



**COGEN**

**europe**

**ENTSO-E**

**28 June 2012**

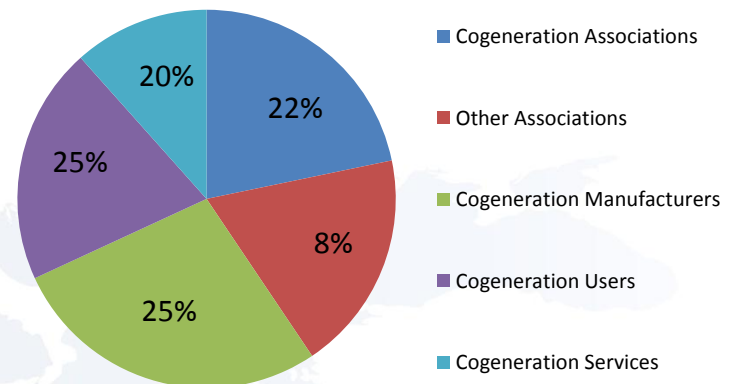
changing the way  
Europe provides heat and electricity  
for a sustainable future

# COGEN Europe

COGEN Europe, the European Association for the Promotion of Cogeneration, about 70 members in 23 countries:

- 15 National COGEN Associations
- 13 other associations
- **19 cogeneration manufacturers**
- **14 cogeneration users**
- 8 cogeneration services

**Membership Activity**



# Combined Heat and Power

- It is all about a heat demand to satisfy, not about the electricity stream
- CHP Manufacturers/users serve a primary heat demand and as a secondary product produce electricity
- They are not expert in electricity markets (generating units are designed for the heat demand)
- Nevertheless extensive experience gathered on the impact of CHP on grid operation:
  - CHP units generated 370TWh of elec with capacity of 100.2 GWe in 2008(12% EU power plant Capacity)
  - potential for 655 TWh with 211 Gwe
  - On balance, electricity cogenerated is used onsite or exported to the grid
- CHPs are already important contributor to electricity systems and are keen to take a greater role in the future



# COGEN Europe position on NC RfG

## **COGEN Europe assessment is still negative**

1. Specifics of cogeneration units have not properly be taken into account (main aim is to produce and to ensure continuity in heat supply)
2. Applying the NC RfG to certain classes of microgeneration technologies will put an unfair burden on this sub market of the cogeneration sector

# NC RfG: COGEN Europe requests

## → **Expansion of the steam CHP family to others heat vector/medium is key**

While recognizing the positive changes made to the NC concerning the cogeneration units producing steam intended to be used in industrial processes, the current wording restricted to date to “steam” and “industrial processes” should be expanded to heat in general. The rationale for so doing builds on the equal treatment principles that must be adhered to for others technologies providing heat in other forms than steam (gas exhaust, hot water...) and also to consumers other than industrial processes (could be district heating networks, industrial heating/cooling networks meeting users comfort expectations)

# NC RfG: COGEN Europe requests

## → Postponement of the entry into force of the NC for certain classes of micro-chp technologies

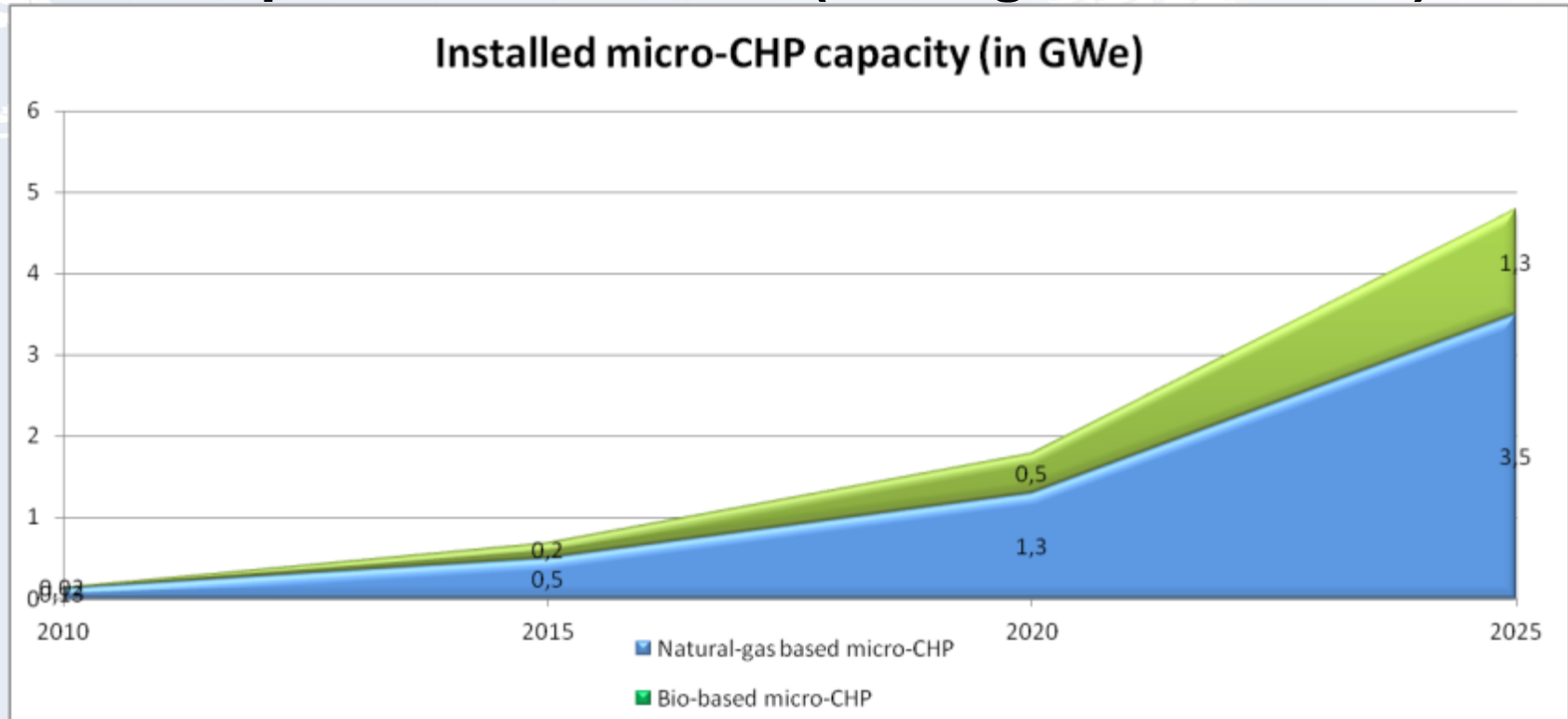
Transitional provision for ICE and stirling engines micro-CHPs (below 5 kWe) is crucial:

- Currently non inverter based technology (need redesigning and manufacturing)
- Nascent market at peak of investment (with end-user prices in the higher range)
- Extra costs for manufacturers and end-users, possibly in the 10-20% range, not at all commensurate with benefits for grid operators
- Process of getting a derogation at TSO level will be a tough route for microchp (boiler) manufacturers
- Transitional period of max 3 years is definitely too short



# NC RfG: COGEN Europe requests

## Micro-chp market forecasts (stirling-ICE-Fuel Cell):



Extracted from “Cogeneration 2050, the role of cogeneration in a European decarbonised energy system”  
[http://www.cogeneurope.eu/cogen-europe-report-cogeneration-2050\\_307.html](http://www.cogeneurope.eu/cogen-europe-report-cogeneration-2050_307.html).

Projections show **1.8 GW cumulative capacity in the EU in 2020 (4.8 in 2025)** to be compared to the installation of 3 GWe of variable RES in one month in 2011 in Germany (FAQ7)

# NC RfG: COGEN Europe requests

## **Micro-chp: Implications of adding an inverter for a 1 kWel stirling engine**

- Not an off the shelf solution
- Significant development cost and 2 years minimum
- Increase in complexity and risks to reliability (from lifetime of the package to a third of it)
- Additional on cost of 500 euro per product
- Electrical efficiency reduction from 15% to 10 to 11%, with max capacity output falling below 800W...

To note: the current market size is estimated at 10,000 units



# NC RfG: COGEN Europe requests

## Micro-cogeneration case:

- Costs of meeting NC requirements may seem small in term of absolute amount of money but they are huge for players involved in that nascent market (not to indicate costs/kW capacity or lifetime kWh production)
- What about the 800 W threshold for type A generating unit?
- What about the freedom of choice of end-users? (switching on/off of hot and space water production)

Thank you for your attention