

# Hydrogen Recovery Unit (HRU)

Before a new Hydrogen Generation Unit (HGU) is built as part of the EFRA Project, the Hydrogen Recovery Unit currently constructed at the Gdańsk refinery will increase hydrogen output by nearly 1 tonne per hour.

The annual production capacity of the new HRU will be:

- 100 thousand tonnes of LPG;
- 9 thousand tonnes of hydrogen;
- 40 thousand tonnes of naphtha.

Those valuable products will be obtained from hydrogen gasses that are currently used mostly in the fuel gas network. Additional benefits of the HRU include:

- Higher output from the hydrocracking and HDS units;
- Reduced costs of hydrogen production;
- More stable and secure gas supply to the fuel gas network thanks to replacing hydrogen gasses with natural gas;
- Reduced CO<sub>2</sub> emissions.

Construction of the Hydrogen Recovery Unit began in September 2015 and its completion is scheduled for the fourth quarter of 2016.

Grupa LOTOS' expenditure on key investment projects in 2015 included PLN 44.4m spent on the HRU.

## Operation of the HRU:

The central component of the unit is a coldbox, where hydrogen gas blend is cooled down to low temperatures and hydrogen is separated from hydrocarbons, which subsequently liquefy. Next to the HRU and the LPG tank, an LPG loading facility and a natural gas pressure reduction station will also be built.