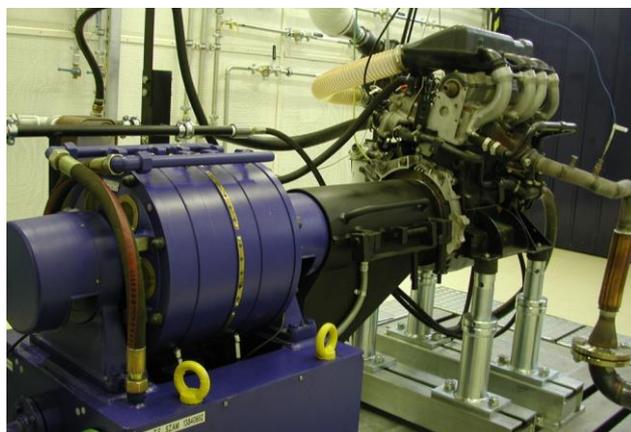


# MOL GROUP

## SUSTAINABILITY CASE STUDY



**PROJECT NAME:** Fuel efficiency with MOL Truck diesel

**LOCATION:** MOL Downstream Refinery Product Development

**DURATION:** Since 2009

**TOTAL COST:** Approximately HUF 55 million (R&D costs)

**OUTCOME:** The use of Truck diesel can reduce the fuel consumption and CO<sub>2</sub> emissions of heavy duty engines.



## PROJECT DESCRIPTION

### 1, PROJECT BACKGROUND

MOL Group is committed to maximizing the share of low-carbon products and services in its portfolio. MOL Group has launched and continues to work on a series of R&D projects which are designed to reduce the life-cycle GHG emissions of its products. Aside from optimising our standard product portfolio, we put special focus on developing products which can save energy – not only at our company but for our customers as well, improving the efficient use of fuels.

You can read more about MOL Group's climate change efforts [here](#).

### 2, PROJECT HISTORY

MOL Group is developing practical and applicable solutions in an increasingly complex environment. Our fuel quality development activities are driven by numerous internal and external factors and trends:

- › the economic crisis – a changing economic environment
- › state of the art refinery technology – higher efficiency, better environmental protection and flexibility
- › EU Energy policy, Health & Environment – fuel & biofuel Directives and Standards
- › development of the automotive industry – new engine technology and exhaust gas cleaning systems
- › increasing customer demand – environmentally-friendly products with a long life-span and high level of efficiency

In answer to all of these challenges, MOL Group produces and sells excellent quality fuels with state of art additives.

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### PROJECT RESULTS

#### 1, MAIN RESULTS AND OUTCOME OF THE PROJECT

MOL Truck diesel is a special fuel which has been customized to meet the specific operating demands of heavy duty engines. The product has been developed through the combined process of the work of engineers and the expectations of the market:

- › Developing-engineering activities:
  - Technological R&D&I
  - Laboratory tests, developing the fuel mix
  - Dynamometer tests, optimizing its composition
  - Test production
  - Engine and fleet tests
- › Marketing activities:
  - Preliminary market research
  - Market survey
  - Questionnaire for key partners
  - Product launch – contacting key customers

Vehicle type	Test environment	Average fuel saving
Autobus	Pre-urban, urban	3.20%
Semi-trailer	Urban	3.00%
Semi-trailer	Motorway; public road - mountain and plain	1.0-4.2%
Semi-trailer	Motorway; public road	3.40%
4500 cm <sup>3</sup> engine	Dynamometer	2.90%

*Truck diesel fleet tests have been conducted by MOL Group.*

The product has been tested on truck fleets:

- › with 6 partners
- › on 81 vehicles (7.5+ tonnes)
- › over more than 600 thousand kilometres

*Please refer to the table on the right to see the results from the Truck diesel fleet tests.*

The new Truck diesel has several beneficial characteristics:

- › during tests, it was more efficient (see the data in the table)
- › it helps engines last longer and operate more quietly
- › it helps decrease CO<sub>2</sub> emissions
- › it fully complies with the diesel standard EN 590

#### 2, FURTHER STEPS

The benefits of this new fuel have been confirmed by tests. MOL Group is continuously increasing the number of point of sale to make Truck diesel available to more customers.