



COGEN europe

ATEE, journées micro-cogénération

25 janvier 2012

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changing the way

Europe provides heat and electricity

for a sustainable future

Agenda

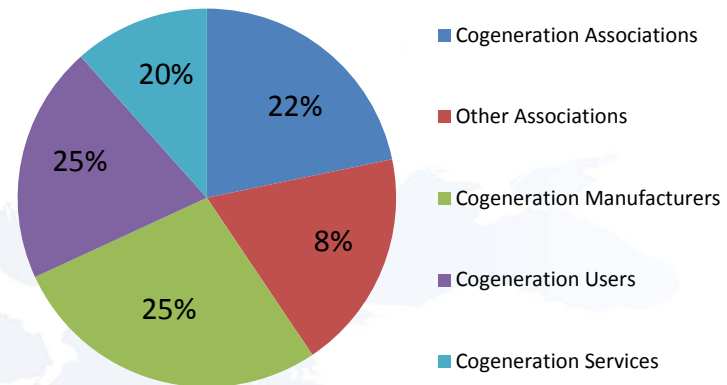
- ❑ COGEN Europe
- ❑ la politique énergétique européenne en bref
- ❑ La directive Eco-Design
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- ❑ Informations sur le développement de la micro-cogénération en Allemagne et en GB
- ❑ Conclusions

COGEN Europe

COGEN Europe, the European Association for the Promotion of Cogeneration, has currently 69 members in 23 countries:

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

Membership Activity

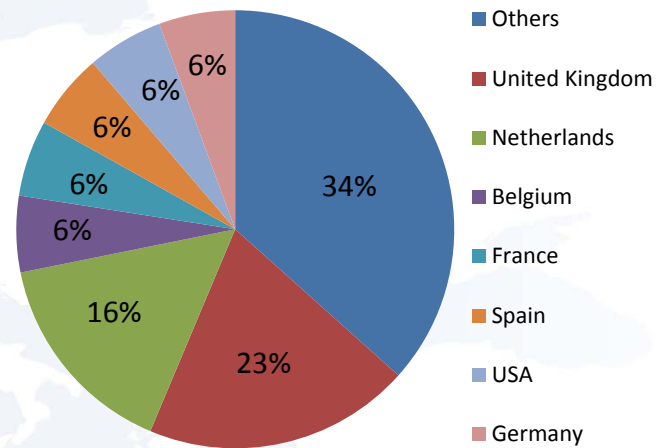


Several dedicated micro-chp WGs are active

COGEN Europe

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

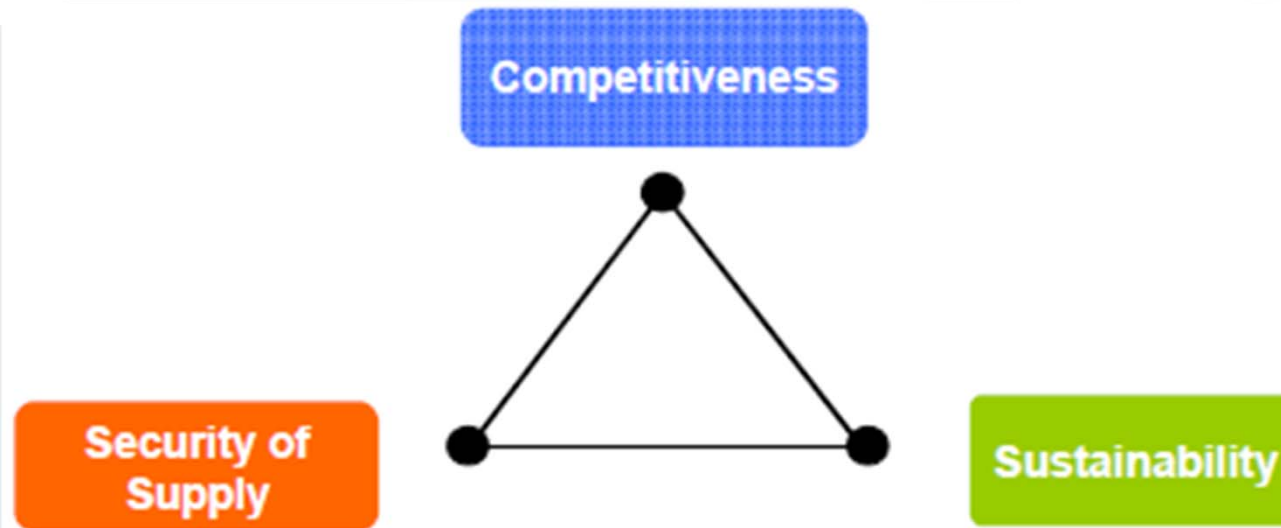
By Country



Europe's Energy policy

ENERGY STRATEGY 2020 (published end 2010):

→ **5 PRIORITIES** to achieve our 3 goals



- Efficient use of energy
- Integrated energy market
- Secure, safe and affordable energy
- Technological leadership
- Strong international partnership

Europe's Energy policy

ENERGY ROADMAP 2050 (published end 2011):

→ Main messages:

- **Decarbonisation of the energy system is technically and economically feasible**
- **Energy Efficiency and renewable energy are critical** (notably to counter the growing role of electricity)
- **Early Investments cost less**

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Eco-Design of Energy Using Products

LOT1

- Main points of Eco-Design
 - Affects all micro CHP <50kWe
 - Establishes a standard methodology comparing efficiency of different heating products (label)
 - Includes requirements on NOx emissions
- Current Status
 - LOT1 implementing measures for boilers due to go into interservice consultation soon (include proposals on NOx and efficiency Methodology)
 - COGEN Micro CHP Vision group: meet with several DGs
 - Maintain pressure on NOx through MEPs
 - Push for methodology to suitably support microCHP

NOx limits proposal for Eco-Design of EuP

mg/kWh fuel input	Fuel	
	Gas (=natural gas / LPG)	Fluid (=fuel oil/diesel /kerosine)
ICE mCHP*remark2	320	420*remark1,2
Stirling mCHP	120	200
Fuel cell mCHP	120	200
Condensing boiler	70	120
Boiler	70	120

Remark1:

The limit value for ICEs powered with liquid fuels is to be introduced 2 years later than for ICEs powered with gaseous fuels, but not earlier than 2017

Remark 2:

See notes at end of this document regarding BEMS legislation and micro-CHP

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EE within the Europe's Energy policy

Rising challenges:

- Dependence on imports of oil and gas is growing. The EU needs to save energy and find new energy alternatives and **to produce more of its own energy**
- The EU committed to cut its greenhouse gas emissions to combat climate change. **The energy system must become low-carbon.**
- Massive investment is needed for the modernisation of energy infrastructure. **Investments** in the order of €1 trillion are needed by **2020 to replace obsolete capacity**
- Energy prices are rising. Citizens and businesses are entitled to have access to **affordable energy.**

→ Legislative proposal on energy efficiency COM (2011) 370 to provide an enhanced framework for energy efficiency and savings policies of Member States

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The new EE Directive

Legislative process:

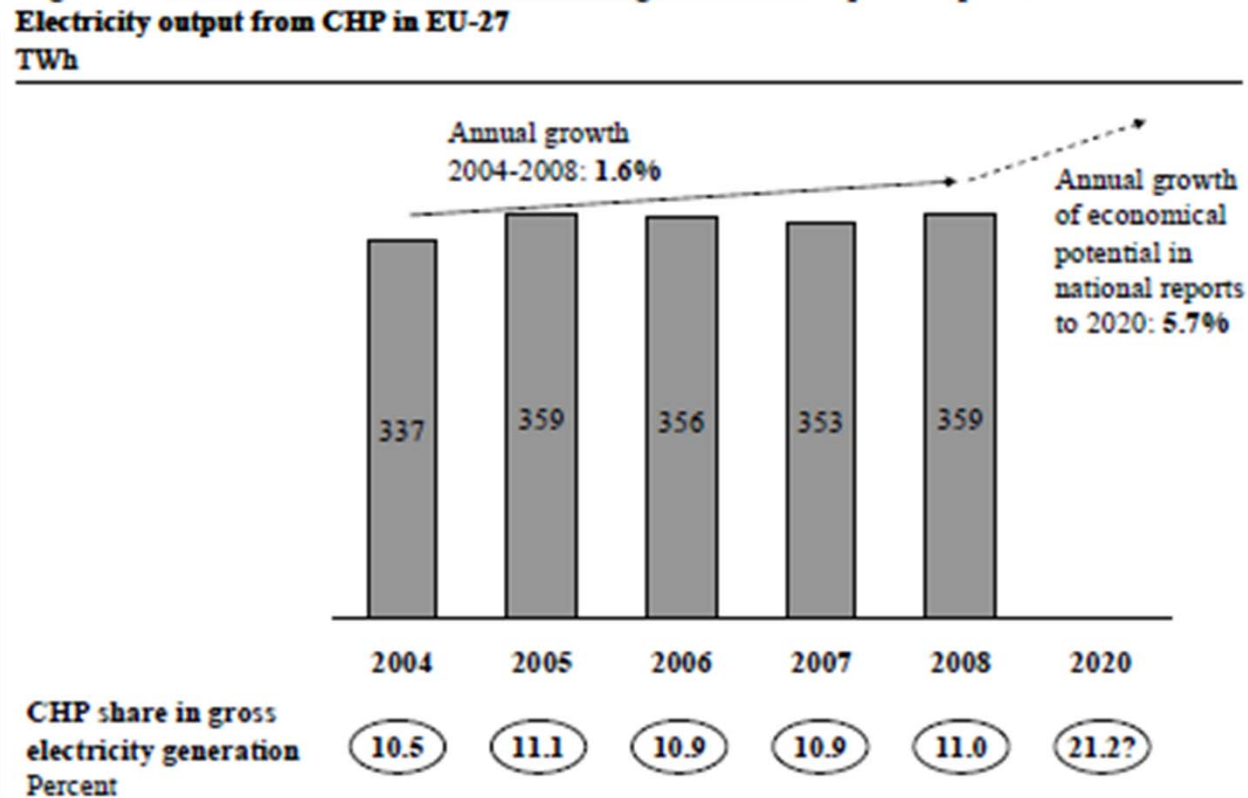
- The text was published by the European Commission on 22 June 2011
- The new Energy Efficiency Directive incorporates the CHP Directive (2004) and ESD (2006)
- The text is now in co-decision procedure between the European Parliament and the Council

Since the 2004 CHP Directive:

- potential CHP market share of 21% in the electricity market by 2020
- calculation methods & approach to high efficient cogeneration now well understood at national level
- But the potential did not turn into a market uptake...

The new EE Directive

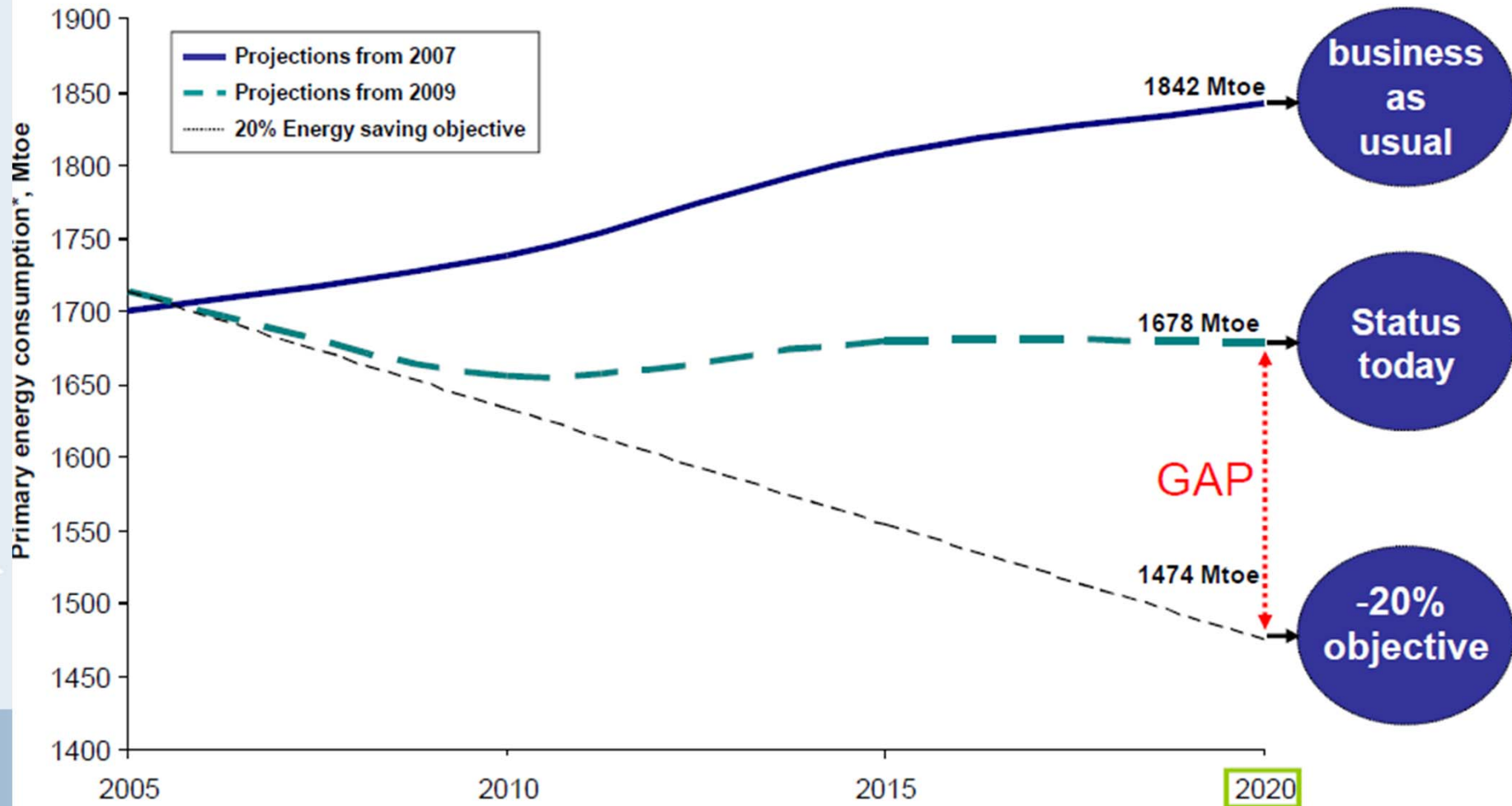
Illustration of the CHP growth rate increase required up to 2020 in order to achieve the potential identified by the MS:



Roughly 11% of the CHPs are fuelled by bioenergy

Why Energy Efficiency matters?

SO FAR THE EU IS NOT ON TRACK TO MEET ITS 20% ENERGY SAVING TARGET BY 2020

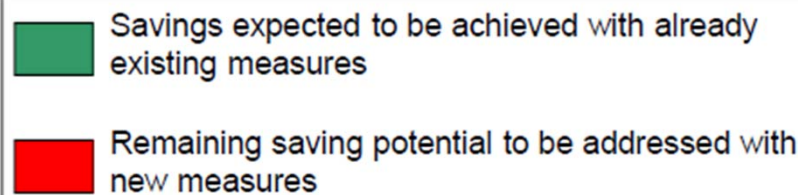
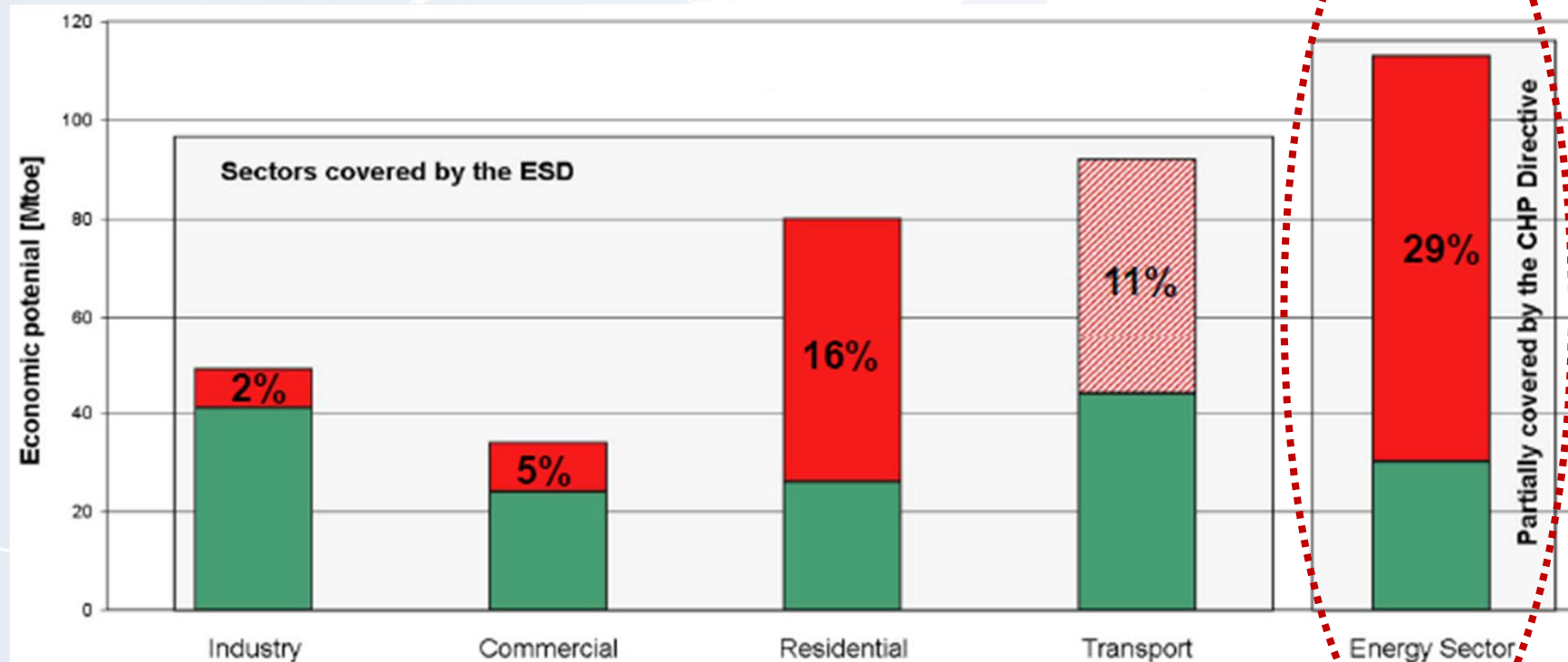


* Gross inland consumption minus non-energy uses

The new CHP/Energy Efficiency Directive

→ Aiming at achieving the 20% EE target

What the IAS tells us:



The new EE Directive

Main elements of the supply side measures:

Efficient heating & cooling (Art.10)

- **National heating and cooling plan** for development of HE cogeneration and efficient DH&C infrastructure
- New **thermal electricity generation installations** (>20 MW) to be equipped with high-efficiency cogeneration units and located in a place where waste heat can be used. Conversion to CHP as a condition for updating permit/licence of existing installations (>20 MW) undergoing substantial refurbishment or whose permit needs to be updated
- New or substantially refurbished **industrial installations** (>20 MW) generating waste heat to make use of it and be connected to DH&C networks
- **Guarantees of origin** for electricity from high-efficiency CHP

Energy transformation (Art.11)

- **Inventory of installations** (for combustion of fuels (=>50 MW), refining of mineral oil and gas)

Transmission & distribution (Art.12)

- Energy efficiency criteria in energy network regulation
- National **plans on energy efficiency potentials** of energy networks, identifying measures & investments for efficiency improvements
- Removal of incentives in network tariffs increasing volume of transported energy
- **Guarantee transmission & distribution; priority or guaranteed access and priority dispatching** of HE cogeneration electricity



The new EE Directive

Tentative timeline:

- Expected vote in the ITRE Committee on 28 Feb. 2012
- Possible political agreement mid 2012 under the Danish presidency
- Entry into force end 2012
- Implementation at MS level end 2013-early 2014

More information on

<http://ec.europa.eu/energy/efficiency> and via the
COGEN Europe staff

Micro-CHP in the EED

- Few lines on micro-chp in the original text
- MEPs Carvalho, Merkies , Liese, Hall... very supportive of the micro-chp sector. Several amendments have been tabled by them
- There is also a move from the Parliament to foster the creation of Demand Management services and ancillary services
- To date, cross party agreement on micro-chp
- Pressure still needed to keep those amendments until the end of the co-decision process

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Micro-CHP in Germany

Draft law for CHP and micro-CHP issued 14 December 2011:

- Future operators of Micro-cogeneration plants with a capacity up to 2 kW have a choice: For the production of CHP electricity within a period of 25 000 full load hours they can be paid out in advance. The power generation must be proved by 15 years after commissioning. In case of a shortfall, the subsidies have to be paid back proportionately. The overall administrative burdens are reduced to a minimum
- The chp promotion will be adopted by supporting heating and cooling storage to compensate intermitted solar and wind power
- Budget: The total CHP promotion is limited to € 750 Million per annum
- Adoption expected by April 2012

Micro-CHP in the UK

- In 2010 establishment of Feed-in-Tariffs for micro-chp at 10 p/kWh
- 2012, legislation to be reviewed, strong call from industry grouping to :
 - Raise the FiT to 15 p/kWh
 - Extend the support for the development of 30,000 units
- Industry target of 1 million units by 2020, mainly replacing condensing boilers

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Outlook for micro CHP

- Firm part of energy efficiency agenda, for 2020 and now 2050
- Energy Efficiency Directive is an opportunity to improve the EU level policy structure specifically for micro CHP
- Flexible and reactive CHPs have a key role to play in the future energy system
- Micro-chps enable smart meters to be used smartly
- National, local funding/incentives are needed to reduce the payback time and get to the mass-market
- Decentralized vs centralized model, the true lies in between...

Merci de votre attention!

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