



*Harnessing Energy to  
the Environment*

## Impact assessment for REM

Assessment of potential contribution of REM activities on reducing incidents of oil leaks resulting from oil imports to Israel



# Introduction

## Purpose of the work:

The purpose of this work is to assess the **future potential** impact of the business activity of the REM Partnership to reduce the incidents of oil leaks resulting from the import of oil to Israel. These events are due to maritime transportation of oil to Israel, as well as due to land transportation of oil imported to Israel through dedicated infrastructure. These events have enormous and long-term environmental consequences, and the costs of rehabilitating the environmental damage are enormous. This assessment is forward-looking, and relates to the expected impact from 2025 to 2050. The assessment is based on **various assumptions** (data and forecasts), which originate from accessible information sources and the partnership itself. We thank Deloitte for its assistance in preparing this analysis.



## The process of examining this index includes four steps:

1. Conducting research on topics relevant to the index, such as the volume of oil imports to Israel, the various ways of transporting oil, and the various probabilities of leaks in import processes.
2. Building an economic model for assessing the expected potential impact.
3. Collection and analysis of relevant data from certified sources and optimization of the model according to the findings.
4. Analysis of the impact of REM activity on the volume of oil leaks resulting from the import of oil to Israel, both at the level of the incident and at the level of the amount of oil leaked.



# Impact Assessment

## Number and extent of leakage events

Given the underlying assumptions and data found, we assess REM future impact on reducing oil leakage events resulting from oil importation to Israel, as follows:

Given the cumulative production of 5,489,000 tonnes of crude oil in the years 2025 to 2050 by the partnership, **REM may reduce the frequency of incidents in which a significant amount of oil leaked as a result of oil imports to Israel by 2.7% -4.3%.**

**In other words, during this period, REM activity is expected to save 0.4 to 0.6 oil spill incidents. The amount of oil that will be leaked is estimated at 438 to 698 thousand tons.**



The impact assessment was performed according to two possible scenarios for the volume of oil consumption in Israel during this period:

- A. Oil consumption decreases due to technological changes only.
- B. Beyond a low-carbon economy, and oil consumption as required in order to meet the global warming target of 2°C.



# Impact Assessment

## Number and extent of leakage events



**438,000-698,000 ton**

In the years 2025 to 2050, REM is expected to prevent an average of **438 to 698 thousand tons of oil** as part of leakage events resulting from the import of oil to Israel.



**0.395-0.607**

In the years 2025 to 2050, REM is expected to save **0.395 - 0.607 oil leaks incidents** out of the total expected oil leak incidents in Israel on average in these years.



**2.7-4.3%**

In the years 2025 to 2050, REM is expected to reduce by **2.7% - 4.3% the frequency of events** in which a significant amount of oil leaked as a result of oil imports to Israel

**For illustration purposes, two significant events that occurred in the last decade.**

**A. The disaster of the oil leak in the Evrona Reserve on December 4, 2014**, in which approximately 5 million liters of crude oil leaked from Katzza pipes to the Arava Evrona Nature Reserve and severely damaged the flora and fauna of the place. The flow of oil reached a distance of up to 7 kilometers from the site of the leak and affected an area of an estimated size of about one thousand dunams.

**The damage to the reserve is estimated at NIS 216 million and the rehabilitation increases at NIS 65 million.**

**B. The disaster of the oil leak off the coast of Israel on 17.2.2021** in which large amounts of tar damaged 160 km of the coastal strip of the State of Israel as a result of an estimated leakage of hundreds of tons of crude oil that apparently occurred in Israel's economic waters. It is estimated that the source of the leak was in a Libyan tanker that made its way from the Persian Gulf. As a result of the leak, tens of kilometers of beach were damaged and irreversible damage was done to marine and terrestrial plants and animals in the area.

**The State of Israel has allocated NIS 45 million to deal with the disaster and to rehabilitate the damaged beaches.**

# Our basic Assumptions

## Our basic assumptions

During the construction of the impact assessment model and data analysis, a number of basic assumptions were taken into account that formed a computational basis for the final results. The correctness of the assessment depends on the validity of these assumptions.

- The crude oil produced by REM will be a substitute for imported oil
- An oil leak event in this model is any leakage event caused as part of oil imports into Israel (even if the leak did not occur in Israel), including as part of its transportation on land designated for imported oil
- REM annual oil production will remain constant
- Israel's oil consumption will decrease in the future at the same rate as the expected decline in oil consumption in the European Union
- There will be no significant change in the volume of use of land-based infrastructure dedicated to transporting imported oil relative to the last decade, and the probability of leaks in these infrastructures will remain the same until 2050 to the average probability in the last decade
- The probability of a leak in an oil tanker arriving in Israel is the same as the world average and will remain constant until 2050.
- The amount of oil leaked in the event of an oil tanker leak will be equal to the average of the last decade (in cleaning up exceptional events)
- When a truck carrying oil makes an accident leading to an oil leak, all the oil it contains leaks

For the purpose of conducting this assessment, data were collected from a variety of accessible sources, including reports from the International Tanker Owners Pollution Federation ([ITOPF](#)) and forecasts from the International Petroleum Corporation British Petroleum ([BP plc](#)).

