Russia and Italy: Art of Innovation

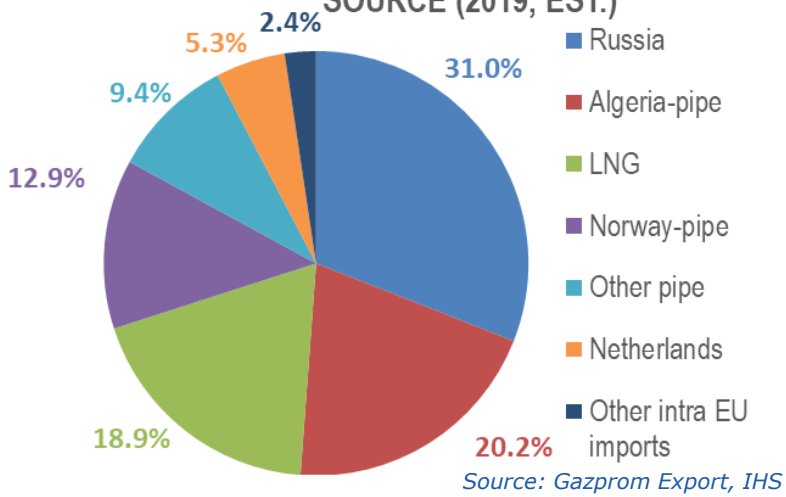
Sergei Komlev
Head of Contract Structuring and Price Formation Directorate
Gazprom Export

VIII Russian-Italian Seminar
Milano, February 20, 2020
Genova, February 21, 2020

GAZPROM IS THE MAJOR SUPPLIER OF NATURAL GAS TO ITALY

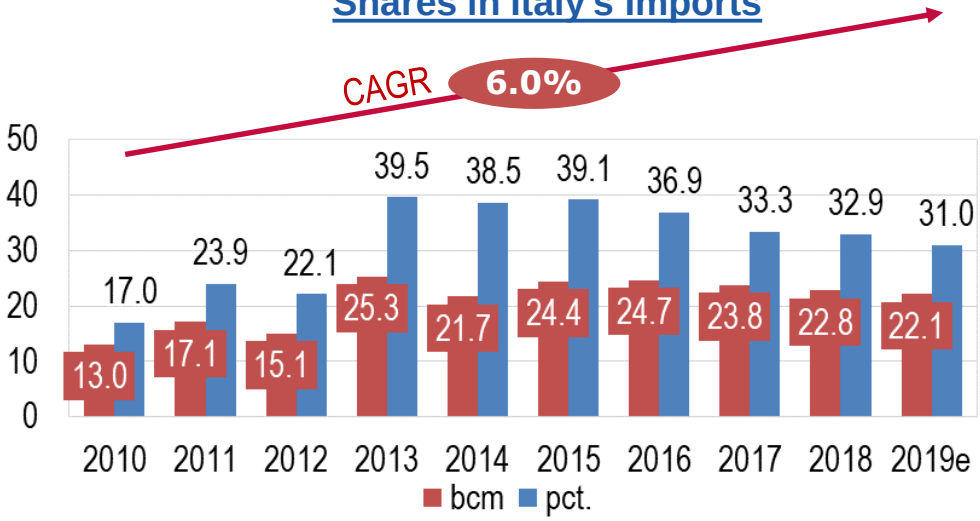
- Russia is the major gas supplier of natural gas to Italy with a share of 31.0% which nearly doubled since 2010
- Other major suppliers are Algeria and Norway for pipeline gas and LNG
- Italy is the second largest buyer of Russian gas after Germany
- Gazprom's export to Italy has been growing by 6.0% CAGR from 2010 in volume terms
- Price of Russia gas is in the lower range of the Italian import prices

NATURAL GAS IMPORTS STRUCTURE BY SOURCE (2019, EST.)



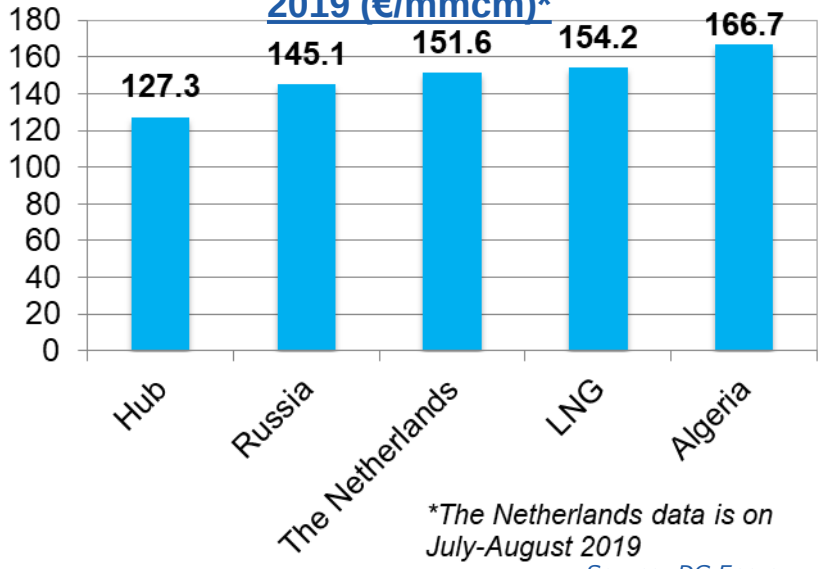
Source: Gazprom Export, IHS

Gazprom Export Deliveries to Italy, Volumes and Shares in Italy's Imports



Source: Gazprom Export, IHS

Wholesales Gas Prices in Italy: July-September 2019 (€/mmcm)*

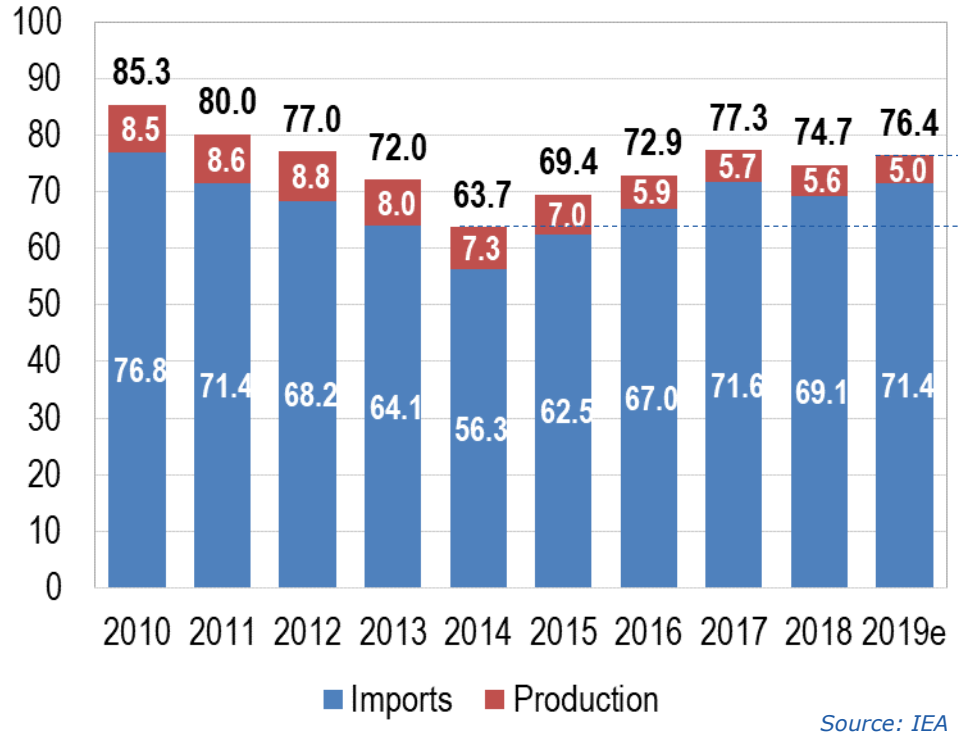


**The Netherlands data is on July-August 2019*

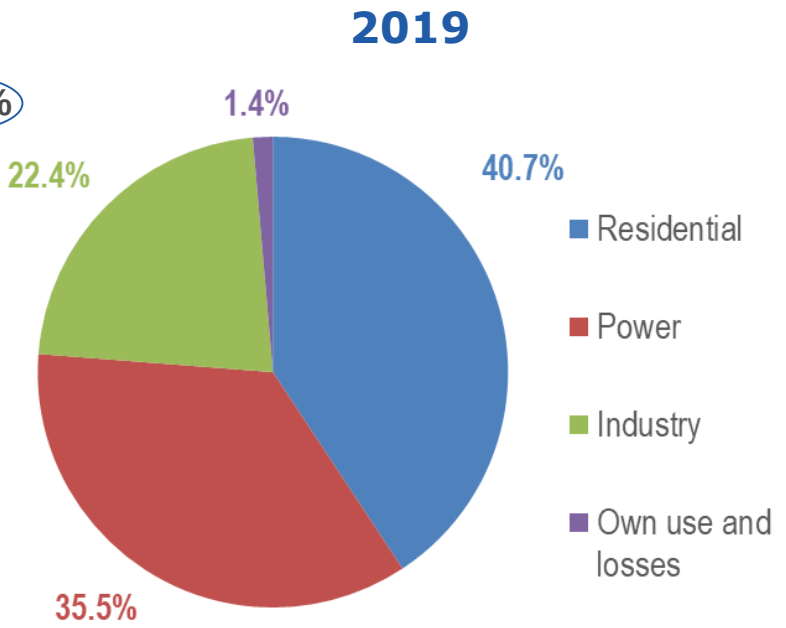
Source: DG Energy

GAS DEMAND GROWTH

- Italian gas mix is dominated by residential and power sector gas demand, followed by industry demand
- Along with residential sector power generation was one of the drivers gas consumption growth. Prospects of this sector are not quite clear now due to competition with the renewables
- Italian gas demand showed growth compared to 2014. Consumption increased in most sectors, with particularly strong gains in gas-to-power use

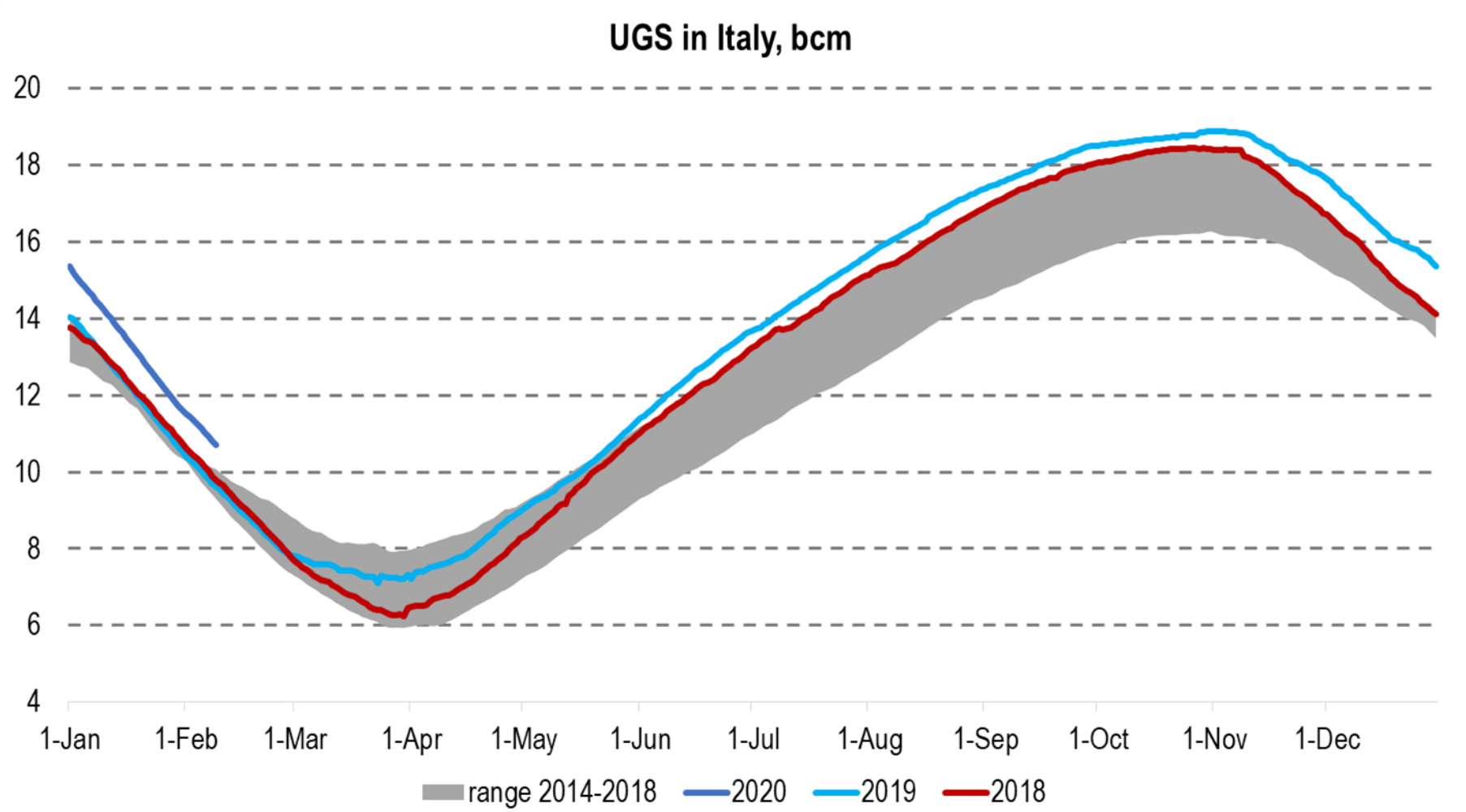


Source: IEA



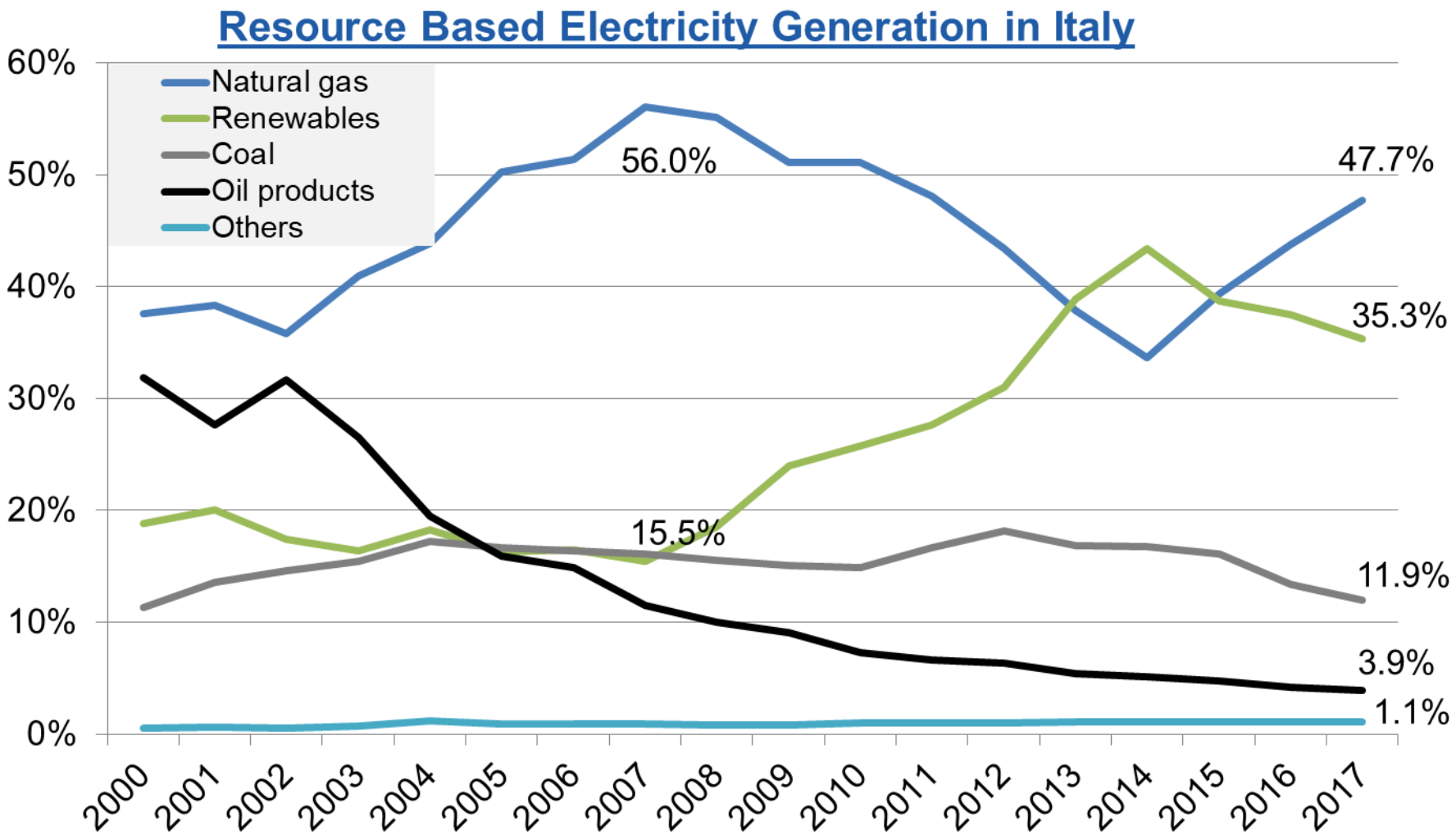
Sources: IEA, IHS

NEW RECORD HIGH LEVEL OF UGS INVENTORIES



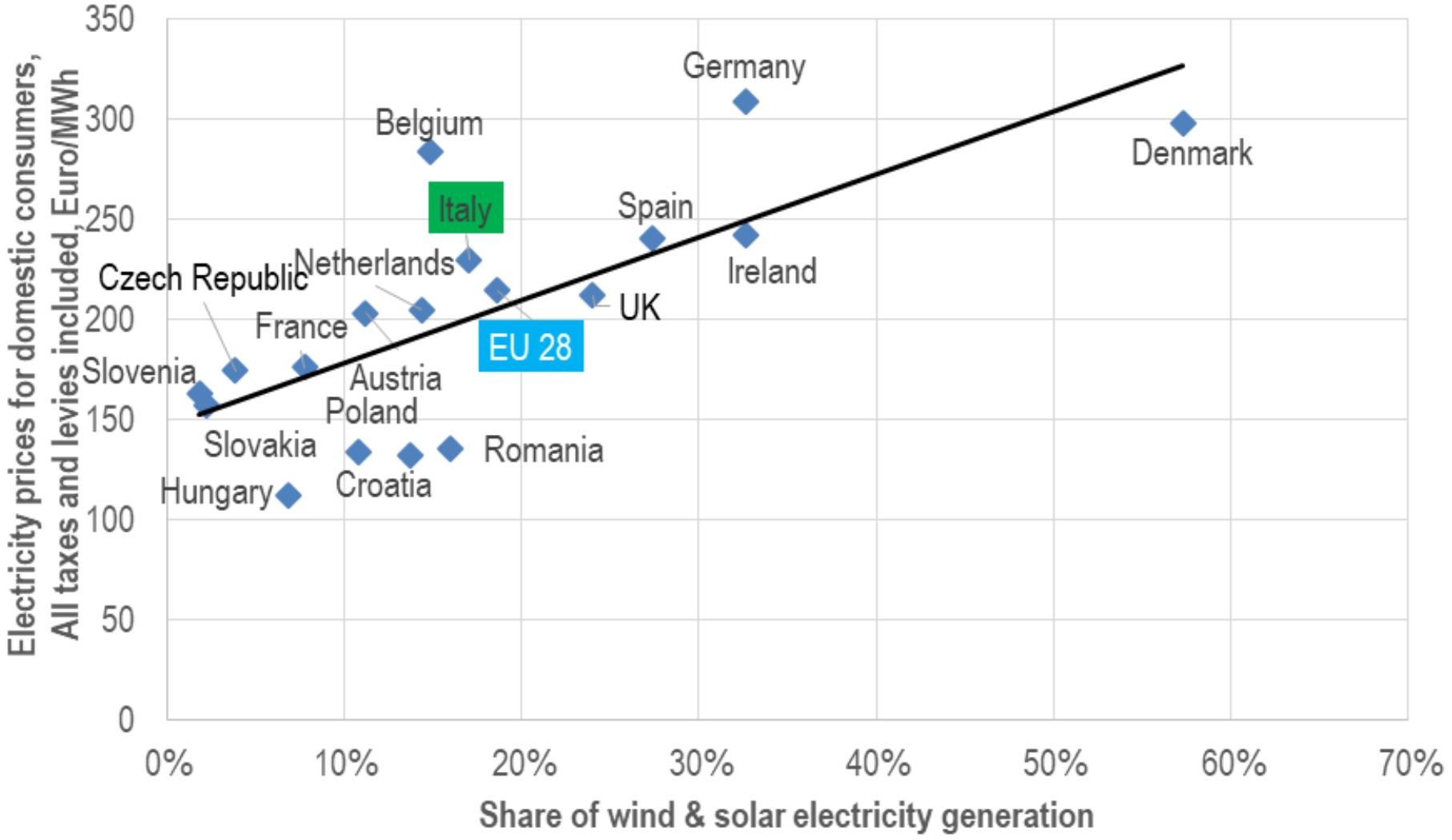
Source: GIE

GAS COMEBACK IN POWER GENERATION FROM 2014



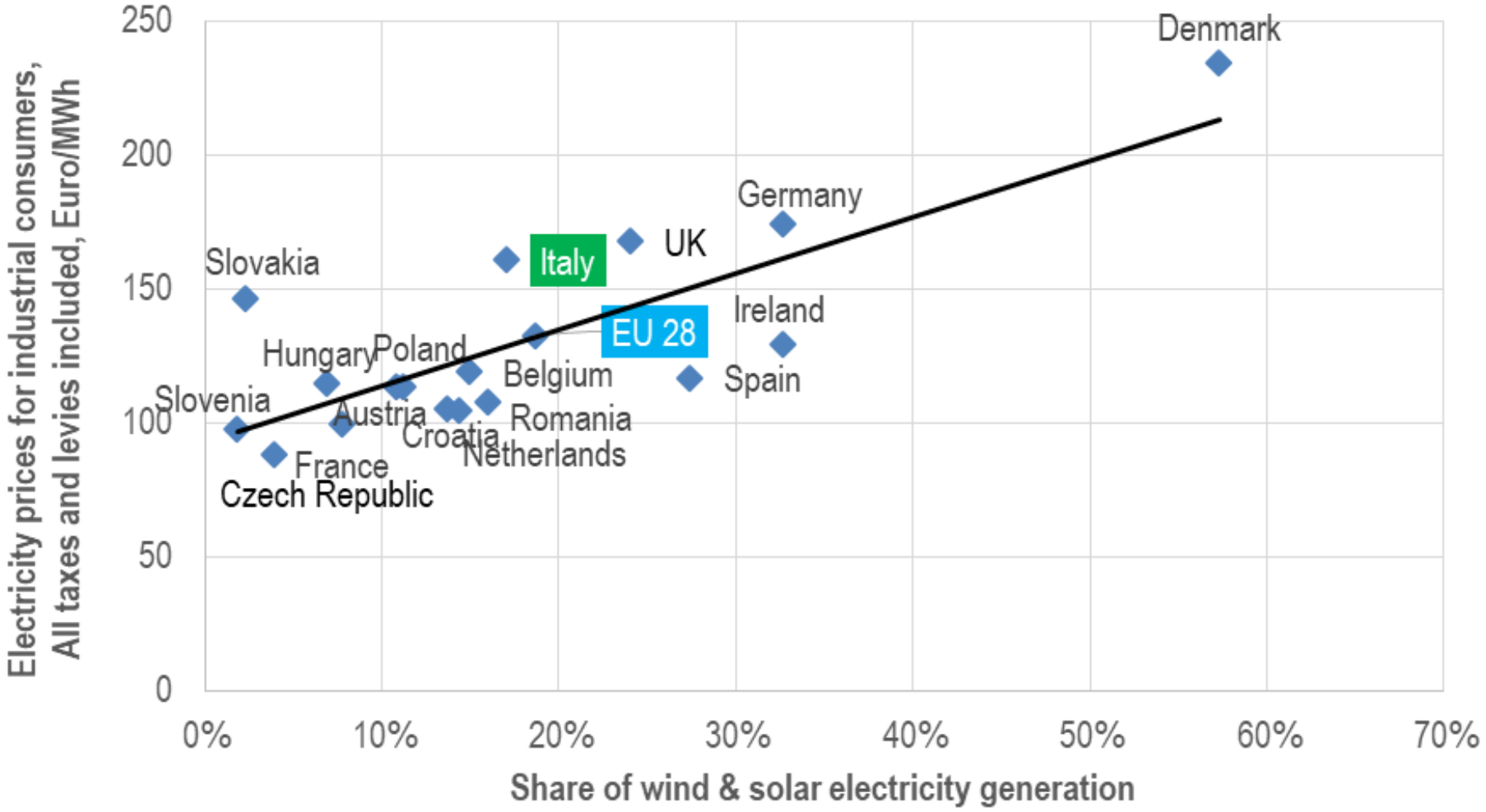
Source: IEA

THERE IS STRONG POSITIVE CORRELATION BETWEEN SHARE OF RES AND ELECTRICITY PRICES FOR HOUSEHOLDS



Source: Eurostat, 1 HY 2019

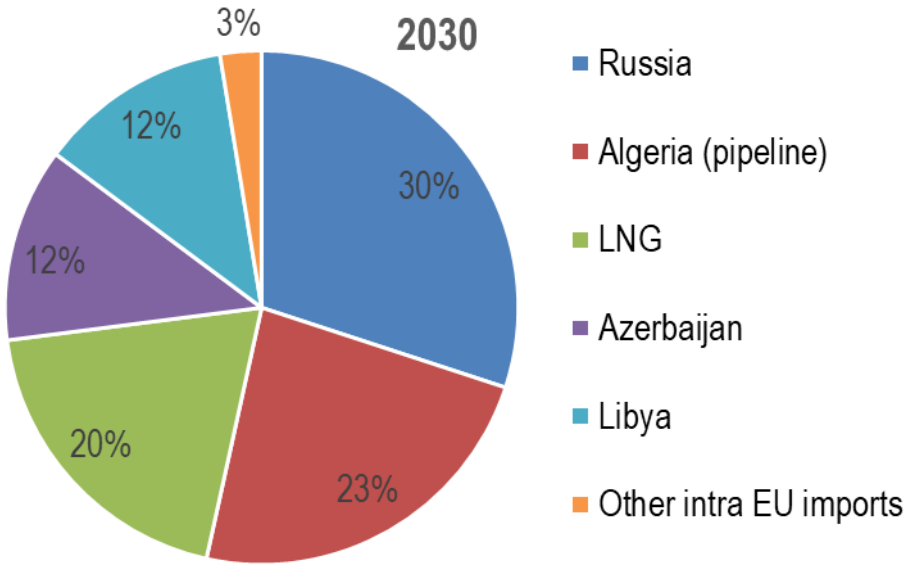
THERE IS STRONG POSITIVE CORRELATION BETWEEN SHARE OF RES AND ELECTRICITY PRICES FOR INDUSTRY



Source: Eurostat, 1 HY 2019

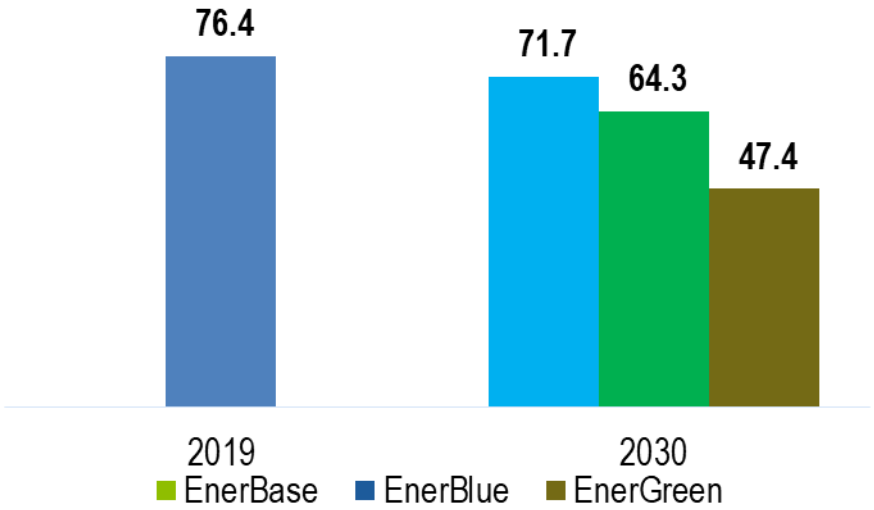
PROSPECTS OF NATURAL GAS IN ITALY

- According to Enerdata scenarios, natural gas consumption **may decrease** even under the favorable conditions including low prices and technological improvements. However, natural gas may retain its role as economically sound and reliable energy source
- Despite the decrease of natural gas consumption, Russia will preserve its share of about 30% in Italian natural gas imports in 2030



Italy gas imports structure

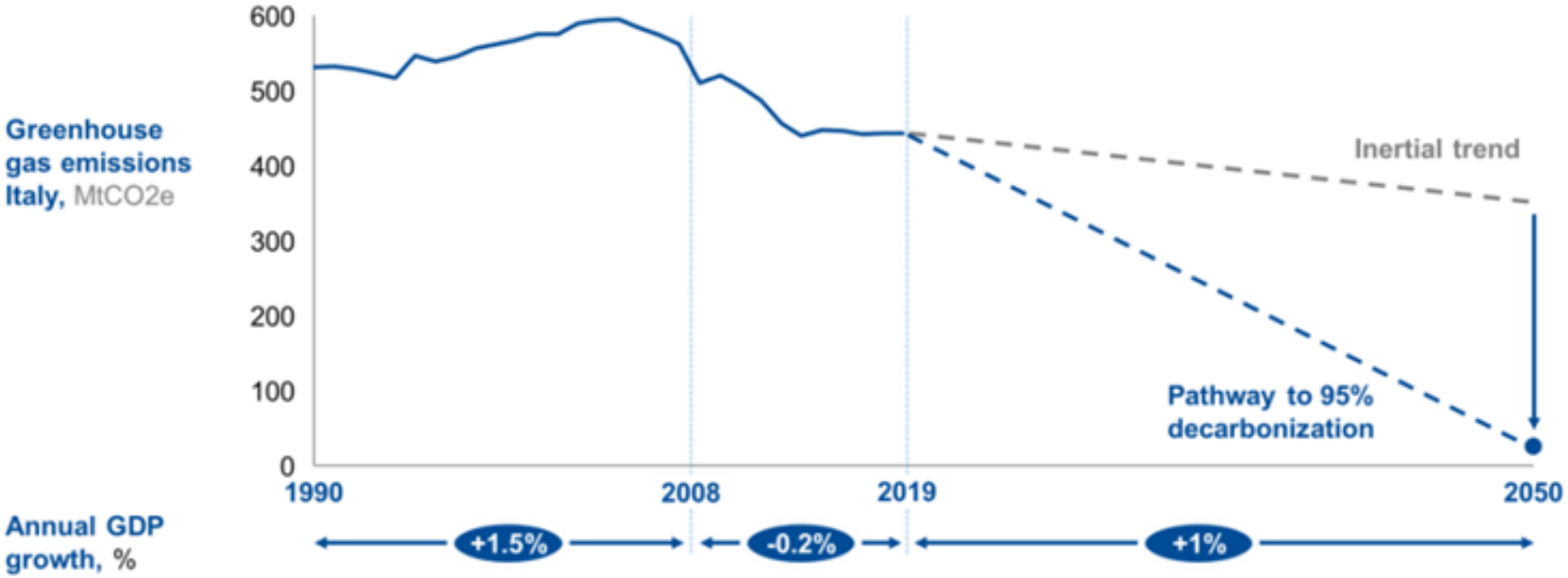
Source: IHS



Enerdata scenarios of natural gas consumption in Italy, bcm

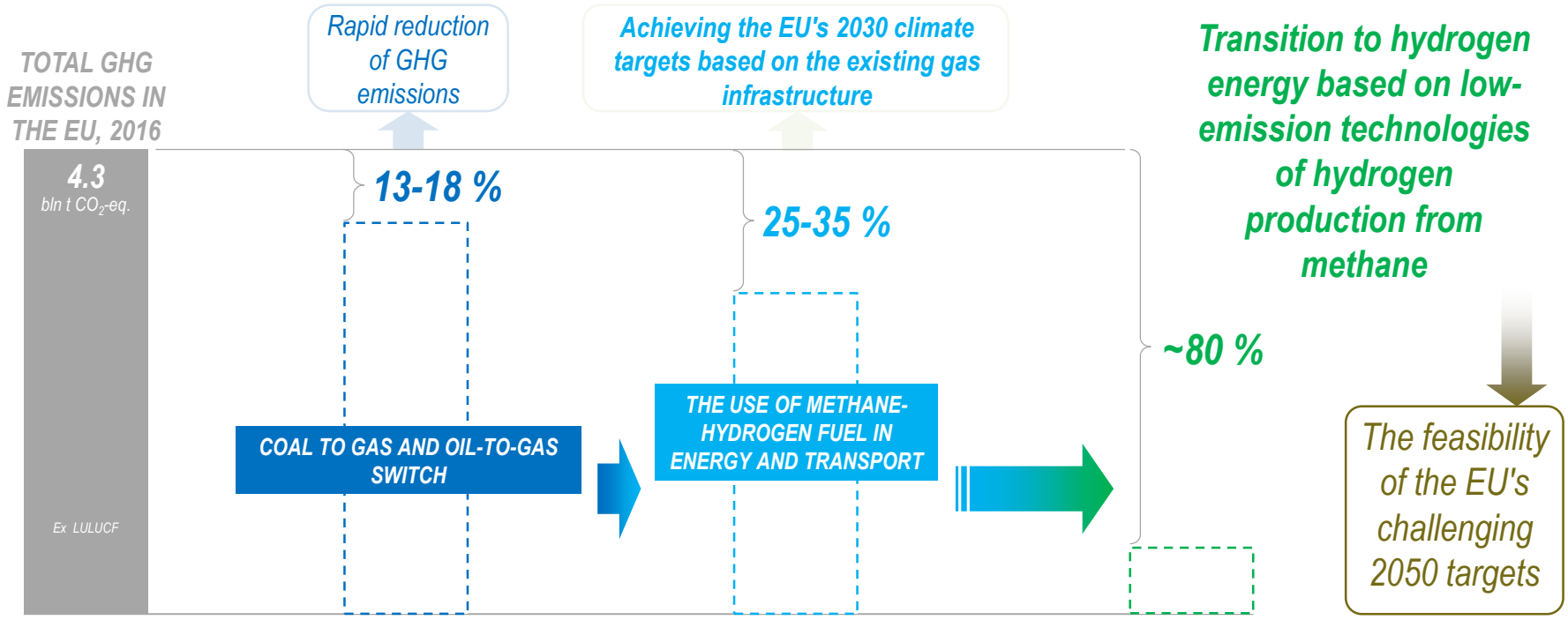
Source: Enerdata, IEA

CO2 EMISSIONS EVOLUTION OVER TIME IN ITALY



Sources: Italy NIR 2019; including international aviation and shipping emissions as per IEA numbers; UN GDP outlook

METHANE-HYDROGEN SCENARIO FOR LOW-CARBON DEVELOPMENT OF THE EU



The expert assessment is made on the basis of data on:

- *Carbon intensity from different fuels (U.S. Energy Information Administration estimates);*
- *Carbon footprint of various motor fuels (European Natural gas Vehicle Association report, 2014-2015);*
- *EU GHG emissions (1990 – 2016 National report on the inventory of anthropogenic emissions by sources and GHG removals by sinks*

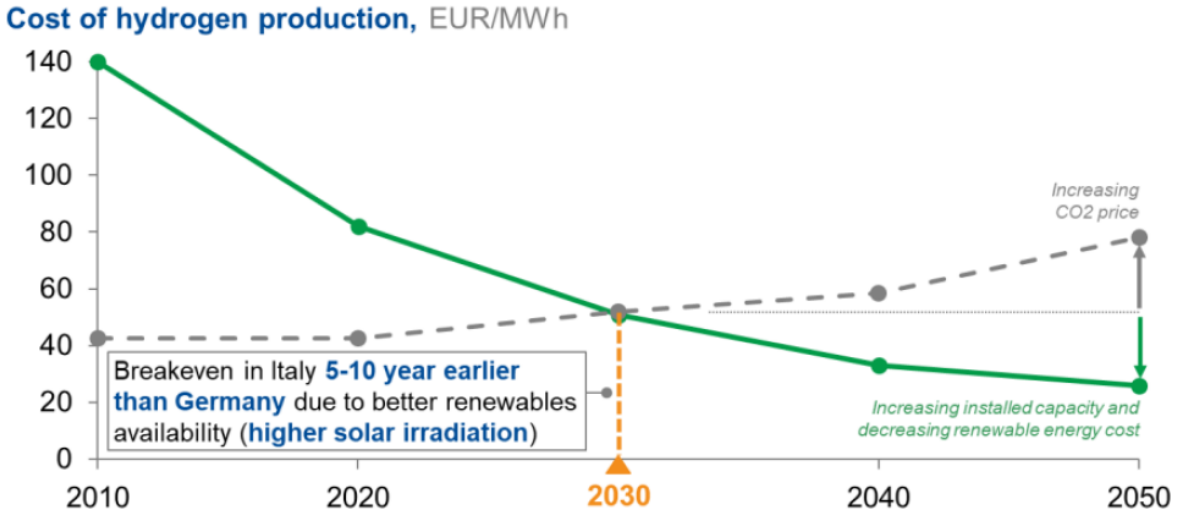
GREY HYDROGEN REMAINS MORE COMPETITIVE TILL 2030

Green hydrogen

- Production from **water** and **green electricity** in an electrolyzer
- **Carbon neutral**

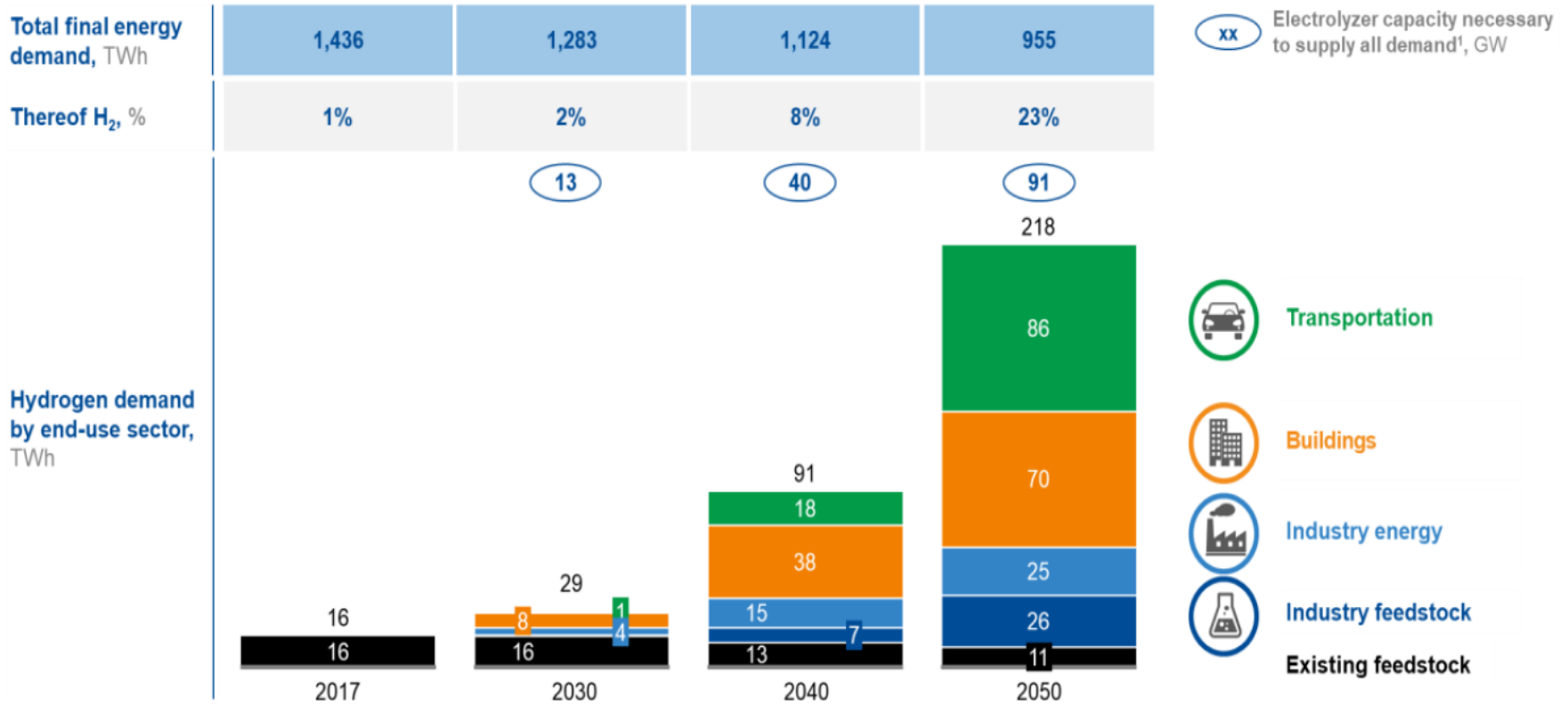
Grey hydrogen

- Production from **natural gas** or **coal** in a reformer
- **Emits CO2**



Installed capacity required to achieve indicated cost reduction of green hydrogen, assuming 12% learning rete.
Source: SNAM analysis.

POSSIBLE EVOLUTION OF HYDROGEN DEMAND IN ITALY



1. Assuming an electrolyzer efficiency of 75% with a 35% load factor
2. Less industry demand as existing H2 demand in Italy is lower vs the rest of Europe (as gas prices are high in Italy, SMR is less competitive); More buildings uptake as green H2 costs decline faster in Italy than in the rest of Europe (due to cheap

[1] Assuming electrolyzer efficiency of 75% with a 35% load factor
[2] Less industry demand as existing H2 demand in Italy is lower vs the rest of Europe (as gas prices are high in Italy, SMR is less competitive); more buildings uptake as green H2 costs decline faster in Italy that in the rest of Europe (due to cheap solar) and hence become competitive for heating (primarily in buildings)
Sources: IEA, SNAM analysis, EU Hydrogen roadmap

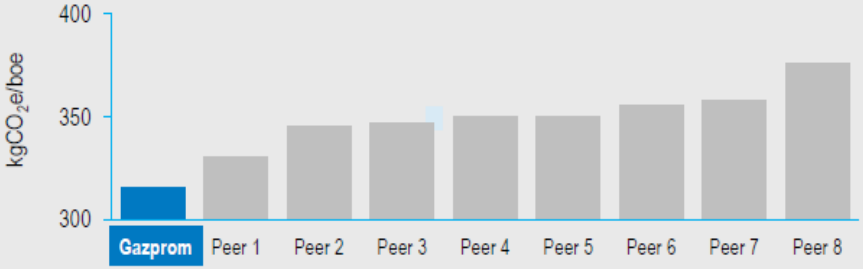
GAZPROM'S ENVIRONMENTAL PERFORMANCE

NEARLY "ZERO" METHANE EMISSIONS ACROSS SUPPLY CHAIN



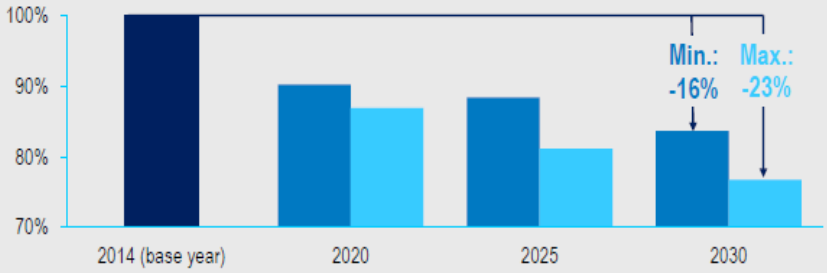
Verified by: KPMG

BEST AMONG PEERS IN TERMS OF CARBON INTENSITY



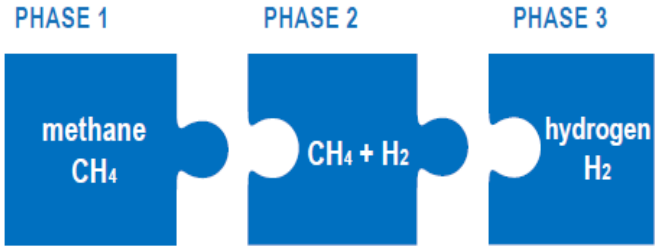
Source: CDP; Peers in alphabetical order: BP, Chevron, Eni, Equinor, Petrobras, Repsol, Shell, Total

EMISSIONS REDUCTION ROADMAP



Source: Roadmap on specific GHG emission reduction in Gazprom (2020-2030)

GAZPROM'S CLEAN ENERGY: FUTURE VISION*



* «PJSC Gazprom Pathways to 2050: Opportunities for the EU, 2018» (initiative submitted to the European Comission)

**GAZPROM IS ALREADY THE LEADER OF THE OIL & GAS SECTOR IN TERMS OF CARBON INTENSITY;
ADDITIONAL EFFORTS ARE MADE IN ORDER TO DIMINISH CARBON FOOTPRINT AND PROMOTE SUSTAINABLE DEVELOPMENT**



THANK YOU FOR YOUR ATTENTION!