



# The first public HRS in Czech Republic

date: 19/09/2017

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# Unipetrol Group at glance

The Unipetrol refinery and petrochemical group constitutes an important part of the Czech industry. It is the only crude oil processor in the Czech Republic, one of the most important producers of plastics and the owner of the largest network of filling stations.

In the field of refinery and petrochemical production, it is also a major player in Central and Eastern Europe.

**Business segments:** refining, petrochemicals, retail distribution of fuels

Part of the largest refining and petrochemical group in Central Europe – PKN ORLEN – since 2005

**2 refineries** – Litvínov and Kralupy – with total conversion capacity of 8.7 million tons of crude oil per year (mt/y)

**Petrochemical units** fully integrated with Litvínov refinery

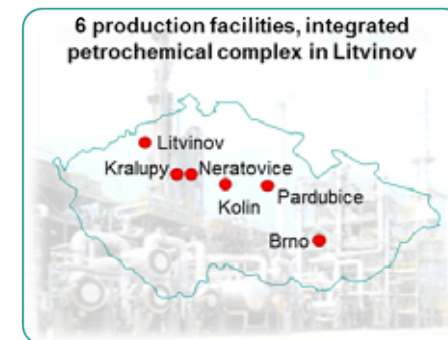
- Steam cracker – heart of petrochemical complex processing feedstock from refineries, with an annual capacity of 544,000 tons
- 3 polymer units with an annual capacity of 595,000 tons

**Leader in retail distribution of fuels**

- 363 fuel filling stations under **Benzina** brand

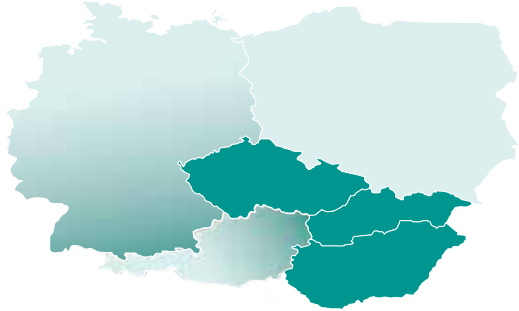
**Revenues** in 2016 88 billion CZK (ca EUR 3,2 billion)

**4,500 employees**

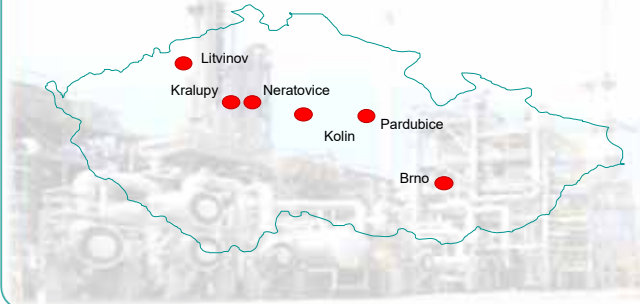


# Unipetrol: large, diversified company with a good base for growth

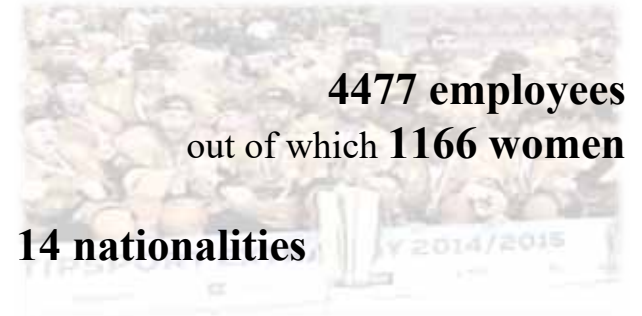
**Multinational petrochemical Group**



**6 production facilities, integrated petrochemical complex**



**Wide and diversified group of employees**



**Fuel retail market leader in Czech Republic**

**18.1% market share**

**400+ stations in 2017**



**Strong Research & Development potential**

**2 research institutes**

**100+ R&D employees**

**University center on site**



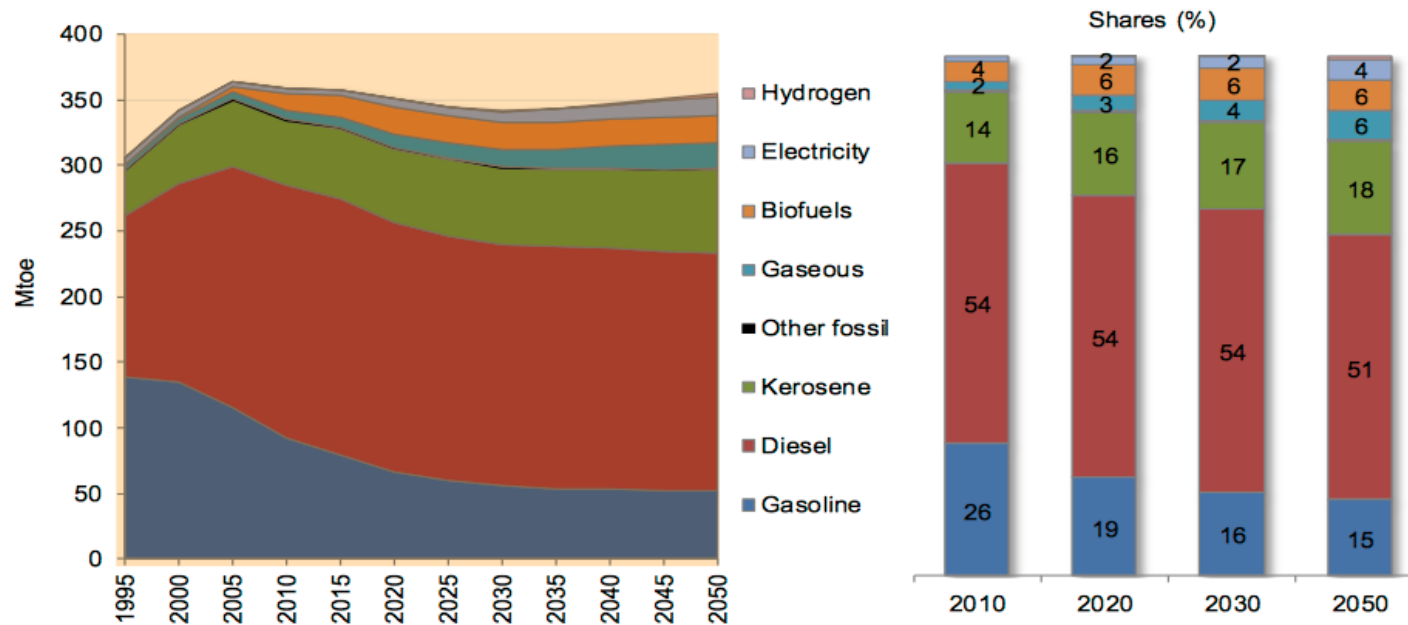


*„Why UNIPETROL producing mainly fossil fuels decided to promote hydrogen as alternative fuel in Czech Republic?“*

# EU Reference Scenario - Trends to 2050

Final energy demand in transport by fuel type

European Commission; DG Energy, DG Clima, DG Move; 06/2016



# Hydrogen – not any new commodity

**Production:** 85,000 tons/year (Partial Oxidation, Naphtha Reformer and Steam Cracker)

**Purification:** Pressure Swing Absorption (PSA) in Litvínov (98.5 %vol.),  
Membrane Process in Kralupy (99.0%vol.)

**Safe handling:** Hydrotreating, Hydrocracking, Hydrogenation, Ammonia Production temp. < 435°C, pressure < 220 barg)

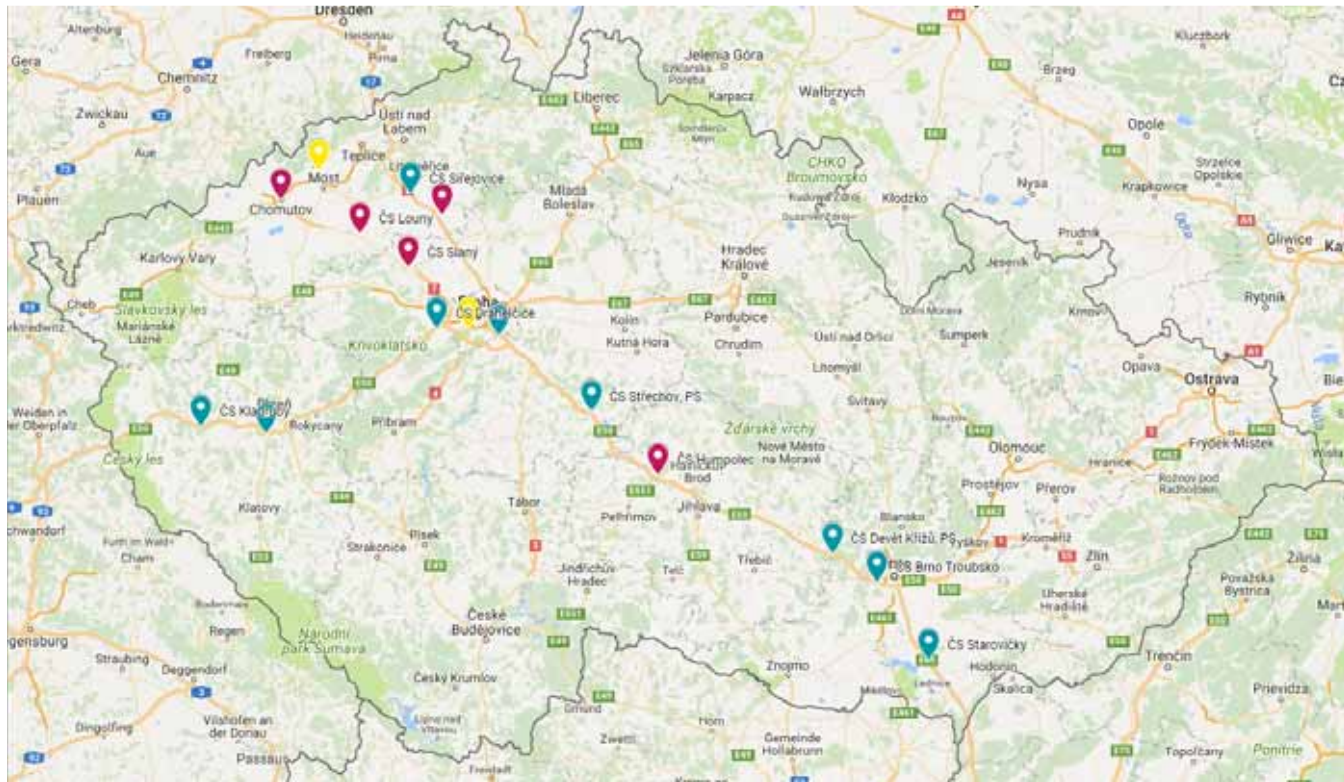




*„Is there a market for Hydrogen as an alternative fuel in Czech Republic?“*

# Hydrogen mobility corridors in Czech Republic – Unipetrol vision

## (Potential Benzina locations)



### Regional public transportation:

- Praha (1<sup>st</sup> public HRS in CR)
- Trutnov
- Litvínov - Most

### Cross border corridors:

- Dresden – Ústí - Praha
- Chemnitz – Chomutov – Praha
- Regensburg – Plzeň – Praha
- Wien – Brno – Praha
- Wrocław – Hradec Králové - Praha



station under preparation

station on the main road

station within 15 km of main road





# Unipetrol engagement

## What do we offer?

Hydrogen production at required quality, Hydrogen supply and retail utilizing own public HRSs in Czech Republic, engagement of other Czech partners. We have already filed to the construction authorities request for the construction permission to build two HRS at our current petrol stations. Administrative proceeding is pending.

## What do we search for?

Partners enabling hydrogen cross border mobility deployment (public bus operators, HRS operators, hydrogen transporters, municipalities).



# Unipetrol engagement

## What do we need?

- I. Letter of intent or another relevant document considering cross-boarder hydrogen mobility deployment and utilization.
- II. Activity leader formulating application for international grant focusing on cross boarder hydrogen mobility deployment.
- III. Hydrogen consumption assessment in view of HRS utilization.





# Thank you for your attention

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