



# Biogas and biomethane in Italy

*Production and regulatory framework on grid connection*

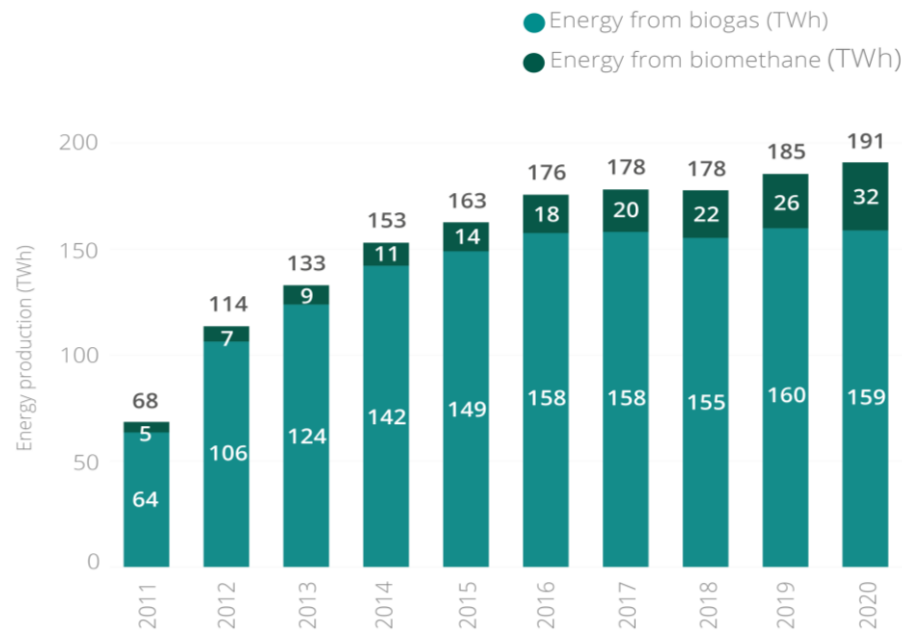
May 2022





# Biomethane is a growing renewable energy in the European Union, with substantial potential to reduce dependence on natural gas

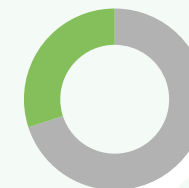
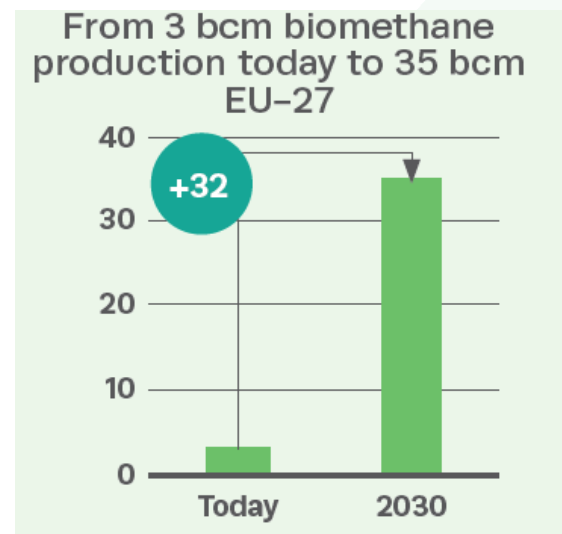
Biogas and biomethane combined are equivalent to 4.6% of the natural gas consumption of the EU



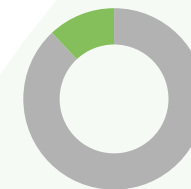
Scope: EU, EFTA, Ukraine and Serbia. Source: European Biogas Association

- Biogas and biomethane in 2020: **191 TWh** or **18.0 bcm** of energy
- They are already the 5<sup>th</sup> renewable energy (11%) produced in EU
- Increasing share of **biomethane (3 bcm in 2020)**
- **Germany, the United Kingdom and Italy** are the countries with the highest biogas + biomethane production.

The potential of biomethane production is strong enough to deliver 35 bcm in 2030 (REPowerEU's proposed target)



20% of gas imports from Russia



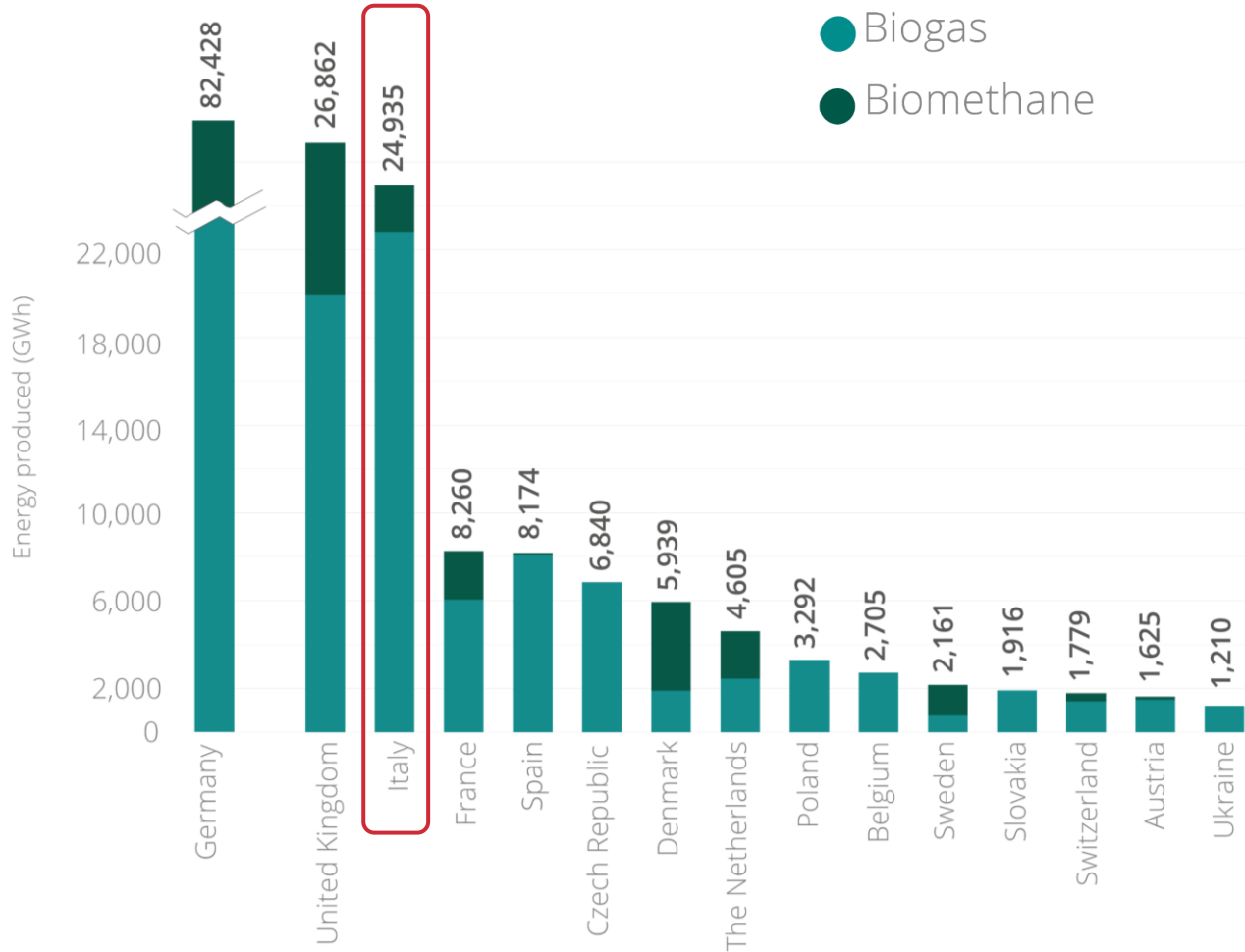
Equivalent to 10% of today's natural gas demand

This can be achieved by utilizing **only sustainable feedstock**:

- Agricultural residues
- Livestock effluent
- Sequential and intermediary crops
- Food waste
- Industrial and municipal wastewater



# Italy is one of the leading biogas markets in Europe



## Italy is the 2<sup>nd</sup> EU biogas producing country

23 TWh biogas production  
14% of Europe's biogas production  
1,710 biogas plants

## Italy is 2<sup>nd</sup> fastest growing biomethane market in Europe

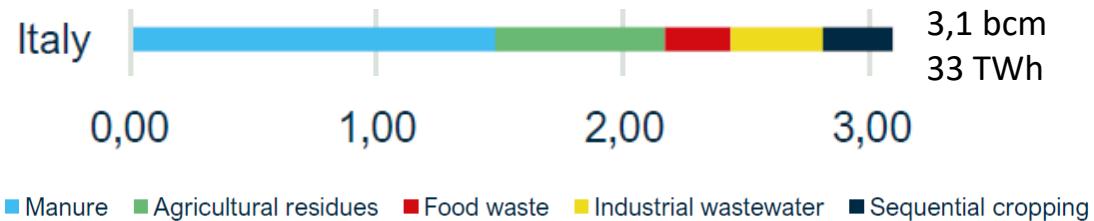
2.1 TWh biomethane production  
X 4 Production growth in 4 years (2018-2020)  
23 biomethane plants at end of 2020



# Italy can make a substantial contribution to biomethane upscaling by 2030

## Biomethane production potential by 2030

33 TWh / 3.1 bcm biomethane production



Source: European Biogas Association

**Transport** is expected to be one of the major end-uses

## Need for an enabling regulatory framework and on State's support scheme

Italy has set a biomethane production target of 1.1 bcm per year by 2023 (2018 Decree).

Publication of a new State Decree is expected this year to set up a support scheme for biomethane production after 2022

## Context

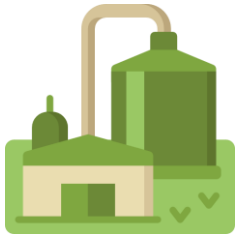
- The **Ministerial Decree 2 March 2018** considers proper to define an incentive legislative framework that **promotes** (especially for mobility) the **«production and use of biomethane»**. The decree assigns to the National Regulatory Authority (ARERA) the task of issuing **provisions on the technical and economic conditions for connecting biomethane production plants** to natural gas networks.
- The **Legislative Decree 8 november 2021 n. 199 (RED II 2018/2001 EU transposition)** extends the **incentive measures** introduced with Ministerial Decree 2 March 2018 also to **biomethane producers** who provide for its use in the transport sector and/or in other uses, including the **introduction of natural gas into the networks** and the production of electricity and heat in cogeneration plants.
- The topic is ultimately regulated by ARERA's resolution published on 17 march **2020**, which annex A describes the **«Directives for the connection of biomethane plants to natural gas networks and provisions on the determination of the quantities of biomethane eligible for the incentives»**.



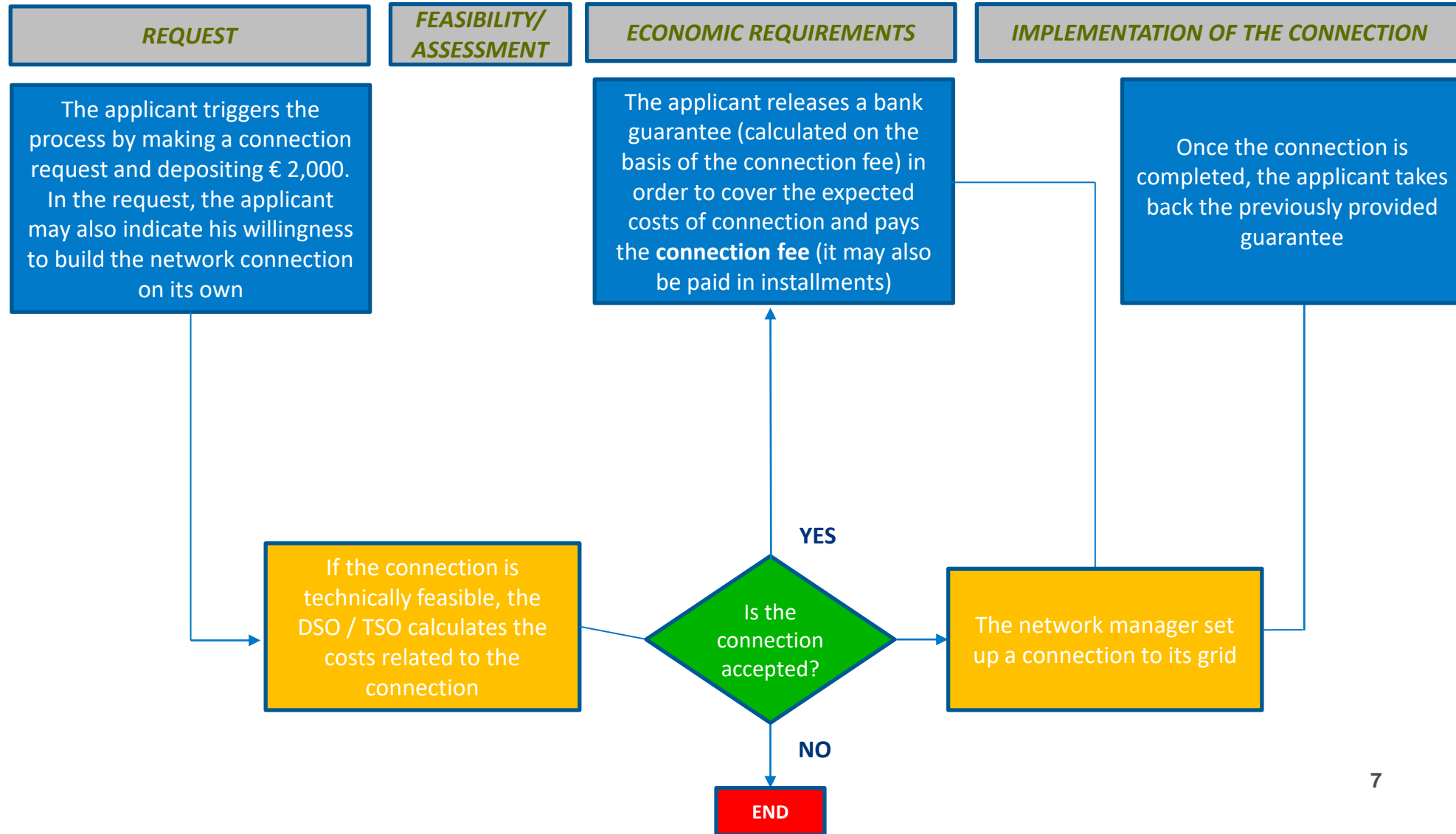
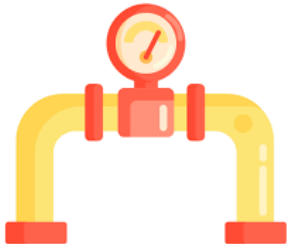
- **Network operator:** it manages the natural gas distribution or natural gas transport service, and it's **responsible** for the **safety and technical efficiency of the network**. It also defines and publishes the **quality specifications** (including for gas **odorization**) for the injection of biomethane into its network. Network operator could be both **TSO or DSO** depending on whether the network involved into the biomethane injection refers to the DSO or TSO's grid.
- **Biomethane producer:** it's **responsible** for the **authorizations** for the construction and operation of the biomethane production plant, and it **ensures that the biomethane to be introduced into the network complies with the quality specifications** (it also ensures the gas **odorization**).
- **Connection request:** it's submitted by the **biomethane producer**, directly or through the upcoming network user, for each biomethane production plant. The applicant can indicate the intention to manage the authorization procedure for the construction of the network connection system **on its own and/or to build the same network connection systems itself** (otherwise carried out by the network operator). The network operator evaluates the **feasibility** of the connection and **communicates the result** to the applicant.

# Italian regulatory framework on grid connection (3/4)

THE BIOMETHANE PRODUCER / APPLICANT



THE NETWORK MANGER (DSO / TSO)



## Total cost of a grid connection

