

# *Regulatory and Financial gaps hindering CO2 Removal Technologies*

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# Overview

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Who we are

The contribution of the EU refining industry to the energy transition

Focus on CCS as promising CO2 removal technology

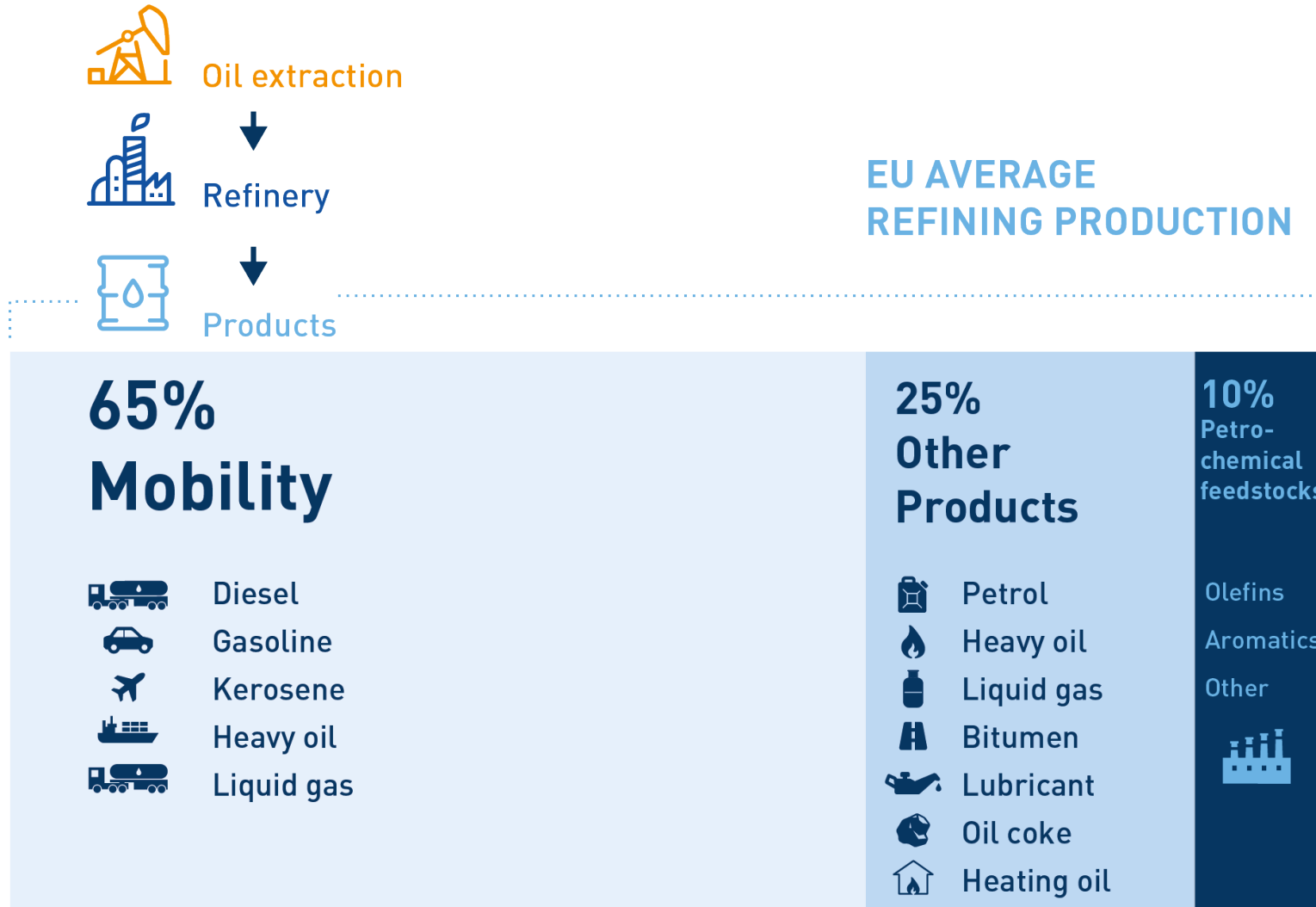
Shortcomings vs. enabling conditions



# FuelsEurope represents 40 Member Companies ≈ 100% of EU Refining



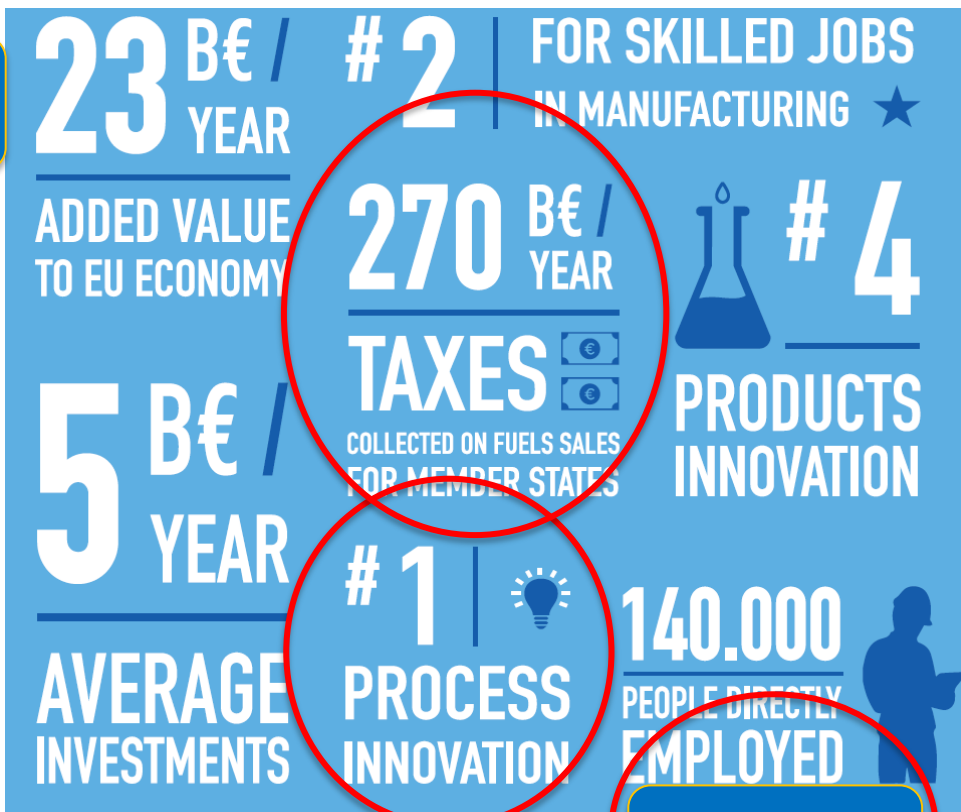
# EU average refining production



# The relevance of the refining industry

## 1. FOR THE EU ECONOMY

0.9% of the EU GDP



1.3 mln EU jobs in total

## 2. FOR GLOBAL ENVIRONMENT



*The estimated Carbon leakage* Every 100 units of CO2 emissions reduced in the EU are replaced by 135 units of CO2 emitted outside the EU

## 3. FOR SECURITY OF SUPPLY



# The contribution of the EU refining sector to the energy transition

## MEASURES TO REDUCE GHG INTENSITY OF THE PRODUCTION CYCLE

- Investments and operational measures for EE (+13% 1992 – 2014)
- Reduction in the burning of liquid fuels
- Reduction of gas flaring
- Blending operations

## NEW FEEDSTOCKS

- Processing new types of waste of various origins, including plastic, industrial and food waste, used cooked oils and municipal waste
- Biomass
- Algae

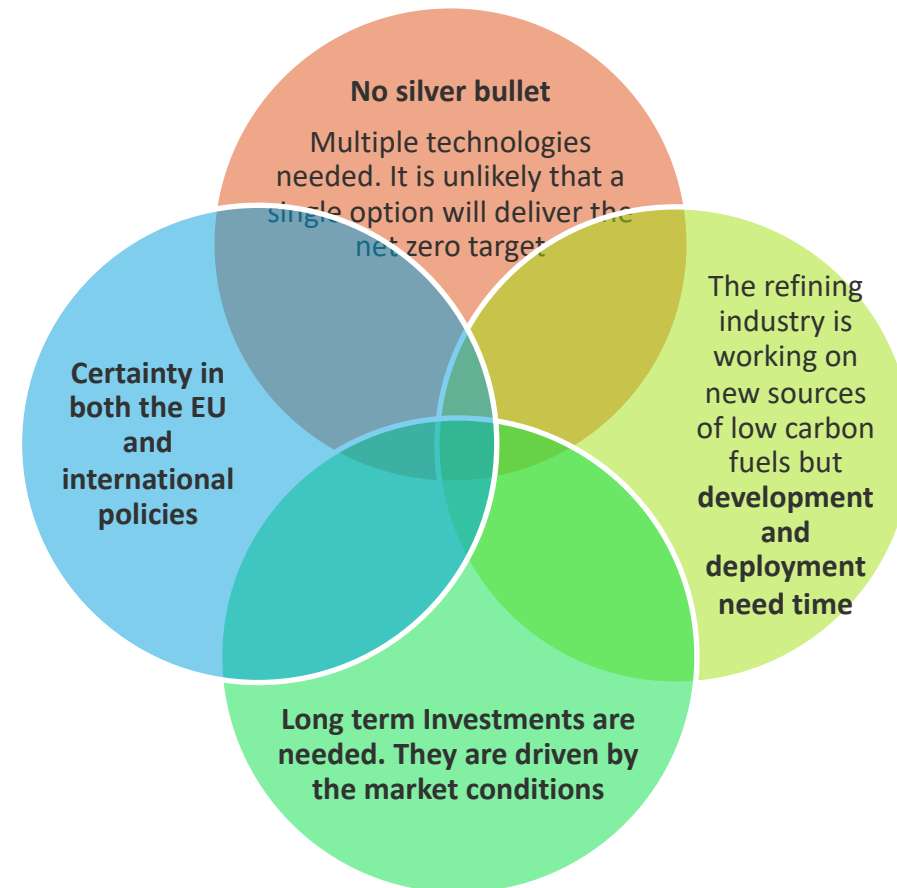
## EXTERNAL CONTRIBUTION

- The **EU long-term strategy “A Clean Planet for all”** considers CCS a key technology to reach -80% GHG reduction by 2050 (up to 600 Mt CO<sub>2</sub>)
- On board CO<sub>2</sub> capture from vehicles (more complex because of the need to miniaturise the process)
- Captured CO<sub>2</sub> from industrial activities (including refineries) is collected and stored
- An effective deployment of CCS through the industry would contribute to the EU emissions reduction.

# Enabling conditions

Long term goal does represent a challenge for the EU in particular when it comes to the achievement of its ambition while maintaining *the competitiveness* of its economy and the *quality of life of its citizens*. This will require changes in entire EU energy system and in consumer behaviour. It will depend on innovative solutions and on friendly policy framework for investments

- The EU refining has embraced this challenge
- Industry is an important resource for the EU in the energy transition
- It has repeatedly evolved and adapted to economic circumstances, consumer needs and ENVI legislation
- Capacity to evolve the business model consistently with the 2050 objective under the right circumstances.



## Shortcomings and possible measures

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- Huge financial resources for the development of CCS technologies and infrastructures
- Currently, the level of penetration is still low ( )
- The role of private investors is essential, but they commit only if there is a reasonable expectation of business case and a profitable market

- Develop a cross sectoral approach with a single cost of carbon across the economy
- Alternative credit system for CCS , credits for alternative compliance with vehicle efficiency standards could be established (no double counting , no valid for ETS compliance)
- Internationally, move towards a common CO2 market for the whole economy
- Article 6 PA



# Vision 2050

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More info can be found at: <https://www.fuelseurope.eu/vision-2050/>



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