COGEN europe

ENTSO-E

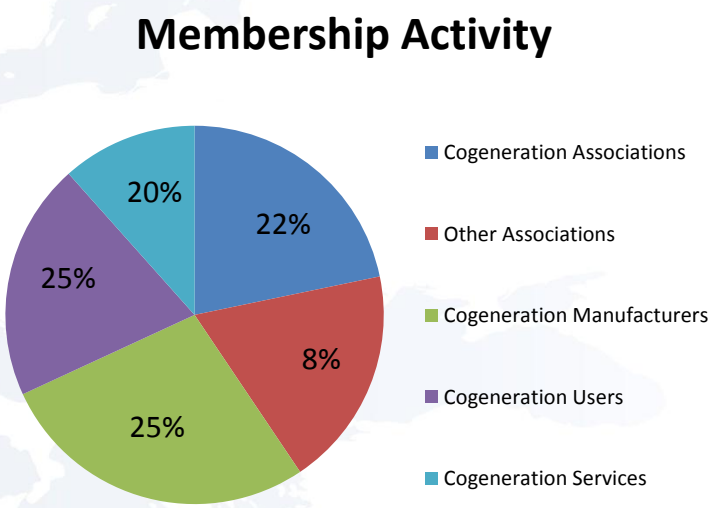
22 March 2012

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

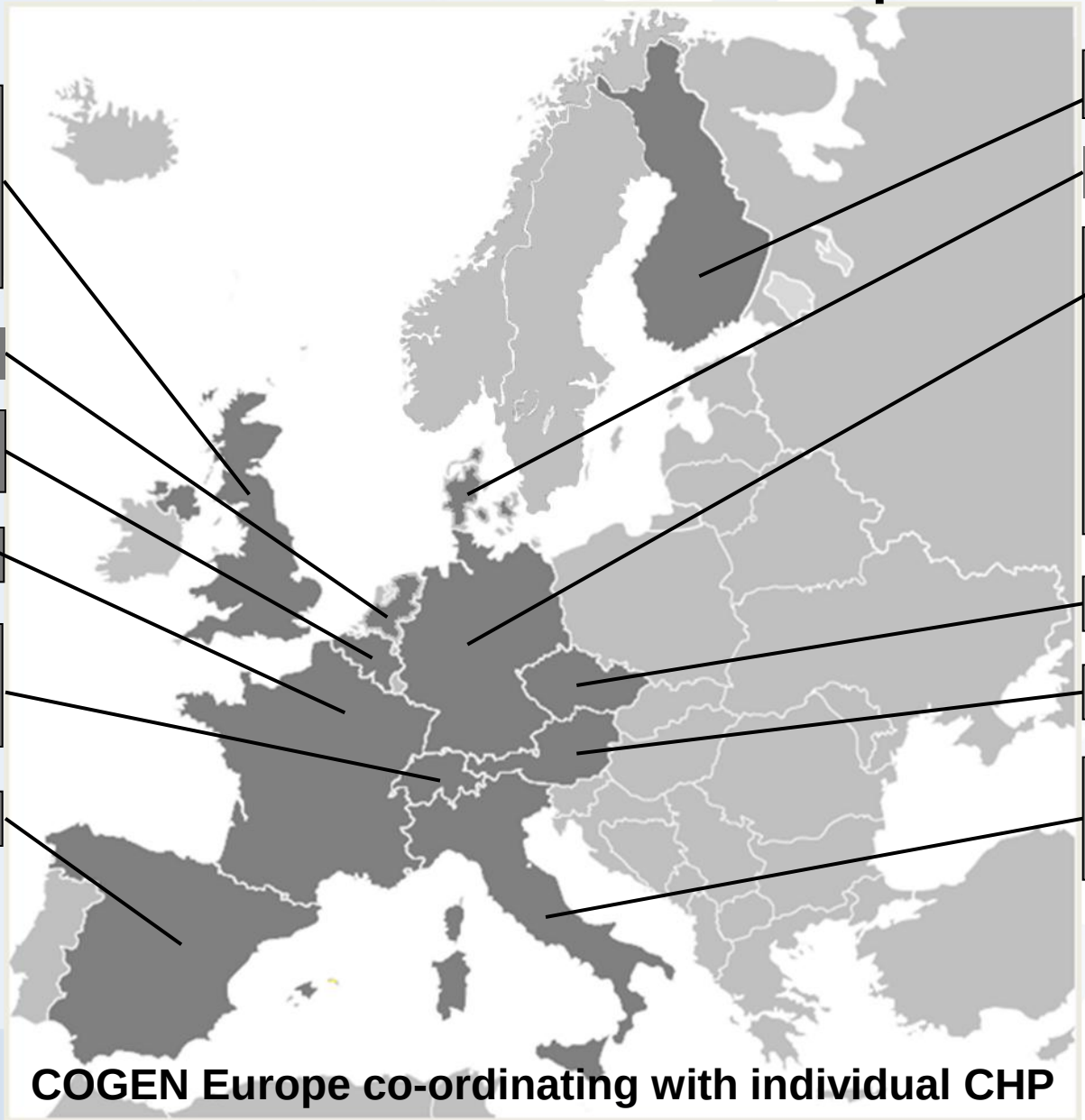
COGEN Europe

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



CHP manufacturers in Europe



Centrax
Rolls-Royce
Ener-G
Dresser-Rand
Finning

OPRA Turbines

Vyncke
E. Van Wingen

Alstom

Caterpillar
Turbomach
ABB

Guascor

Wärtsilä
MW Power

Aalborg Industries

Siemens
MWM
Tognum (MTU)
MAN Diesel & Turbo
PRO 2
Seva Energie
2G Energietechnik
HAASE

TEDOM

GE Jenbacher

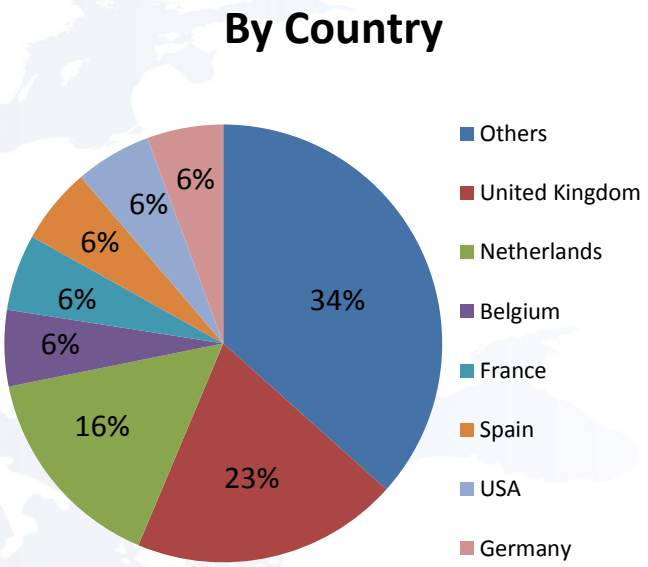
AB Group
Turboden
Ansaldo Energia

**COGEN Europe co-ordinating with individual CHP manufacturers,
and European trade associations**

COGEN europe

COGEN Europe

- United Kingdom: 15
- Netherlands: 9
- Germany and Spain: 5
- Belgium, France and USA: 4
- Others: 23



COGEN Europe

Products/users covering the whole range of the spectrum:

•From micro-chp of 1kw electricity locally embedded…

… to very large turbine with heat recovery systems, connected to transmission lines

•From engine to turbines…

It all starts with a <u>heat demand</u> to satisfy

•they follow the local heat demand, electricity is a "by-product" and its quality should not deter the energy efficiency of the CHP unit (heat demand is the design/operating criteria)

COGEN europe

Network Codes on connection

Development of NC

- The requirements are written for large plants while CHP units are rather of small size
- Most of the CHP units are connected to DN and do not export the full elec production
- Large 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

COGEN europe

Grid codes

→ **Implementation of NC rfg at national level**

- power generating facility owners are not experts in electricity markets, fixing of sensitive issues fit better in the NC itself + some requirements could be met by manufacturers/installers instead (including title 5 derogations)
- Certification and route to installation should be as simple (and cheap) as possible → “new approach directive” should be preferred and use of standards favoured
- « Significant generating unit » and « Significance test » definition are key → not a simple entry table but linked to the local-regional context. Clarify that CHPs (most of them) could be granted derogation ex-ante
- Clarify that the NC are by default not retroactives
- Clarify that NC limit values should not be understood as the boundaries
- Transitional period of max 3 years is too short for redesigning and manufacturing

COGEN europe

Grid codes

→ **Implementation of NC rfg at national level**

- Definitions and Article 6 (relationship with national law provisions) should be expanded to take into account the above
- At the time of the publication of the NC by the Commission, technologies and market demands may have changed substantially → NC should not prevent future technical solutions
- Review process of the NC will probably be longer and tougher than expected, better to fix most of the issues now
- The NC will move from a technical norm to a European legislation subject to interpretation…

COGEN europe

COGEN Europe willing to contribute to the NC work

Thank you for your attention

www.cogeneurope.eu

Grid codes

→ **Technology/regional specificities**

- Definition of sub-class according to mode of operation of the unit is key
- Microchp stirling: no inverter
- Engine
- Turbine
- Responsabilities and power of TSO well defined but not so true for DSOs
- Possibilities for derogations are important for all stakeholders
- Low Voltage Ride Through, the range of variation of voltage and frequency is too wide
- At the time of the publication & entry into force of the NC, technologies and market demands may have changed substantially → NC should not prevent future technical solutions (bottom up approach)