

# **Oil: Black Gold or Invisible Killer**



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**July 2023**

## **Oil: Black Gold or Invisible Killer**

### **Egyptian Coalition for Human Rights and Development**

It is an initiative launched by Forum for Development and Human Rights Dialogue Foundation, and consists of 500 development associations and organizations in 9 Governorates, in order to promote Human Rights conditions in Egypt, strengthen partnerships, and exchange experience.

The NGOs and institutions participating in the initiative were distributed in 9 governorates: Cairo, Gharbia, Beheira, Alexandria, Beni Suef, Sohag, Luxor, Qena and Aswan.

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➤ **Introduction:**

Despite the importance of fossil fuels in general and oil in particular as basic drivers of all life activities such as transportation, industry and even agriculture, this importance emerges when countries are keen to ensure sufficient stocks of oil in the ground for future generations. The damage caused to humans as a result of the use of oil is countless. So, the whole world tend to search for other alternative sources of oil that achieve the quality of human life and preserve their rights on the one hand, and on the other hand, reassurance of the existence of non-mortal renewable energy sources for future generations.

The oil and gas industry was directly and indirectly responsible for more than 40% of global greenhouse gas emissions in 2017. Thus, oil and gas are the main drivers of climate change.

The damage caused to citizens and the population as a result of oil is represented in all stages of oil extraction, refining, transportation and then use, as these damages range from all forms of pollution, displacement and forced labor to extract oil. Moreover, the damage has shifted to the political side, as the growth of oil wealth in many developing countries has fueled the ability of governments to invest in armaments, participate in the construction of buildings for prestige rather than benefit.

The use of oil as an energy source mostly involves combustion, burning petroleum products emits greenhouse gases such as carbon dioxide, methane, hydrofluorocarbons and many others.

**These gases pollute the environment because they have the ability to absorb infrared radiation emitted from the surface of the earth, which contributes to global warming. Oil can also pollute water and significantly affect marine life, as it is a basic science that oil is less dense than water; and then floats on water.**

Therefore, the report discusses the relationship between oil and human rights in an attempt to understand the harms of the first party on the second and how the second party can take crisis measures to reduce these damages.

**Through the following axes:**

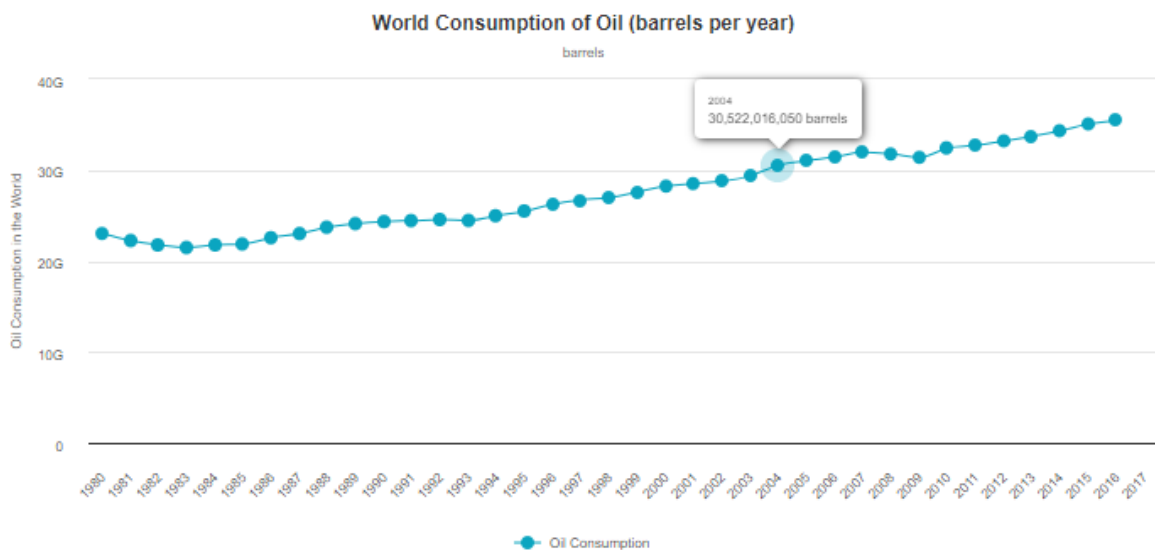
- First: What oil is and its uses.
- Second: the damage of oil to the environment and human rights in general. This section will be divided into three parts based on the stages of oil extraction and use as follows:

- ✓ Negative effects when drilling for oil extraction and production.
- ✓ Negative effects of oil transportation.
- ✓ Negative effects of oil use.
- Third: Addressing oil damage.
- Fourth: How to protect human rights in the presence of oil.
- Fifth: Egypt's efforts to reduce oil risks.

**1) What oil is and its uses:**

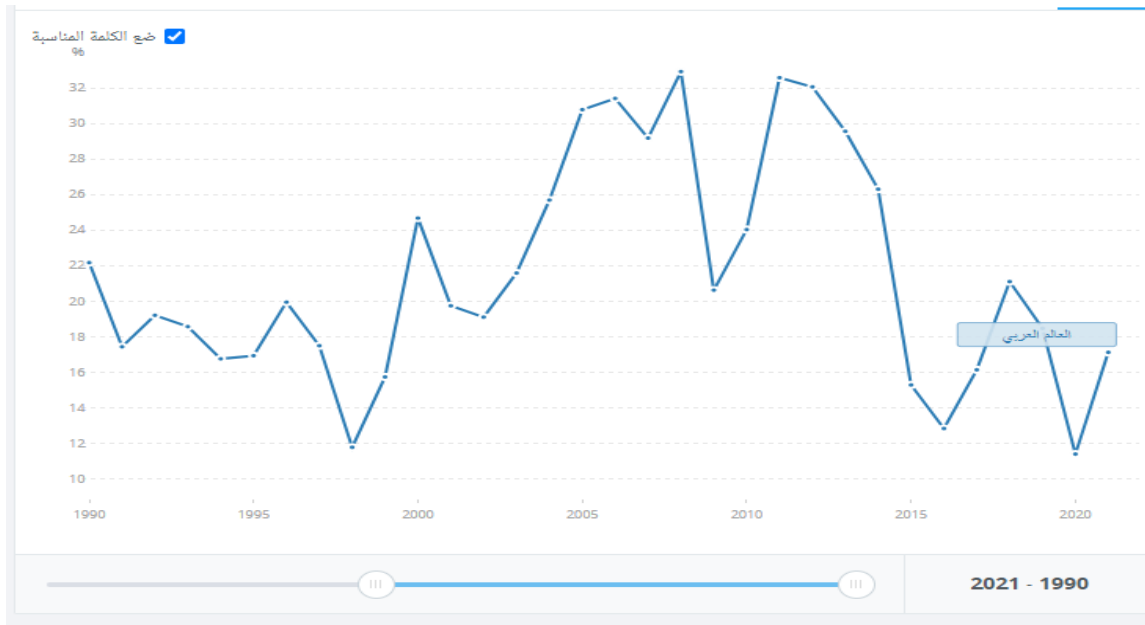
Oil is a form of fossil fuel where fossil fuels are divided into: oil, coal, and natural gas, which were formed from the remains of fossilized and buried plants and animals that lived millions of years ago. Because of its origins, fossil fuels have a high carbon content. Oil is an energy source, with petroleum products providing about 35% of U.S. energy needs, for example.

From the graph shown for oil consumption throughout history, we find that the world consumes about 97,103,871 barrels per day and the equivalent of 5 barrels of oil per person per day.



As of 2022, Saudi Arabia's oil and gas sector supported GDP by about \$430 billion last year.

As shown in the following graph, the contribution of oil to the GDP of the Arab countries from 1990 to 2021 was not less than 11.40% of the GDP.



We also find the impact of oil on the course of the Russian-Ukrainian war and the reaction of the rest of the world to this war based on their severe impact due to oil, but that is not our topic, so we will not talk more about this war. Having considered the important role that oil plays in our entire lives, we cannot overlook the negative effects of oil on the environment and human rights in particular. Therefore, we will address some of these implications in the next paragraph.

## 2) **The damage of oil to the environment and human rights in general:**

Oil goes through several stages, starting with extracting it from the ground, refining it, transporting it across countries, whether by pipelines, ships or others, and then using it. Each of these stages has negative effects both on the environment and on human rights in general.

### a) **Negative effects when drilling for oil extraction and production:**

Emissions from oil and gas production combined totaled 5.227 million tons of carbon dioxide equivalent in 2017. This equates to about 15% of the total energy sector emissions from combustion. Deliberate venting of methane and preventable fugitive emissions causes more than half of emissions during oil and gas production (57%).

**As for the damage of oil extraction to the global water reserves,** we will note that they are numerous, as we find in conventional oil and gas production; water is needed for drilling fluid to clean and cool the drilling part, evacuate rocks and sediments, and provide pressure to prevent the collapse of wells. In some cases, water is injected into the well to extract the remaining oil after the main production period. An estimated 13 billion cubic meters of water were used for oil production globally in 2006.

**According to the International Energy Agency,** total water withdrawals for oil and gas production globally reached 8 billion cubic meters and 2 billion cubic meters respectively in 2014.

Unconventional oil and gas production – i.e., oil extraction from tar sands and hydraulic fracturing – is more water-intensive than conventional oil and gas as steam is used to reduce the viscosity of tar sands, making extraction easier, while water with chemical additives is injected into rock to open cracks and allow oil and gas to escape to the surface. A proportion of this injected water comes from sewage. An average of five to six barrels of water is used for each barrel of crude oil produced, but the amount can be up to 30 barrels. The amount of water injected for fracking ranges from eight million liters to 30 million liters per well, and water availability is a barrier to fracking in some countries.

**Looking at the production and refining phase,** we will also see that it has negative damage to water as when crude oil is refined, water is used for steam as an input for the refining process, for washing materials and equipment, and for cooling. This water becomes contaminated with sulfur and ammonia, and requires treatment before further use. Cooling water is the largest use of water during oil refining: three or four liters of water are needed per liter of crude oil. In the United States, refining oil requires 4-8 million cubic meters of water per day – equivalent to the water consumption of two to three million American households.

Oil extraction also pollutes water as drilling fluids injected into wells for lubrication – known as mud – are supposed to be captured in padded pits for disposal. However, they often leak and litter around drilling sites.

**From a humanitarian and human rights perspective,** we will conclude that oil and gas exploration and extraction requires land-use change and requires oil and gas companies to acquire land. Changes in access to agricultural land or pasture and the displacement of families can lead to human rights violations. A violation of rights can occur when land tenure is negotiated incorrectly, or when compensation is inadequate. In some cases,

compensation is unable to mitigate the impact of development, for example, where rights to occupy and use land are traditional and where land is invested in cultural or spiritual value and its confiscation affects the right to cultural life.

Oil and gas exploration and drilling pose a direct threat to a number of exceptionally biodiversity areas, including rainforests in the Amazon and the Democratic Republic of Congo, and marine environments such as the Belize Barrier Reef.

Oil and gas companies are known to withhold information from the public. Inadequate consultation with communities affected by their operations, or planned processes, has violated the right to participate in decision-making. Corruption associated with the oil and gas industry violates procedural human rights, affecting the right to an information remedy, inequalities between the resources available to oil and gas companies and those seeking redress, and prolonged challenges to rights violations.

For countries that rely heavily on tourism for their income, oil extraction, to the extent that it has benefits, also has damage, with anglers, hikers and families on holiday going wild to experience nature in its entirety, but oil tanks, power poles, noisy compressors and crowded roads are not what they expect to see. A lot of noise, air pollution or damaged landscapes can destroy anyone's escape. On the other hand, not only people escape the noise of oil extraction but also birds, as this noise disrupts animals' communication, reproduction and nesting. Power lines, well platforms, fences and roads can also break up many factions from each other.

Air pollution caused by extraction and the use of oil called "invisible killer" because it can lead to respiratory, cardiovascular and other diseases and is responsible for more than 13% of deaths among people aged 14 or older in the United States. Fossil fuel development can also leak toxic substances into soil and drinking water sources, causing cancer, birth defects and cirrhosis of the liver.

**b) Negative effects of oil transportation:**

After extracting it, oil offshore companies must transport it both within the country from which they extracted it and across countries. There are many ways in which oil can be transported from one place to another through oil pipes, via ships in containers, etc. Unfortunately, each of these means has an impact on the environment and on the population's lives when oil spills occur during transport and will be dealt with below.

Oil leakage occurs when oil is transported by land (pipeline, rail, and road) and sea. When this leak occurs in rivers, seas and oceans, oil spreads on the surface of the water, forming a thin layer of one centimeter that prevents oxygen from entering through the water for organisms and plants underwater.

Spills from deliberate and accidental damage to pipelines, as well as poor maintenance, are an important cause of groundwater and surface pollution in Nigeria.

In the United States, there are about 300 major pipeline spills per year, due to damage, improper operation and corrosion, resulting in the discharge of about 104,000 tons per year in total. The water spills account for 12% of the oil entering the ocean (the rest comes from shipping, banks and deliberate dumping).

Despite modern technologies, there will always be a risk associated with oil and gas extraction. This is evidenced by the fact that there were more than 9,000 oil spills from pipelines alone between 1986 and 2016 in the United States.

However, spills from tankers cause significant and long-term damage to local marine and coastal environments due to the volume of oil in one place. The effects are due to asphyxiation of organisms, toxicity of chemicals, ecosystem change, and secondary effects of processes and chemicals used to clean spills. In the Deepwater Horizon accident in 2010, a spill of oil barrels killed more than 1 million sea birds, 5,000 marine mammals and 1,000 sea turtles.

In addition to the negative effects of these spills on the health of the population dependent on the river's water in which oil was spilled both in drinking and in plant cultivation.

In fact, when oil is transported through pipes, there are human rights violations in some cases if these pipes are created on the lands of peasants and indigenous people in the place where the state and investing companies want to build pipes and thus displace these citizens. Examples include in Burma in the mid-1990s when the Burmese army committed human rights violations against Burmese peasants while paving pipeline routes, including forced transportation, forced labor, rape, torture and murder.

**c) Negative effects of oil use:**

Most greenhouse gas emissions from oil and gas when they are combusted to generate electricity, heat production or power transmission. Emissions from consumption of petroleum products can vary greatly: liquefied petroleum gases emit about 360 kilograms of carbon dioxide, while heavy fuel oil emits about 440 kilograms of carbon dioxide.



The global average of the range of petroleum products produced from an equivalent barrel of crude oil in 2018 results in approximately 405 kilograms of carbon dioxide upon combustion. While the oil and gas industry was directly and indirectly responsible for more than 40% of global greenhouse gas emissions in 2017. Thus, oil and gas are the main drivers of climate change.

With regard to the human harms of climate change, **the Intergovernmental Panel on Climate Change had concluded that** climate change would deepen current poverty and exacerbate inequalities, especially for persons already disadvantaged or vulnerable because of their gender, age, race, class and eligibility.

**The World Bank estimates that** without measures to protect poor families from its effects, climate change could result in more than 100 million more people living in extreme poverty by 2030.

Global warming of 2° to 3°C can increase the number of people exposed to malaria by 150 million because high temperatures and water scarcity will also prevent hygiene and sanitation. Malaria and other diseases can become more frequent and the burden of diarrhea can increase by 10%, with children being the most vulnerable. Health care expenditures already push more than 100 million people into poverty each year, but this figure is likely to escalate with climate change.

### 3) **Addressing oil damage:**

Movements against and specific treaties on the use of oil as a main source in most industries began a long time ago, and several examples of these movements and treaties that try to limit the use of oil and raise awareness of its negative effects in order to live in a safer environment can be cited.

#### a) **United Nations:**

There are several efforts by the United Nations in various forums to address the frequent use of oil and even work to end its use permanently. UN Secretary-General António Guterres, for example, has attacked the oil and gas industry's attempts to justify the expansion of fossil fuels using carbon capture technology as "proposals to become more efficient at destroying planets." Guterres noted that for every dollar, the industry spends on oil and gas exploration and exploration, only 4 degrees Celsius goes to clean energy and carbon capture together. "Trading the future with thirty pieces of silver is unethical," he said.

#### b) **Stop EACOP:**

This movement is based in Uganda and calls for a halt to oil extraction from the country, which is carried out by the French company Total Energies and China National Offshore Oil Corporation, with the aim of transporting oil produced from the oil fields of Lake Albert, Uganda, to the port of Tanga, Tanzania, where the oil will be sold to international markets. This process will be carried out under the name of The East African Crude Oil Pipeline Project (EACOP). So, the movement is called Stop EACOP.

The movement claims that the project threatens to displace thousands of families and farmers from their lands, and poses significant risks to water resources and wetlands in both Uganda and Tanzania – including the Lake Victoria Basin, on which more than 40 million people depend for drinking water and food production. The project will exacerbate the global climate emergency by transporting oil, which will generate more than 34 million tons of carbon emissions each year.

As a result, many human rights organizations and NGOs in Uganda defended the demands of the Stop EACOP movement in order to avoid the aforementioned damage. However, it is worth mentioning that the Ugandan government, fearing the flight of investors and the loss of financial gains that this project could achieve, confronted these human rights defenders and prevented them from demanding their rights and even attacking and imprisoning them, as these NGOs reported that more than 30 human rights and environmental defenders have Ugandan police arrested them last year for their campaign to stop EACOP to provide economic or legal advice to affected communities.

In many cases, defenders were detained for more than 48 hours longer than legally permitted before being released. The defenders were also detained outside legally permitted places and were unable to contact their relatives or organizations.

We see that in September 2022 **the European Parliament** published a joint proposal to adopt a resolution on human rights violations in Uganda and Tanzania related to investments in fossil fuel projects. The last of these local demonstrations was in Uganda on June 27, 2023, where a number of demonstrators demonstrated peacefully in front of the Ugandan Parliament building.

c) **Just Stop Oil:**

The movement was established in 2022 in Britain as a pacifist movement whose goal is to pressure the British government to stop new licenses for oil

and fossil fuel exploration in the United Kingdom as the government plans to license more than 100 new oil and gas projects by 2025. There are many forms of protest by this movement of demonstrations through "slow walking" in the streets of Britain, intercepting some matches, the latest of which is two games at Wimbledon tennis, climbing bridges and raising the flag of the movement, etc.

**d) Fossil Fuel Non-Proliferation Treaty:**

In fact, many people and organizations are appealing to countries to establish the "Fossil Fuel Non-Proliferation Treaty" because of its many damages not only for present generations but also for future generations. Advocates for such a treaty include the World Organization for Human Rights and the World Federation of Public Health Associations. WHO Director-General Dr Tedros Adhanom Ghebreyesus said in a statement, "modern addiction to fossil fuels is not just an act of environmental sabotage. From a health perspective, it is an act of self-sabotage."

Besides calls for that treaty, many have focused on the ineffectiveness of the Paris Agreement on Climate Change because it does not mention the word "oil", "natural gas" or "fossil fuels" and is therefore insufficient to limit climate change by preventing or reducing oil and fossil fuels.

**e) Glasgow Charter:**

This charter was agreed in Glasgow, Scotland, in 2021 after the completion of the COP26 conference, which was approved by all 197 countries participating in the conference. One of the most important points of the Charter is the "gradual reduction" of the use of fossil fuels and therefore oil. Although the provision for "phase-out" rather than "gradual reduction" of fossil fuels would have been provided for had it not been for India's last-minute intervention. However, this phrase is the first in the history of treaties. There are global agreements to stipulate something about fossil fuels, recognize their negative effects and try to work to "reduce them".

**f) Beyond Oil and Gas Alliance:**

At COP26 in Glasgow, 11 national and subnational governments led by Costa Rica and Denmark announced the launch of the Beyond Oil and Gas Alliance (BOGA). The alliance seeks an orderly and equitable transition away from oil and gas production. This alliance is designed to work towards setting a deadline for oil and gas exploration and extraction, reducing new licenses or taking other significant measures that contribute to the common goal of aligning oil and gas production with the objectives of the Paris Agreement and fulfilling its commitment to orderly phase-out oil and gas production. Members announced for launch on November 11 included Denmark,

Greenland, France, Ireland, Quebec and Wales as core members; and California, New Zealand and Portugal as associate members.

**4) How to protect human rights in the presence of oil:**

Oil is a non-renewable energy source that at the same time has a negative impact on the environment and human rights as we explained earlier. In order to protect people from these multiple oil damages, companies working on oil extraction must take into account the rights of people who may be affected by the extraction, transportation, and use of oil, such as that the company has a clear long-term plan to protect human rights in what is known as "preparedness practices" that support companies in preventing human rights violations, including:

- Systemic experiences (focus on solutions that respond specifically to the local context),
- Assimilation (embedding social goals more broadly in the company),
- Global participation (participation in global multi-stakeholder initiatives - with governments or NGOs).

However, that solution could be seen as a non-permanent "palliative" for the world's oil problems. A recent report by the University of Manchester's Tyndall Centre found that rich countries need to phase out all oil and gas production by 2034 and poor countries by 2050 to stay on track with the 1.5°C target set by the United Nations and global organizations concerned with the environment and human rights.

**Therefore, it is necessary to replace oil with other sources that do not cause harm to humans and do not affect their rights, such as:**

- a) Solar and photovoltaic:** According to the International Energy Agency, solar energy is one of the few technologies currently on track to achieve global climate goals. It's not just the environment that will benefit, but economies as well: in most countries, solar PV, along with onshore wind, is the cheapest way to introduce new power plants.
- b) Biofuels:** Certain types of plants are grown specifically for use in biofuels, including corn and soybeans in the United States, sugar cane in Brazil, and palm oil in East Asia. Biofuels are divided into two types: bioethanol and biodiesel, both of which do not produce greenhouse gases that affect climate and global warming.
- c) Hydrogen:** Innovative technologies based on the use of hydrogen gas as a medium are used in the energy consumed such as the fuel cell technology. This technique currently uses gasoline to produce hydrogen. The costs of this technique are still high compared to the direct use of fuel produced from oil.

**d) Wind energy:** Wind energy is extracted from the kinetic energy of the wind using large wind turbines located on land, in the sea or fresh water. Wind energy has been used for thousands of years, but onshore and offshore wind technologies have evolved over the past few years to produce the largest volume of electricity using longer turbines and larger rotating diameters.

**5) Egypt's efforts to reduce oil risks:**

The Egyptian state seeks in various ways to protect the rights of Egyptian citizens and address everything that poses a danger to them. Therefore, the Egyptian state is moving at a rapid pace towards a green economy and replacing fossil fuels with other alternatives that do not harm citizens on the one hand and achieve the desired economic return on the other. This does not indicate the large percentage that Egypt contributes to global emissions, as it contributes only 0.6%. Despite this, Egypt is one of the countries most threatened by the negative effects of climate change on all sectors, such as sea level rise, salt water penetration, loss of fertile land, affected agricultural productivity, extreme weather phenomena (extreme heat, cold, floods, snow and rainstorms), and the impact of the flow of Nile water in addition to health impacts.

**Examples of the efforts of the Egyptian State include:**

**a) Green hydrogen:** Egypt began to enter the market for the production of green hydrogen for power generation, to be among the first countries in the world to rely on this type of energy, and it targets export, after the Ministry of Electricity and Renewable Energy updated the energy strategy in Egypt to include green hydrogen.

**b) Benban Solar Project:**

The Benban Solar Power Plant supports the implementation of some goals of the Sustainable Development:

- Goal 7: clean energy at affordable prices.
- Goal 8: decent work and economic growth.
- Goal 17: partnerships to achieve the goals.

The project works to reduce the emission of millions of tons of gases that cause global warming, as well as works to create jobs, and promotes the growth of the Egyptian economy.

**c) Hosting the World Climate Conference COP27 in Sharm El Sheikh in 2022.** This hosting demonstrates Egypt's tireless keenness to deliberate on climate issues and those affected by them, thus solving this problem by reducing greenhouse emissions that lead to global warming. Indeed, on November 19, amid the conference discussions, the participating countries reached an agreement on an outcome that established a financing mechanism

to compensate those affected for the "loss and damage" caused by climate-induced disasters.

**d) Nuclear and solar plants:**

Egypt allowed Rosatom, Russia's state-owned nuclear power company, to build a nuclear plant in the town of Dabaa in Matrouh governorate.

Egypt's National Climate Change Strategy referred to nuclear energy as an alternative source of fossil fuels despite its harmful environmental impact and high financial cost for natural gas plants, wind farms or solar photovoltaic plants of the same capacity. In addition to many solar power plants such as Kom Ombo Power Plant Solar, Jebel El Zeit Wind Power Plant, Ras Ghareb Wind Power Plant, etc.

**e) National Climate Change Strategy until 2050:** which aims to improve the quality of life for the Egyptian citizen, achieve sustainable economic growth, preserve natural resources and ecosystems, while enhancing Egypt's leadership at the international level in the field of climate change.

**f) Sustainable Energy Strategy:** it aims to increase the contribution of new and renewable energy, by installing additional renewable energy generation capacities to 29% by 2030 and 42% by 2035 of the total electricity generated by adopting an energy mix of 14.6% wind, 11.8% solar photovoltaic, 7.6% solar energy concentrates, and 3.2% hydroelectric power, replacing coal plants and low-efficiency thermal plants.

➤ **Conclusion:**

The oil, mining and gas industries are fundamental to the economies of many developing countries. At the same time, such industries often lead to serious human rights problems that can devastate vulnerable communities.

Responsible oil companies have become increasingly active in recent years in understanding and addressing the range of human rights issues associated with their operations. They understand that they can positively and negatively influence their employees, workers in their supply chains, or the communities surrounding their operations.

On the other hand, where oil companies do not pay enough attention to human rights, they can already have negative effects. This can lead to very real costs for individuals whose rights are affected. Therefore, in that report, the damage to citizens and oil-affected workers was dealt with.