Advantages of biomethane

**Green gas minimizes the overall decarbonisation costs**

**Agricultural supply chain**
Create value for local communities

**Example of circular economy**

**Efficient, flexible and programmable**

**100% renewable and sustainable**

Biomethane can significantly contribute to the achievement of decarbonisation objectives in all sectors: from transportation, to heating and cooling, to electricity generation up to industrial uses.
The unlocked potential of renewable gas in Europe

VISION: Net zero emissions EU energy system by 2050 with gas and electricity

Renewable gas

- Biomethane with CCS
- Green Hydrogen
- Synthetic methane

Low-carbon gas

- Blue Hydrogen
- Natural gas with CCS

Potential of green gas by 2050: 270 bcm

160 bcm
15 bcm
95 bcm

Solution for hard-to-decarbonize sectors
Provides a case for negative emissions

Saving €217 billion annually

Source: «Gas for Climate 2019»
### Ministerial Decree March 2, 2018 - key words

- **CIC**
  Certificates for consumption (CIC): the way to incentive injection of biomethane into the gas network for transport uses to biomethane Producers

- **Biomethane Producer**
  holder of the authorizations for the construction and operation of the biomethane plant

- **CNG/LNG relevant station**
  CNG/LNG station built by the Producer at his own expense (at least 51% of the cost of realization)
Focus on Ministral Decree March 2, 2018 - Article 5

Biomethane Incentives for transport uses

Questions & Answers

KEY POINTS

- Maximum annual incentive quantity: 1.1 bcm

- Biomethane Producer sells to GSE @ PSV_price - 5% sale (₽ 20 €/MWh)
- GSE → Producer: CIC = 32€/MWh (64€/MWh for advanced biomethane)
  → Advanced biomethane is valued ₽ 84€/MWh (64+20 €/MWh)

- Biomethane Producer sells directly to the market
- GSE → Producer: CIC = 32€/MWh (64€/MWh for advanced biomethane)
  → Advanced biomethane is valued ₽ 84€/MWh (64+20 €/MWh)

CNG/LNG relevant station

- CIC +20% CIC up to 70% station construction costs (max € 0.6m)
- requirements to access incentives: >50% investment costs by Producer
Biomethane connection to the Italian gas grid

From 2016 until today
On Transport Network (Snam Rete gas)
• 182 formal requests for connection
• 34 contracts signed to connect biomethane plants into the transport network, 350 mln cbm / year capacity
  ❑ 8 connections ready to injection biomethane, ~ 90 mln Smc / year capacity
    → 3 plants in operation, 52 mln Smc / year capacity
  ❑ 26 connection under construction, ~ 260 mln Smc / year capacity

On Distribution Network
• 3 plants in operation (~16 mln cbm / year capacity)

Potential Italian biomethane 9,5 bcm in the medium-long term (~10% Italian gas demand)

Biomethane (% for sector)

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Offers already accepted
Plants already built

(update March, 31 2019)

(*) 2 +1 on Distribution Network
(**) 4 +1 on Distribution Network
(*** 1 on Distribution Network

http://www.snam.it/it/trasporto/Processi_Online/Allacciamenti/procedure-moduli/nuovi-punti-consegna-biometano/biometano.html
The Italian CNG market

- Expected to reach ~2200 stations, ~2.5 mln vehicles and 4 bcm by 2026

**CNG/LNG STATIONS IN ITALY**

- [# CNG/LNG stations]

**ESTIMATED CNG STATIONS IN 2026**

- [# CNG stations]

- First L-CNG station of S4M will open in October in Pesaro

### % CNG stations / Total

- CNG > 10%
- 5%<CNG<10%
- CNG < 5%

### LNG stations

- (of which) LNG

### Public

- 45%

### Existing Stations

- 50%

### 2017 - 2026

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNG vehicles</td>
<td>1 million</td>
<td>2.5 millions</td>
</tr>
<tr>
<td>CNG consumption</td>
<td>1.1 bcm</td>
<td>4 bcm</td>
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ACI, Snam, MiSE, Federmetano, Ecomotori.net
10% EU mandatory target (final consumption by 2030)

Define a role for TSOs to facilitate and scale up infrastructure investments

Regulatory framework: harmonization at EU level (e.g. reverse flow DSO-TSO)

Facilitate cross-border trade of renewable gas including a well-functioning guarantee of origin scheme

Innovation (EU programs: e.g. Horizon Europe, PCI/CEF)

EU legislation on mobility: support the use of renewable gas in transport to help to decarbonise of the transport sector (e.g. Bio-CNG&Bio-LNG)

EU legislation on efficiency: support the use of renewable gas in the heating sector