

# Strategic Role of Biomethane

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**GREEN GAS POLAND 2019**  
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# Research Centre for Renewable Gases

## Who we are?

- Established 2019
- Independent research centre
- Developing production technology of renewable & sustainable gases
- Biomethane, hydrogen, propane...
- Based in Vienna



# Biomethane in Europe

## Latest update

- **Over 17 800 Biogas plants all over the Europe**
  - ~ 16.3 bcm
  - >33 m<sup>3</sup> of methane per capita
- **Over 540 Biomethane plants**
  - in AT, CH, DE, DK, ES, FR, FI, HU, IS, IT, LX, NL, NO, SE, UK
  - ~ 1.94 bcm
- About **18-19 bcm** of natural gas equivalent in hands...
- **> 10 500 MW** installed power in combined H&P
  - 4-5 fairly sized conventional or nuclear power plants

# Strategic Opportunities

- **European Natural Gas Grid**
  - Well developed, high quality fuel
  - BUT much limited options for greening
- **Biomethane GHG savings**
  - High GHG savings desired for NG blends
  - Biomethane from agriculture, gasification and P2G
  - Biomethane from waste treatment
- **Strategic goals**
  - Zero carbon-foot-print Natural Gas is feasible by 2050
  - Keeping the gas grid in function, and green

**but there is something more  
about renewable gases...**

**Everyone of us!**  
**Everyday... sends...**

# Everyone of us, Everyday... sends...





# Everyone of us, Everyday... sends...



- **350 billions Euro annually to the Gulf countries and Russia... for fossil fuels**
- **What about to keep our money in Europe?**





# European “Independency”

**Do you feel independent when reading this?**

- **Only 10 countries do not import Russian natural gas**
  - Belgium, Croatia, Cyprus, Denmark, Ireland, Malta, Portugal, Spain, Sweden, United Kingdom
- **Baltic countries and Finland import 100% ...**
  - Even the Netherlands with its gas reserves imports 8.5% (32 TWh)
- **Annual imports of 1 227 TWh or 27.7% (2014)**
  - 3.5% more compare to 2012
  - Three major pipelines (Nord Stream, Yamal, Brotherhood)



# European “Independency”

## Major import pipelines



# Green Gas Technical Potential

## Gas for Climate Report

- Biomethane AD: 62 bcm
  - Biomethane gasification: 33 bcm
  - Biomethane PtG: 15 bcm
  - Green electricity Hydrogen: 160 bcm
  - Blue (CCS) Hydrogen: 18 bcm
    - Potentially on new sites: 124 bcm
  - **Total: 288 – 412 bcm**
- 
- **Annual imports of non-EU gas: 300 bcm (2014)**
    - Total EU consumption: 442 bcm

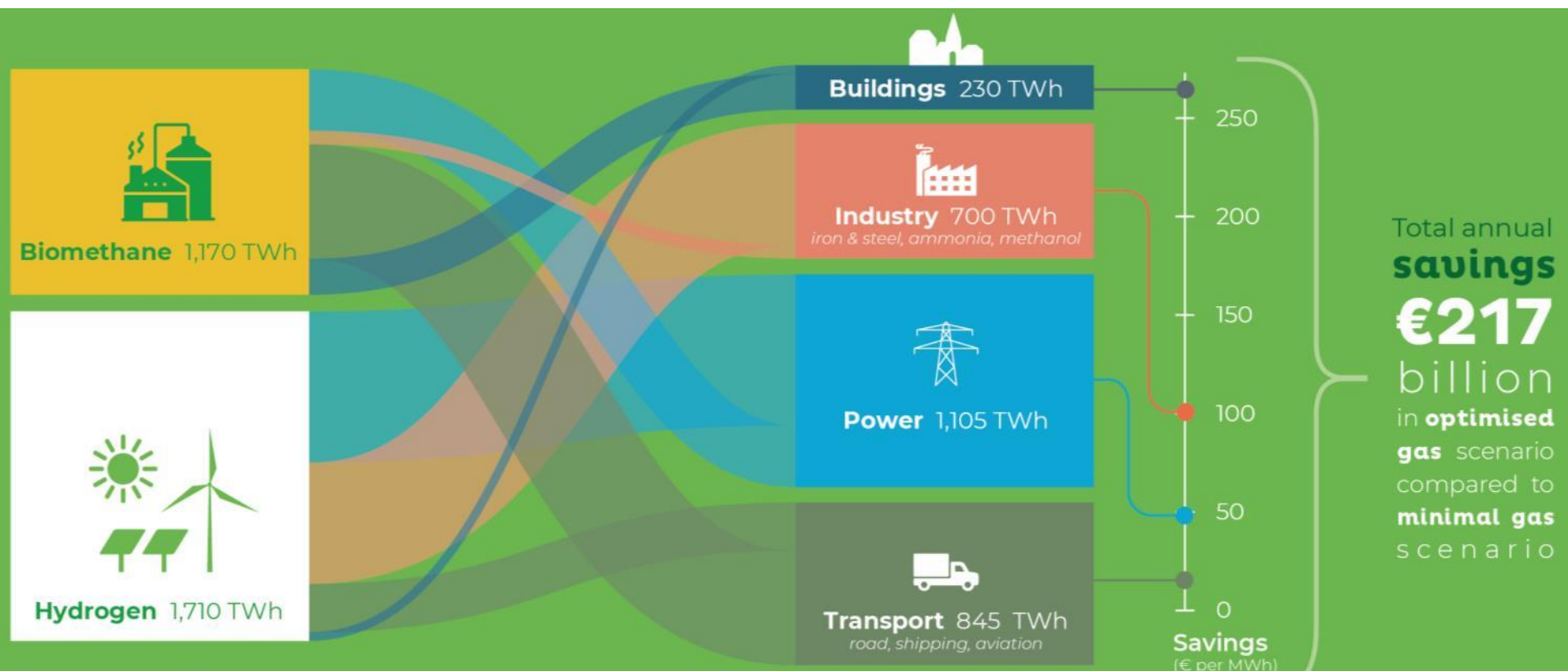
Source: [www.gasforclimate2050.eu](http://www.gasforclimate2050.eu)

# To Import or to Produce?

## Some production vs import capacity examples

- Biomethane AD
  - 62 bcm
- Biomethane gasification
  - 33 bcm
- Biomethane PtG
  - 15 bcm
- Green electricity Hydrogen
  - 160 bcm
- Nord Stream 1&2
  - 2x 27.5 bcm
- Yamal
  - 33 bcm
- Brotherhood
  - Urengoy–Pomary–Uzhgorod (4500 km) pipeline: 33 bcm

# To Produce & Use Where it Fits Best



# Strategy for Domestic Green Gas

- **Green gases deliver more than energy...**
  - ... all the advantages have to be acknowledged!
- **Green gas industry can be a pillar of EU energy security**
  - Particular green gas type potentials are comparable with major gas pipelines capacities
  - Entire biomethane potential *completely surpasses current imports* of Russian natural gas
  - Biomethane and hydrogen can *entirely avoid EU gas imports*
- **Clear domestic economic & security synergy**
- *Multitalented industry needs multiple strategy*

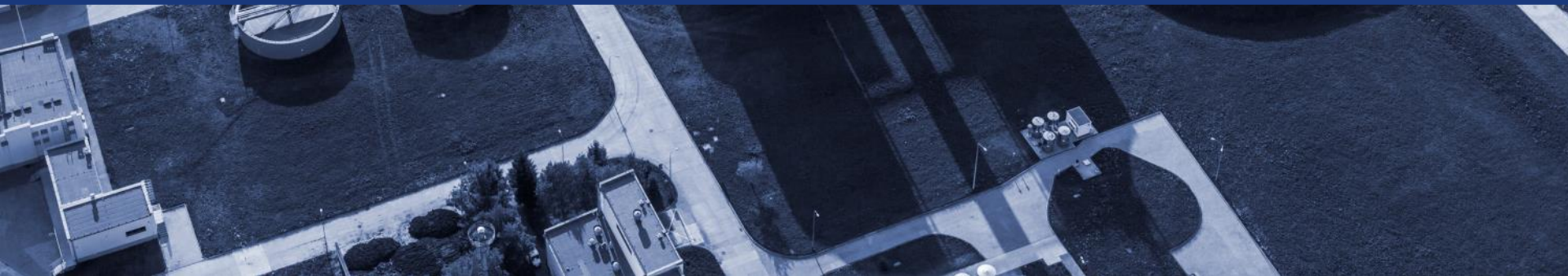




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**THANK YOU**