract oil from the sea. There are many types of oil platforms, namely:

- Sea Platforms
- Semi-submersible platform
- Compliant towers
- Jack-up drilling rigs
- Gravity based structure
- Tension-leg platform
- Drill ships
- Floating production systems
- Spar platforms
- Normally unmanned installations (NUI)

## Background Information

### HISTORY OF OFF SHORE OIL MINING

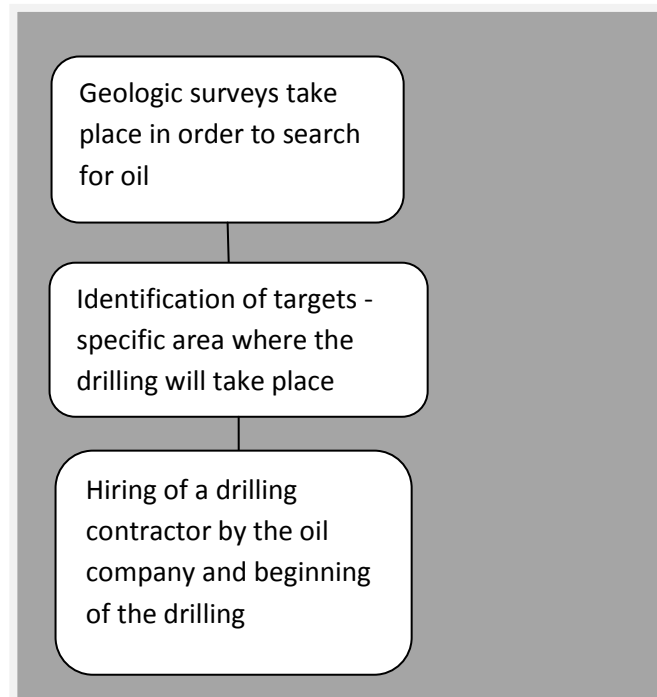
It was 6 years ago when 3.19 million oil barrels leaked into the Mexican Gulf causing the death of seabirds, turtles and dolphins which were afterwards stranded and washed up in the beaches. However, the real effects of the worst oil spill in the US history were much more than some hundreds of animals' deaths. Unpredictable long-term effects such as tissue damage of corals and abnormalities in the developing of large marine fish due to the toxicity of crude oil were only some of them.

The history of off shore oil mining goes back to the end of the 19<sup>th</sup> century when the first oil drilling took place under the Santa Barbara Channel in California. Since then oil platforms have been developed to technological advanced oil rigs with lots of machines, facilities and security systems. These kinds of oil platforms are located around the globe. The biggest oil platforms are in Texas and in Louisiana. However, there are platforms also in North Sea, in East Asia, in Latin America and in North America.

Santa Barbara is not only the birth-place of oil drilling but also the place where one of the worst oil spills in US history took place. In more details, on 28<sup>th</sup> January 1969 3 million gallons of oil crude oil were leaked into the ocean. For one more time, the international community was shocked by its catastrophically effects on the maritime environment. It should also be mentioned that 1969 is a fateful date for the US environmental legislation as that year congress passed the National Environmental Policy Act, which was followed by several changes in environmental legislation concerning clean water.

### HOW DOES AN OIL PLATFORM WORK?

Nowadays oilrigs are gigantic structures like floating cities where thousands of people work and live. It is also crucial to mention that water depths can be from 6 up to 366 meters depending on the type of the rig. The following figure aims to explain you the process of drilling:



*Figure 3: "The process of drilling"*

#### THE EFFECTS OF OFF-SHORE OIL MINING TO THE AREA

Practically offshore oil drilling means digging underground, thousands of feet underwater. Consequently, there is a higher risk of making mistakes [companies take risks during offshore drilling]. On the other hand, the existence of oil platforms by itself can be harmful to the environment. Nevertheless, let's examine things more thoroughly:

- In order to locate oil, scientists use seismic waves. This kind of waves used in exploration of oil nowadays are also called compressional or P waves. These seismic waves into the ground disorientate whales and consequently lead to many whales' beachings as the one in Madagascar some years ago. Moreover, it has been observed that seismic waves have harmed mammals.
- Researchers say that the infrastructure of oil rigs as well as the transport of offshore oil, can be devastating since canals built across the ocean (for oil transport) cause erosion.
- After drilling the oil from the ocean floor, chemicals and toxic substances come up (mercury, arsenic and lead), which are afterwards sometimes released back into the sea.
- Oil spills are the most important danger concerning oil drilling in the oceans. Oil spills are the releases of oil from oil platforms, tankers, drilling rigs as well as wells. What we need to understand is that the chemical constituents of oil are poisonous. While animals can

be affected from internal exposure like inhalation or ingestion [which leads most of the time to death], they can also be affected by external exposure like eye or skin irritation. Furthermore, it can lead to the suffocating of small fishes and invertebrates and last, but not least, lead to the reduction of birds' and mammals' ability to maintain their body temperature. Sea turtles and coral reefs are also affected by oil spills. As it has been observed in the past, hundreds of animals have been washed up in the coast after an oil spill accident. Finfish and shellfish cannot be highly affected by oil spills. On the other hand, whales are sometimes about to suffer the impacts of an oil spill. Until today, billions of barrels have been leaked into the oceans.



*Figure 4: "Attempt to skim oil from the surface of the waters of Prince William Sound"*

### NEED FOR OIL

"The reality is our economy runs on oil and we need more"\*<sup>2</sup>

In today's industrialized, overpopulated and globalized world, economy runs on oil. It is estimated that oil companies produce up to 75 million barrels per day. Oil is used in industries, transportation, heating, lighting, by-products etc.. As technology advances the demands for oil increase rapidly. The aforementioned means that we practically depend on oil and on the oil industry. Therefore oil drilling is an essential process nowadays that we cannot avoid due. It should also be mentioned that the alternatives are more costable and especially during the economical crisis that many countries face today there is a difficulty concerning the investment of money to research.

### OCEANS ARE NECESSARY FOR OUR EXISTENCE

It has to be mentioned that oceans make life on this planet possible while covering 70% of earth's surface. We depend on the existence of oceans because (most important reasons, there are hundreds of them):

- Oceans are an essential source of protein
- Oceans regulate earth's climate
- Oceans absorb sun's light
- Most animals of the food chain, on which our existence depends, live in the oceans

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<sup>2</sup> Title of an article of Business Insider

## OFFSHORE DRILLING IN THE ARCTIC

According to Greenpeace, Arctic sea ice reached its fourth-lowest extent this year. Meanwhile, one of the most controversial international topics is whether oil companies should continue exploring the Arctic for oil. A possible further ice melting and global warming due to offshore drilling would be not only catastrophic for the Arctic ecosystem but also for the whole planet.

### Major Countries and Organizations Involved

#### UNITED STATES OF AMERICA

The United States of America is one of the biggest oil producing countries. Meanwhile it has suffered several times from oil spills e.g. the harmful oil spill in the Gulf of Mexico in 2010. Therefore the Obama administration published a final set of regulations in April. The regulations contained several measures including tougher inspections, tightening of safety requirements, overhaul of governmental officials that oversee offshore mining and controlling of the operations. The United States of America is a country that actively takes part in the exploration of the Arctic for oil wells. Therefore, American environmentalists are cautious about the aforementioned regulations.

#### KUWAIT

During the Gulf War (1990s) Kuwait experienced the largest oil spill in history, when Iraqi troops set fire to oil wells. According to a study made by UNESCO and other countries in 1993, the spill would cause long-term damage in the region since approximately 6,000,000 US barrels leaked into the Gulf. After the accident marine life in the region was devastated. However, recent studies have shown that the ecosystem has made a remarkable recovery and has begun to function as it did before the spill took place. The Kuwaiti Oil Company (KOC) has started now the search for offshore oil discoveries in order to boost the country's oil production.



*Figure 5: "Oil Spill Effects in Kuwait"*

#### EUROPEAN COUNTRIES

In 2010 Germany proposed the banning of offshore oil drilling, however it was rejected from the oil producing countries of the North: Denmark, UK, Norway. Since oil production in Europe is based on offshore drilling, the commission has decided upon a set of safety-rules in order to prevent accidents. These are the following:

- 1) “before exploration or production begins, companies must prepare a Major Hazard Report for their offshore installation. This report must contain a risk assessment and an emergency response plan
- 2) companies must keep resources at hand in order to put them into operation when necessary
- 3) when granting licenses, EU countries must ensure that companies are well financed and have the necessary technical expertise
- 4) technical solutions which are critical for the safety of operators' installations must be independently verified. This must be done prior to the installation going into operation
- 5) national authorities must verify safety provisions, environmental protection measures, and the emergency preparedness of rigs and platforms. If companies do not respect the minimum standards, EU countries can impose sanctions, including halting production
- 6) information on how companies and EU countries keep installations safe must be made available for citizens
- 7) companies will be fully liable for environmental damages caused to protected marine species and natural habitats. For damage to marine habitats, the geographical zone will cover all EU marine waters including exclusive economic zones and continental shelves” \*<sup>3</sup>

### OPEC (ORGANIZATION OF PETROLEUM EXPORTING COUNTRIES)

After the Mexican Gulf oil spill OPEC proposed to the United States to stop its offshore drilling. Of course the aforementioned didn't happen. In general OPEC has encouraged member states to follow safety guidelines in order to avoid any kind of offshore drilling accidents.

### GREENPEACE

It was some weeks ago when a famous pianist performed on a floating piece of ice in order to raise awareness about the melting of the Arctic. He played for Greenpeace. Greenpeace is totally against of offshore drilling in the Arctic and therefore many protests have taken place in order to prevent the ships of oil companies from exploring the Arctic. Meanwhile the slogan “keep oil rigs out of our oceans” has been delivered to the White House recently with 2 million signatures.

### UNEP (UNITED NATIONS ENVIRONMENT PROGRAM)

The United Nations has also actively taken part in consultations aiming to the strengthening of the international regulation concerning offshore oil drilling.

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<sup>3</sup>Set of rules Copied from <https://ec.europa.eu/energy/en/topics/oil-gas-and-coal/offshore-oil-and-gas-safety>



## INTERNATIONAL MARITIME ORGANIZATION

The IMO is a UN agency aiming to the safety of shipping and the prevention of marine pollution by ships. In 2001 IMO published a “code for the construction and equipment of mobile offshore drilling units”

<http://mdl2179trialdocs.com/releases/release201303211200016/TREX-44072.pdf>

### Timeline of Events

Date	Description of event
1897	First offshore well was built and started producing oil in California.
1900s	Offshore drilling begins in Canada and in Louisiana.
1923	Bibi Eibat well activities start in Azerbaijan.
1979	140 million gallons of oil were leaked into the Gulf of Mexico
1982	The UN Convention on the Law of the Sea takes place.
1991	The largest oil spill in history took place in Kuwait.
1992	The Fergana Valley in Uzbekistan was full of 88 million oil gallons.
2008	UN Recognizes Worlds Ocean Day (8 <sup>th</sup> June).
2010	Germany proposes the ban of offshore oil drilling, Norway, Denmark and UK reject it.
2010	The Mexican Gulf oil spill takes place.

2015	Global Sustainable Development Report concerning regulations for strengthening safety rules.
2015-2016	Lego figures protest around the world against Shell for Greenpeace.
2016	President Obama presents a new set of rules concerning offshore oil drilling safety.

## Relevant UN Treaties, Resolutions and Events

### United Nations Convention on the Law of the Sea (1982)

Despite the fact that the aforementioned convention was not directly connected to the topic we are discussing, section 3 of the convention (concerning the development of resources of the sea) had guidelines related to the functioning of oil platforms and offshore oil mining.

[http://www.un.org/depts/los/convention\\_agreements/texts/unclos/UNCLOS-TOC.htm](http://www.un.org/depts/los/convention_agreements/texts/unclos/UNCLOS-TOC.htm)

### UN resolution 70/194 on Oil slick on Lebanese shores

This resolution was adopted on 22 December 2015 and is about the pollution, the economic and humanitarian catastrophe that have been caused by oil slick on Lebanese shores.

[http://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/RES/70/194](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/70/194)

### Sustainable Development: Report on strengthening the international regulation of offshore oil and gas activities

It is a report submitted in 2015 which proposes measures in order to strengthen international regulations and international law concerning offshore mining and gas activities.

[https://sustainabledevelopment.un.org/content/documents/5779Brief%20offshore%20GSD\\_R\\_rev.pdf](https://sustainabledevelopment.un.org/content/documents/5779Brief%20offshore%20GSD_R_rev.pdf)

### UN Recognition of the World Ocean Day (8<sup>th</sup> June)

The United Nations recognized the 8<sup>th</sup> June as the World Ocean Day in 2008 although it has also been celebrated before the official recognition.

<http://www.un.org/en/events/oceansday/>

## World Maritime Day

The United Nations and the International Maritime Organization have decided to celebrate the World Maritime Day in order to raise awareness about the contribution of the oceans to the economy and the importance of the marine environment.

<http://www.timeanddate.com/holidays/un/world-maritime-day>

## **Previous Attempts to solve the Issue**

As you may have also read in other parts of this Study Guide, there have been many attempts to deal with the issue at hand. Starting with the restorations of regions where an oil spill has taken place, we have to take into consideration that clean-up methods are very efficient today and therefore the area can be quickly restored. On the other hand, even the clean-up methods can cause degradation to the maritime environment. Meanwhile, governments have set rules concerning the safety of the functioning of oil platforms as well as the prevention of accidents. It should also be mentioned that due to high technological advancements, offshore drilling is very safe, but there is always this small possibility of an accident causing a catastrophic damage to maritime environment. According the United Nations, the main problem is that there doesn't exist a common international policy concerning the safety of energy industry and especially offshore oil drilling. Therefore, there are countries with strict environmental policies that define every aspect of oil drilling and countries with loose environmental policies. Last but not least, it should also be mentioned there are organizations and governmental officials that have proposed the total ban of offshore drilling. However, this is hard to be implemented in the near future. The new US legislation is a good start of rules and measures ensuring safety as well as the administration of the Arctic, which is a topic of heated debate.

## **Possible Solutions**

During the three daylong conference your chance is to demonstrate your ideas based on your country's or organization's policy. To every problem-issue there are always solutions to be found especially for issues which affect our existence on planet earth!

## Cooperation

As it is mentioned before, measures on a global level through cooperation between member states have to be taken so as to have the same legislation concerning the drilling in every country. In general, cooperation between states is always a key factor of solving global issues. From my point of view, discussions have to take place in order to strengthen the international regulations concerning offshore oil drilling. The United Nations Convention on the Law of the Sea (1982) imposes a general obligation towards the protection of maritime environment, however it is not thoroughly written and "out of date" since it was created more than 30 years ago and therefore it cannot deal with the issue at hand. Concluding, all

countries must reexamine the accuracy of the aforementioned convention and afterwards they have to vote on additional protocols, thoroughly written and dealing with every aspect of the issue.

### Ensuring the safety of oil platforms

Moreover, because we are talking about the protection of maritime environment, governments have to ensure that the activities of the platforms or rigs for example the effluents are not harmful for the marine. States should also have the means to effectively control offshore oil industry on a regular basis not only for possible harming of the environment but also in order to ensure that oil production companies are following the regulations concerning the safety of the functioning of oil platforms. Another aspect that affects our issue is the training of the workers and whether all workers are aware of the safety regulations as well as trained enough for emergency situations. Recent studies have shown that satellite connectivity could play an important role in ensuring offshore oil drilling safety.

Read more about satellite connectivity and oil drilling:

<http://www.ses.com/21641401/2015-11-04-5-top-reasons-why-satellite-is-key-for-oil-and-gas-industry>

### Ban of drilling in areas of high environmental interest

It is also very important to ban drilling in areas of high environmental interest such as the Arctic or areas which consist of specific animals like whales. Coral reefs should also be protected. However, this is a very complicated part of the issue as it contrasts with the interests of many oil producing countries.

### **Videos**

<https://www.youtube.com/watch?v=-bWXgTRfqGo>

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<https://www.youtube.com/watch?v=xGJzpL8PMsc>

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<http://www.forbes.com/sites/realspin/2014/04/25/offshore-drilling-is-safer/#4924469355bf>

### Multimedia Resources

[http://i.telegraph.co.uk/multimedia/archive/01822/rig\\_1822292i.jpg](http://i.telegraph.co.uk/multimedia/archive/01822/rig_1822292i.jpg)

[http://babogroup.com/?page\\_id=69](http://babogroup.com/?page_id=69)

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