

FORTUM
Capital
Markets
Day/10

2010/09/16

TAPIO
Kuula
FORTUM
today
2010/09/16

Agenda

- Fortum today
- Industry analysis
- Summary

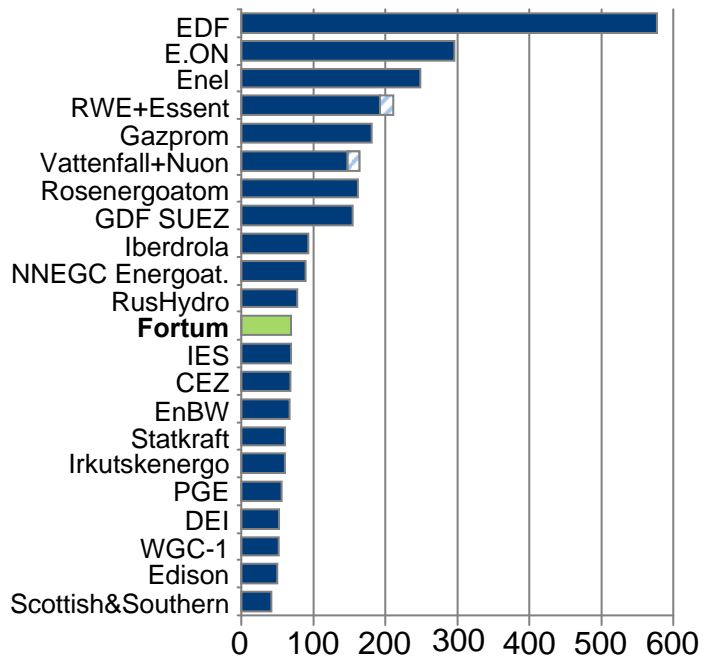
TAPIO
Kuula
FORTUM
today

2010/09/16

Fortum is today a mid-sized European power generator; Globally #4 in heat production

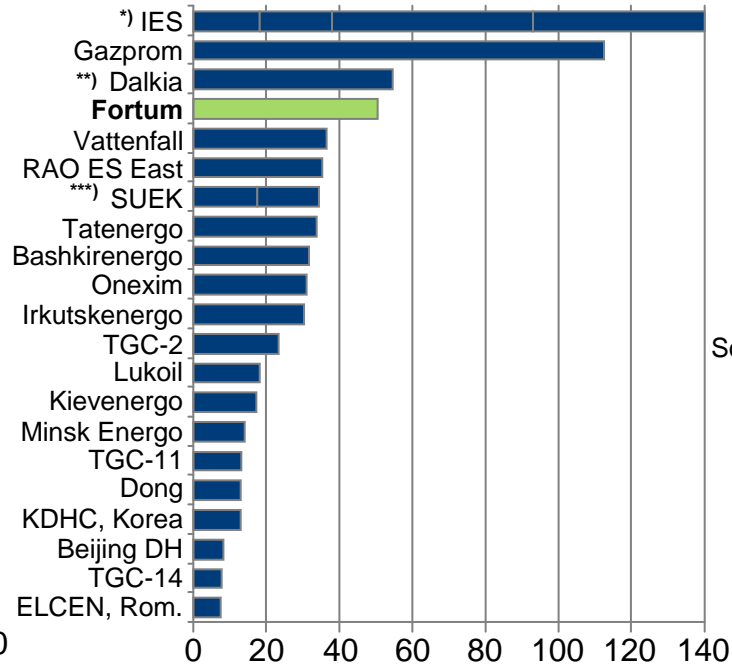
Power generation

Largest producers in Europe and Russia, 2008 TWh



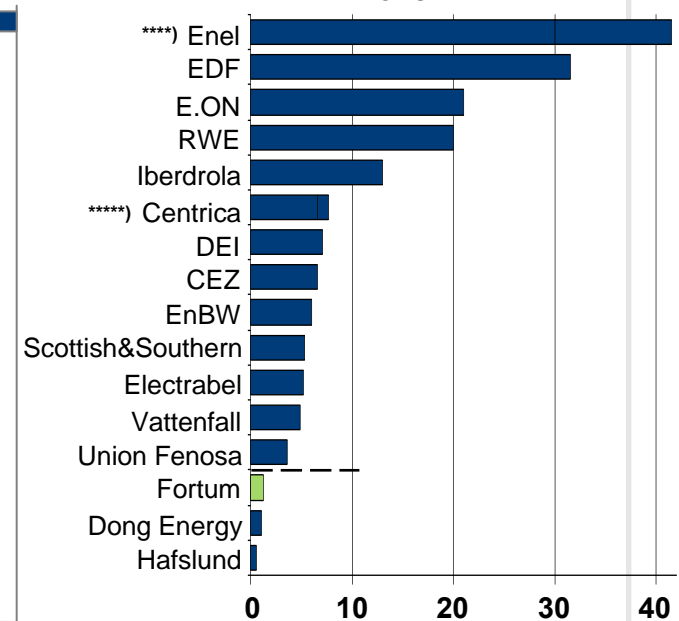
Heat production

Largest global producers, 2008 TWh



Customers

Electricity customers in EU, 2007 millions

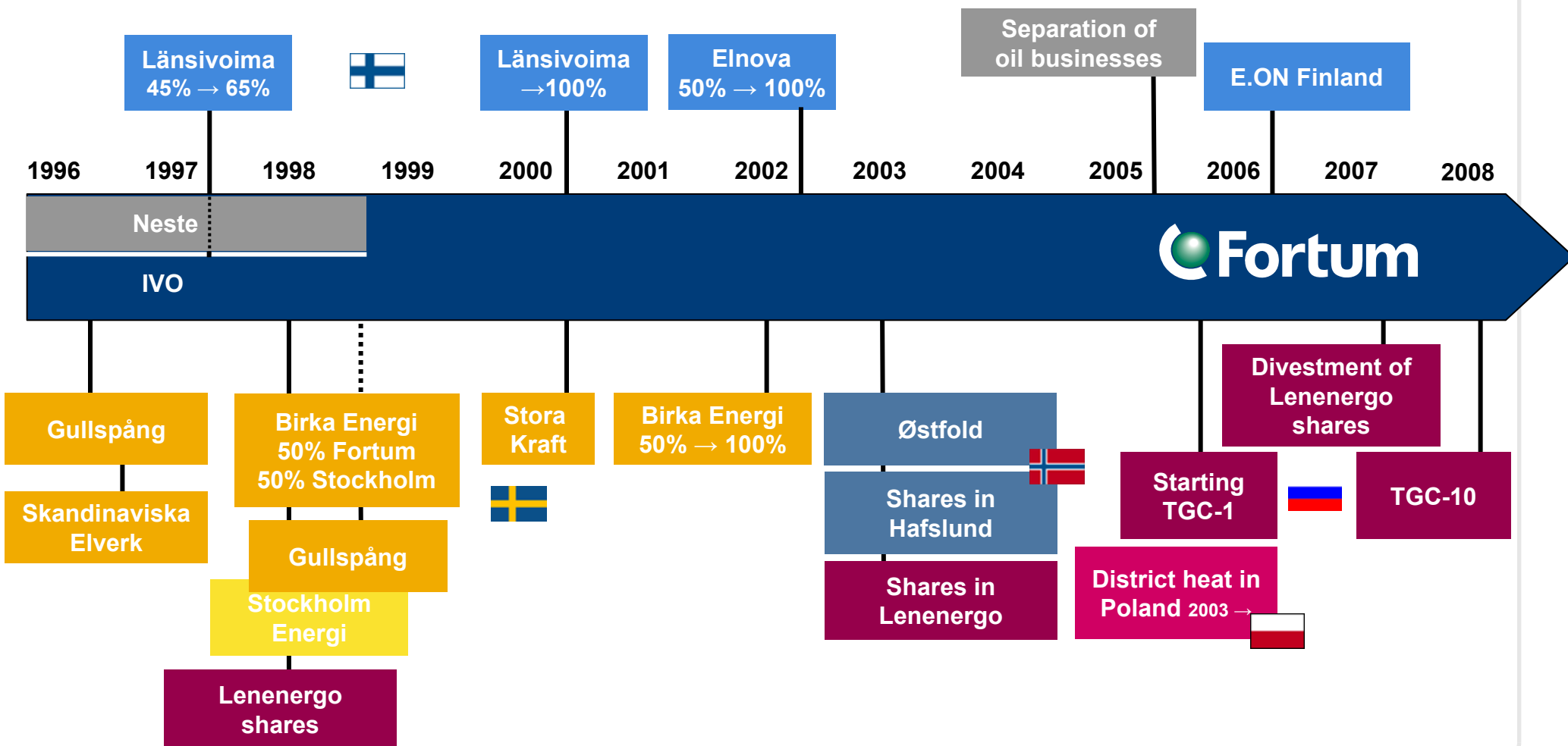


¹⁾incl. TGC-5, TGC-6, TGC-7, TGC-9, ³⁾incl. TGC-12, TGC-13





⁴⁾incl. Endesa assets / customers pro forma, ⁵⁾incl. SPE

Source Company information, Fortum analyses, 2008 figures pro forma, ²⁾ 2007

A solid track record of leveraging industry consolidation opportunities

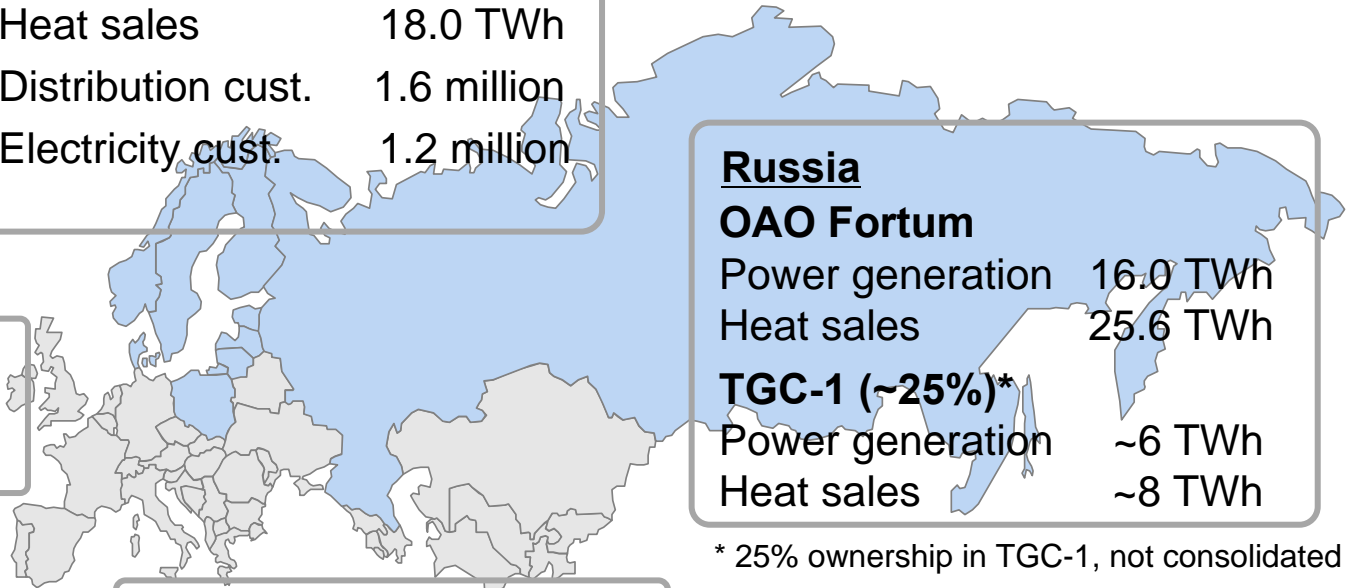


Our geographical presence today

Nr 1		Heat	<u>Nordic countries</u> Generation 48.1 TWh Electricity sales 54.9 TWh Heat sales 18.0 TWh Distribution cust. 1.6 million Electricity cust. 1.2 million
Nr 1		Distribution	
Nr 2		Electricity sales	
Nr 3		Power generation	

Key figures 2009	
Sales	EUR 5.4 bn
Operating profit	EUR 1.8 bn
Personnel	11,500

<u>Poland</u>	
Heat sales	3.7 TWh
Electricity sales	20 GWh



<u>Russia</u>	
OAo Fortum	
Power generation	16.0 TWh
Heat sales	25.6 TWh
TGC-1 (~25%)*	
Power generation	~6 TWh
Heat sales	~8 TWh

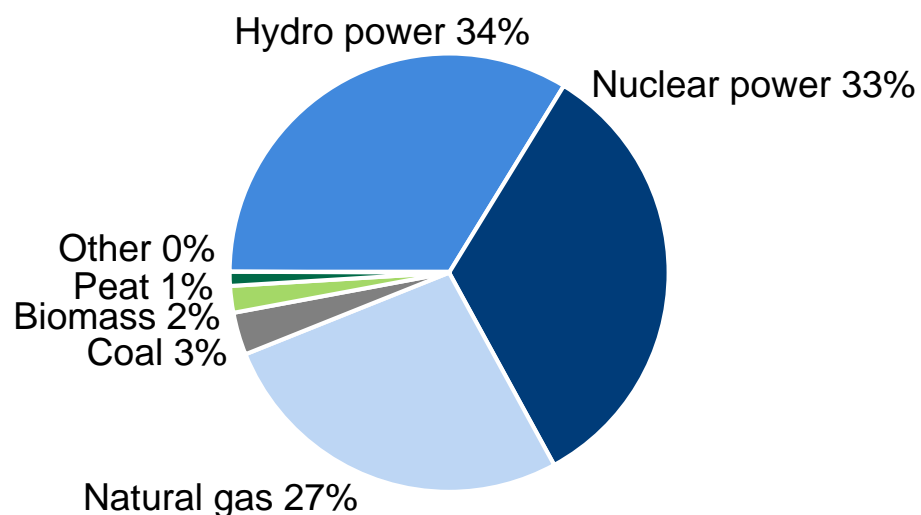
<u>Baltic countries</u>	
Heat sales	1.3 TWh
Electricity sales	0.1 TWh
Distribution cust.	24,100

* 25% ownership in TGC-1, not consolidated

A portfolio of hydro, nuclear and energy efficient CHP*

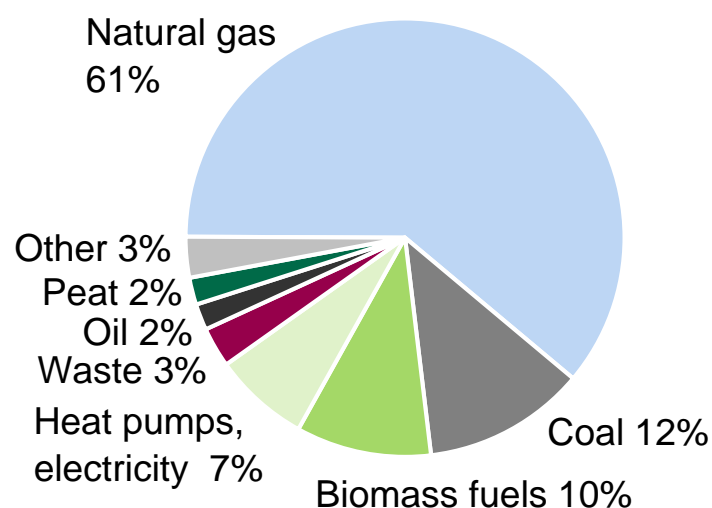
– CHP using mainly natural gas in Russia

Fortum's power generation in 2009



Total generation 65.3 TWh
(Generation capacity 13,940 MW)

Fortum's heat production in 2009

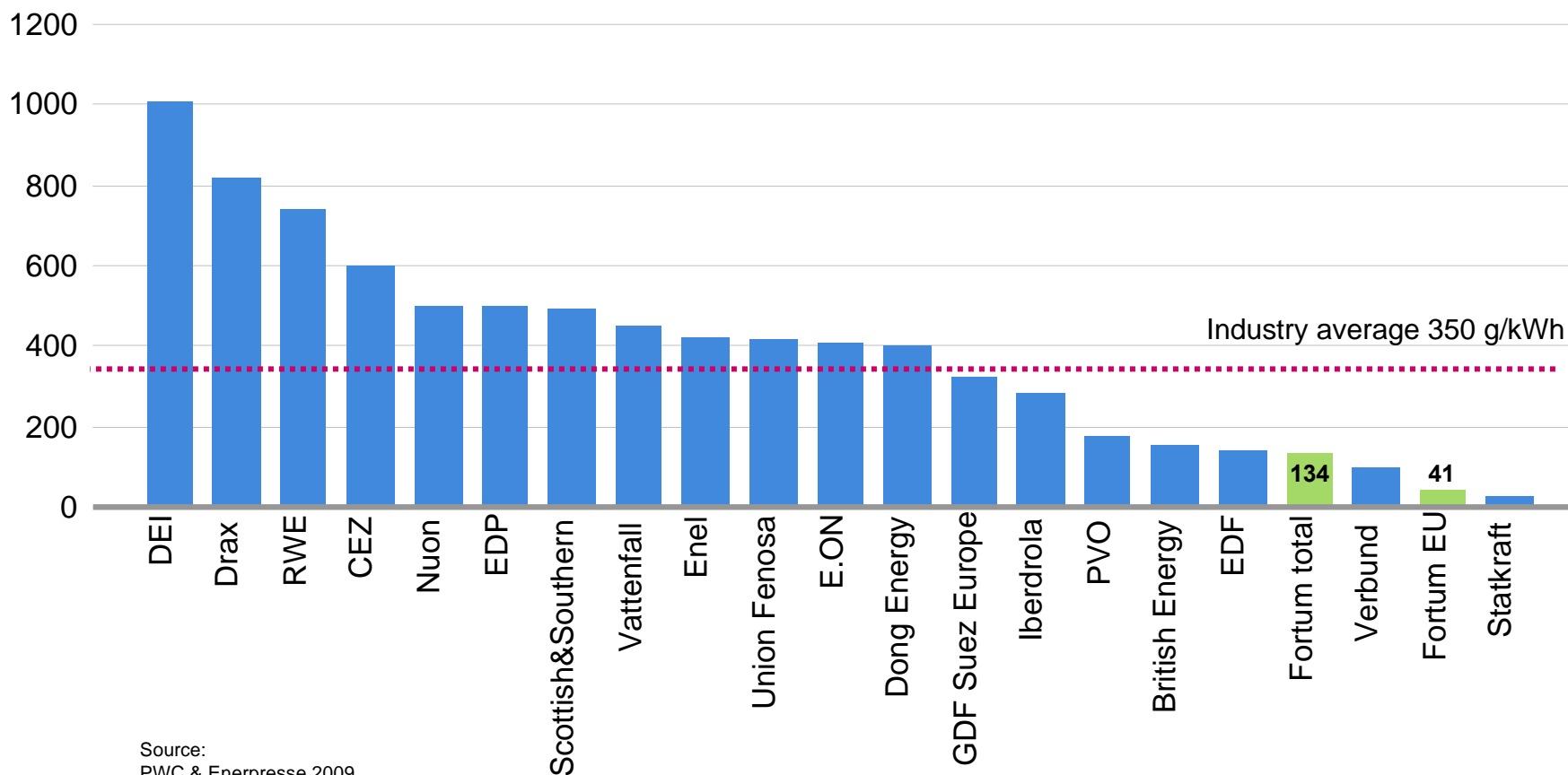


Total production 48.8 TWh
(Production capacity 24,330 MW)

* Combined heat and power production

Specific carbon emissions among the lowest in Europe

g CO₂/kWh electricity, 2008

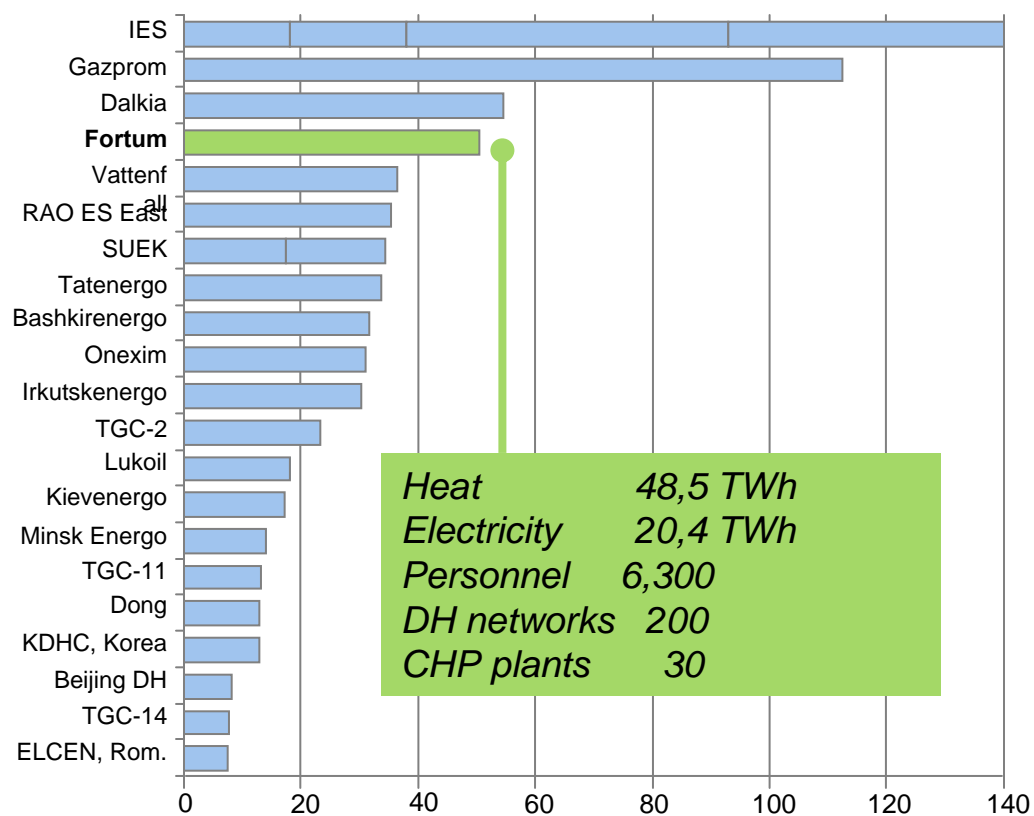


Source:
PWC & Enerpresse 2009
Changement climatique et Électricité, Fortum

Note:
Fortum's specific emission in 2009 in the EU were 41 g/kWh and total 155 g/kWh,
figures for all other companies include only European generation

A strong platform for growth in heat

Largest global heat producers, 2008 TWh



- Potential to leverage Fortum’s position as the 4th biggest global heat producer
 - Core competences in sustainability, local market insight and relationships, and continuous asset optimisation
- Tackling the climate issue will increase the value of CHP as a cleaner, energy efficient alternative
- Significant price and efficiency improvement potential across markets
 - Making heat a proper business with incentives to invest profitably
- Substantial growth potential – with relatively low risk, high transparency and stability of future cash flows

A major player in Russia

OAO Fortum (former TGC-10)

- Operates in the heart of Russia's oil and gas producing region, fleet mainly gas-fired CHP capacity
- 16 TWh power generation, 26 TWh heat production in 2009; more than Fortum's Nordic heat sales
- Investment programme to add 85%, almost 2,400 MW to power generation capacity

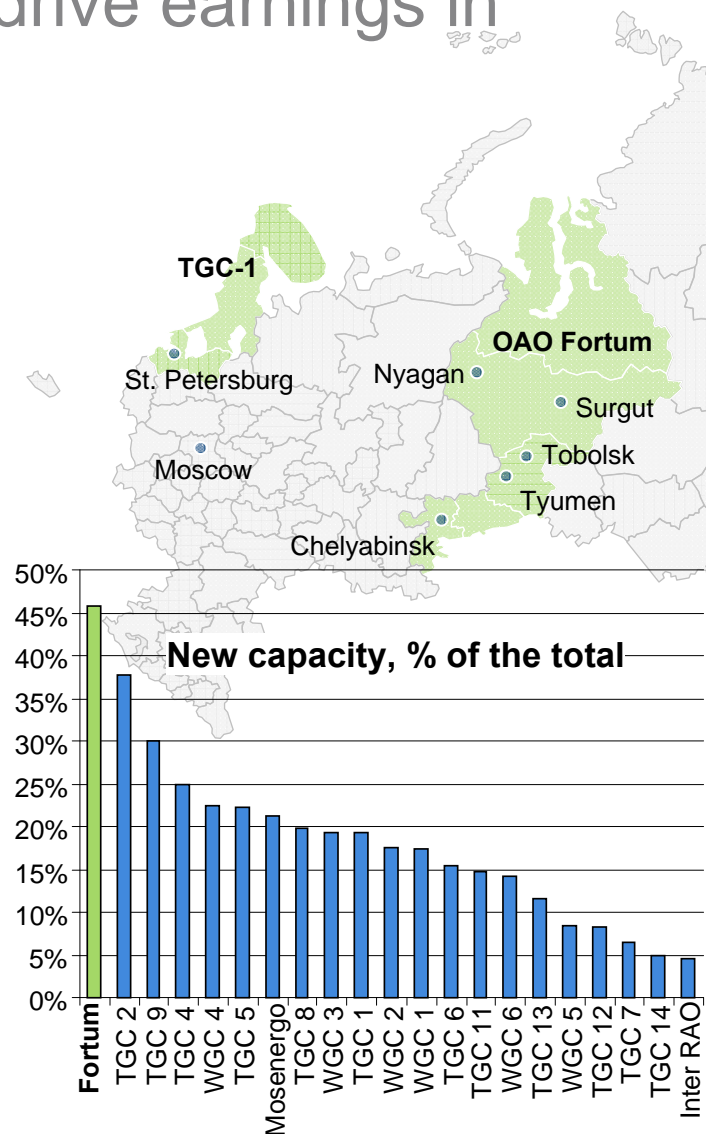
TGC-1

- Slightly over 25% ownership of territorial generating company TGC-1 operating in north-west Russia, adjacent to Finnish boarder
- ~6,250 MW power production capacity (~50% hydro), ~24 TWh/a electricity, ~30 TWh/a heat



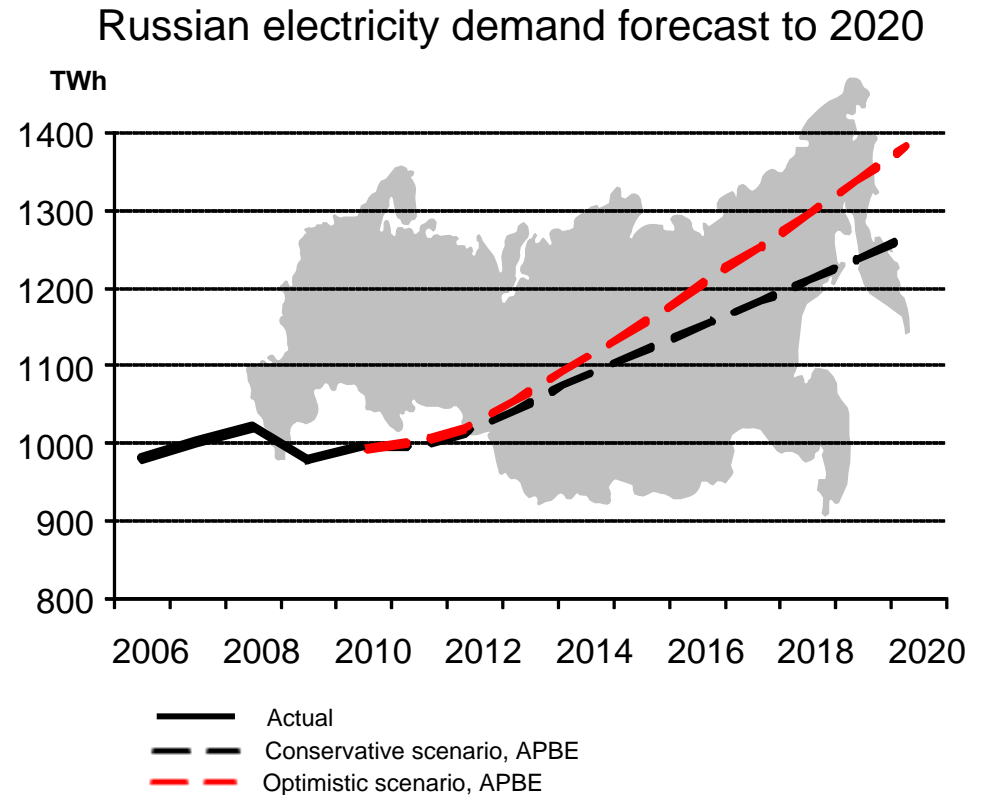
Efficiency gains and new capacity to drive earnings in Russia

- Efficiency improvement programme on track to deliver EUR 100 million EBITDA improvement in 2011
- Relative to its size, Fortum will increase capacity more than any other Russian generating company
 - 3-4x higher than prices for old capacity
 - Payments cover 12-14% ROCE requirement over the next 10 years
 - First new units to start in early 2011
- Capacity payments for new capacity will be the key driver for earnings
 - Relatively low gas transportation costs
 - Making heat a proper business



Russian power demand is recovering fast after the economic crisis

- Russia is the fastest growing market area for Fortum
- Power demand in Russia recovered close to pre-crisis level
- Most recent forecast places the long term demand growth estimate between the two official forecast scenarios



Source: APBE = forecasting agency in charge of updating General Scheme

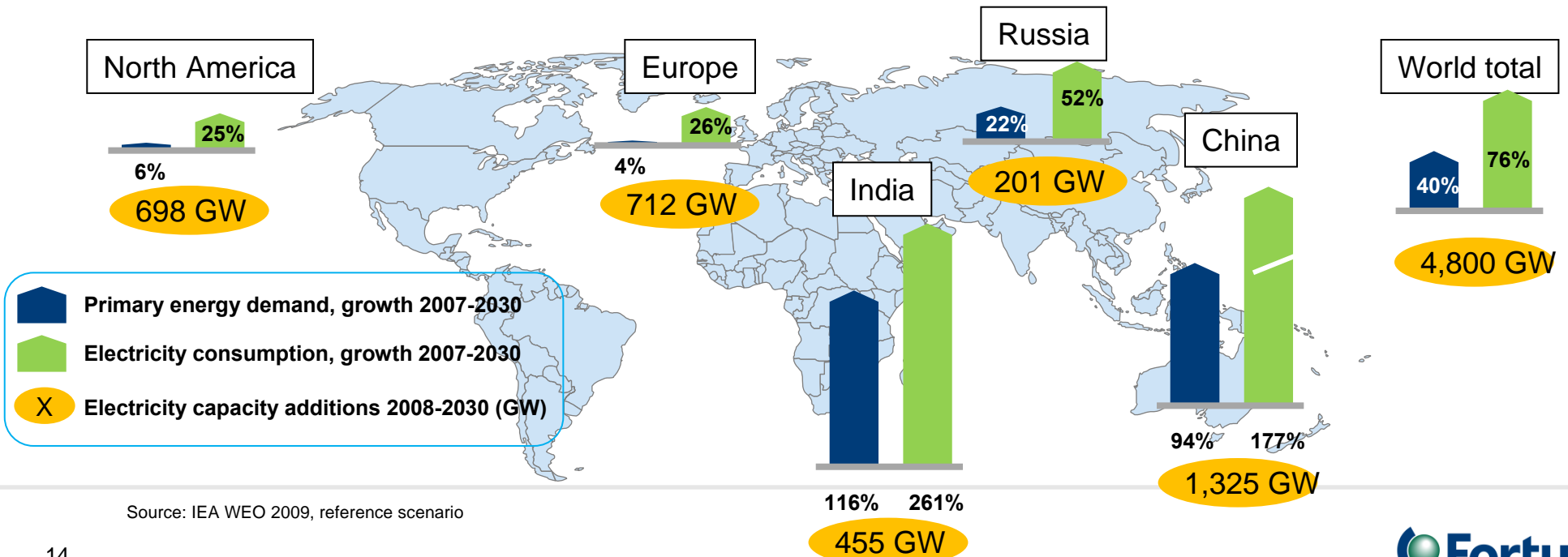
- Fortum today
- Industry analysis
- Summary

TAPIO
Kuula
FORTUM
today

2010/09/16

New capacity needed for new demand and retiring capacity replacements

- Growing global energy demand will be increasingly fulfilled by electricity in the future
- Substantial demand growth in the emerging markets
- Retirements and moderate demand growth in the EU
- Globally, 4,800 GW of new capacity needed by 2030

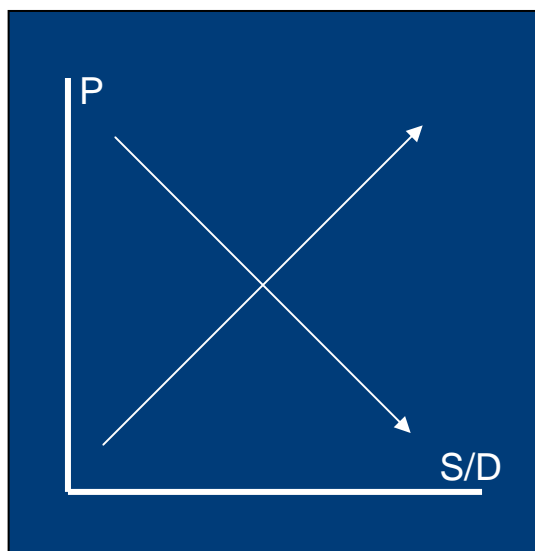


Source: IEA WEO 2009, reference scenario

Modest demand growth and less potential for new green field generation in the Nordic region

Demand

- Continuing restructuring, gradually decreasing energy intensity in industry
- Gradually increasing demand response – smart metering and smart grids
- Energy efficiency targets to affect demand for (electricity in) heating
- Demand to recover fairly rapidly back to pre-crisis level 2012-2014



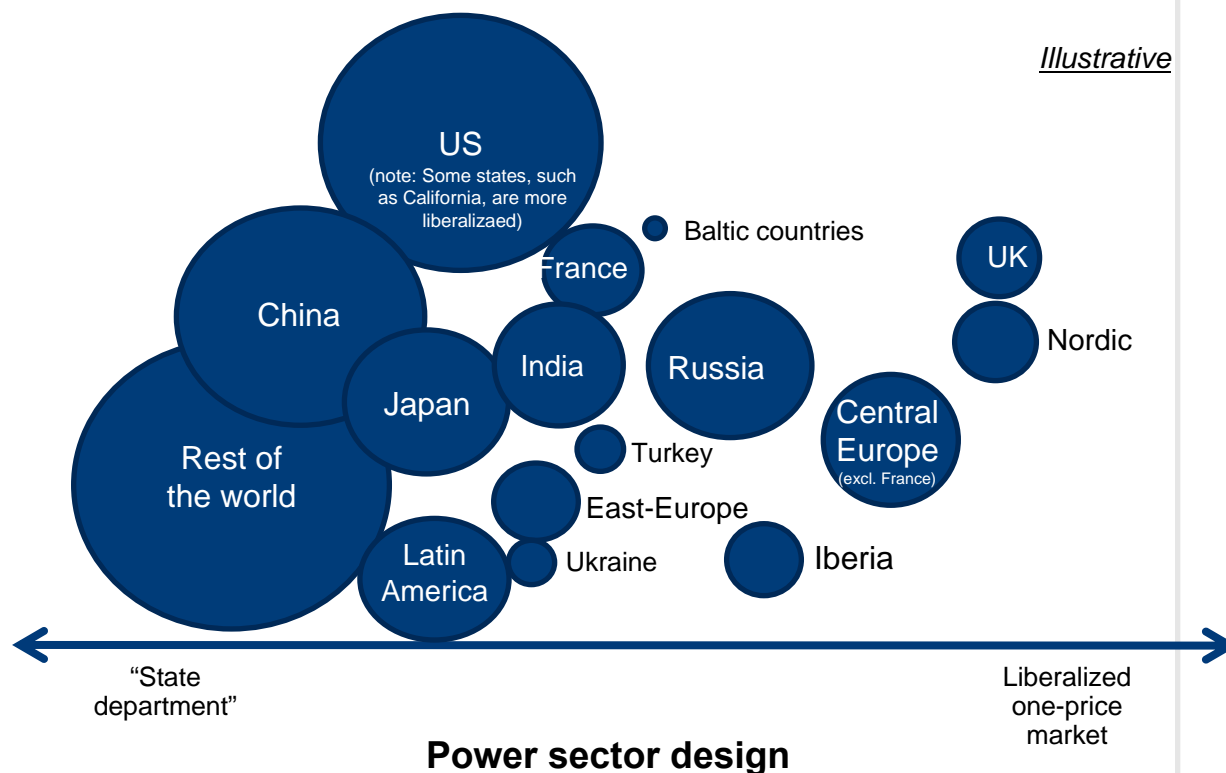
Supply

- Wind and bio-CHP driven by the EU RES targets
- New Finnish nuclear and upgrades in existing nuclear and hydro capacity
- Decommissioning of old capacity; driven by EU emissions directives, aging power fleet and economics
- Increasing volatility from intermittent capacity (wind)
- Long-term, distributed energy solutions, small scale generation potentially increasing

Development of cross-boarder transmission capacity, i.e. physical connections needed

Power market liberalization is still in its infancy, but will evolve driven by increasing need for private capital

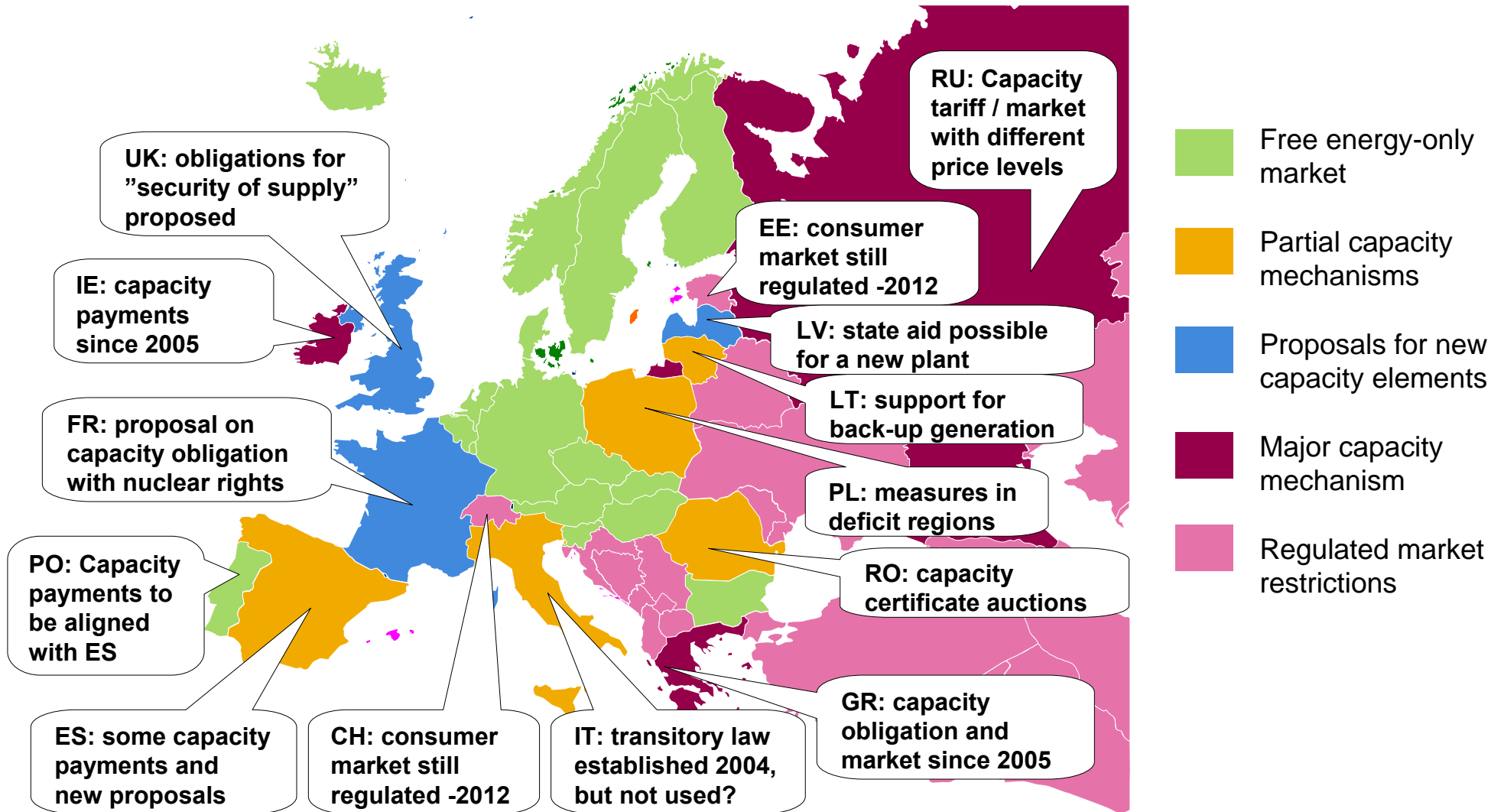
- Significant amounts of capital needed to meet the demand growth, capacity retirement replacement needs and high cost renewables targets
- Lack of public financing capacity to drive the development of further liberalized and competitive power markets
 - In emerging markets, substantial investment need
 - In the developed world, especially the EU, stressed availability of public financing due to the financial crises
- Public support mechanisms need to be
 - Increasingly harmonized
 - Increasingly market based



Note: Circle size illustrates electricity consumption in 2007 (Source: IEA key world energy statistics)

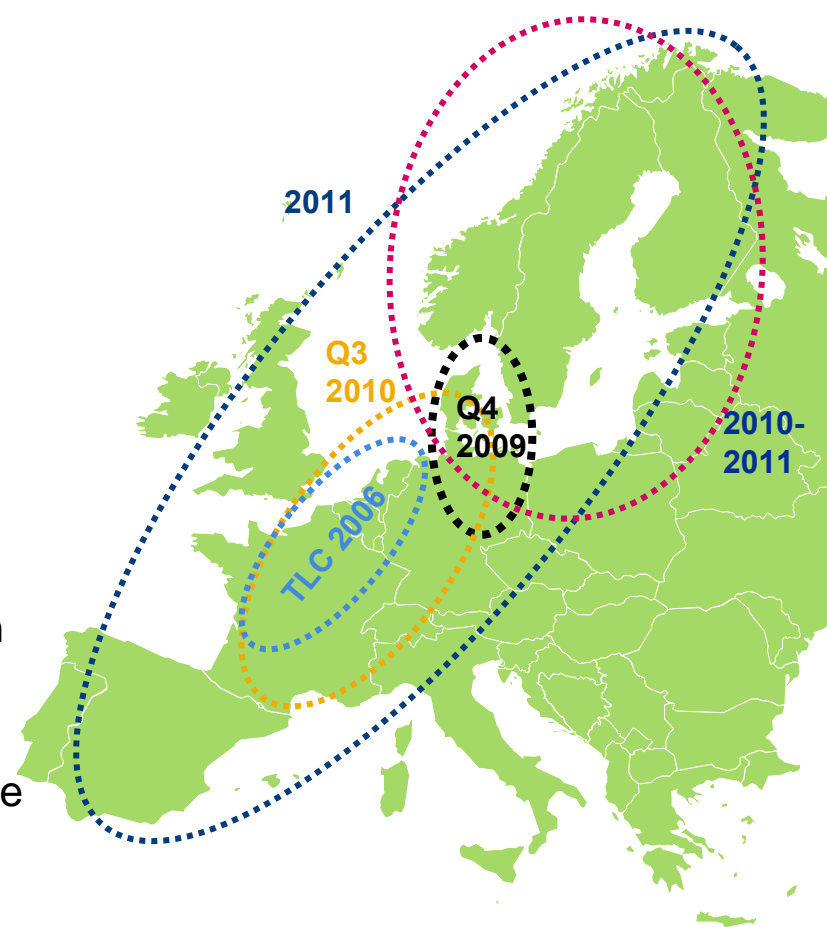
Even the most liberalized markets remain partially regulated

– and new capacity incentive mechanisms are being discussed



EU power market integration moves forward

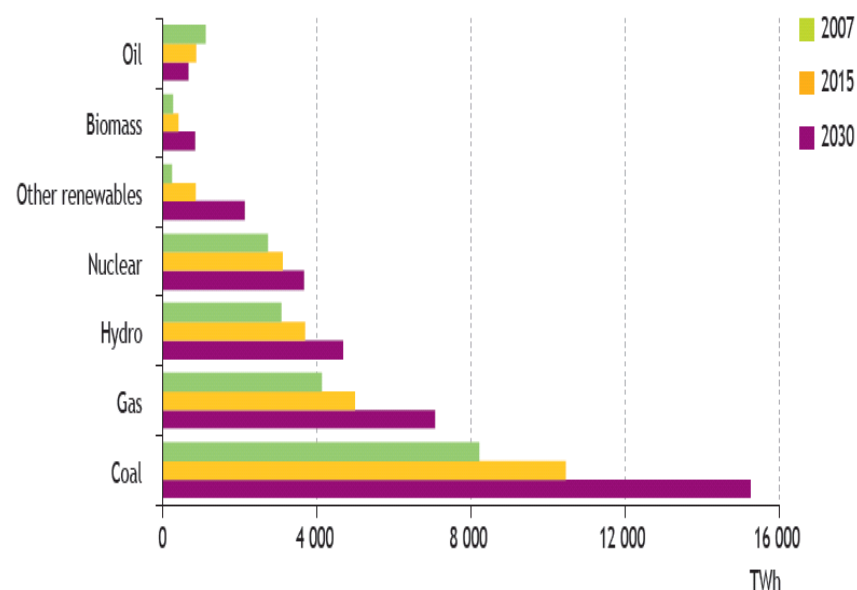
- Physical transmission capacity investments are politically driven by the EU's RES, competition and security of supply interests
 - market integration will slowly lead to policy harmonization
- Existing cross border investment plans will be realized quickly and could even be exceeded – EU's recovery program giving financial support to several projects
- Market coupling will optimize the use of the Nordic interconnections with the continental markets
- Timing differences between the anticipated generation and transmission capacity investments will maintain price differences for next several years
- Increasing volatility, value of flexible capacity and value of trading and hedging competence



Climate issue will continue to drive policy making, but no global solution or price for CO₂

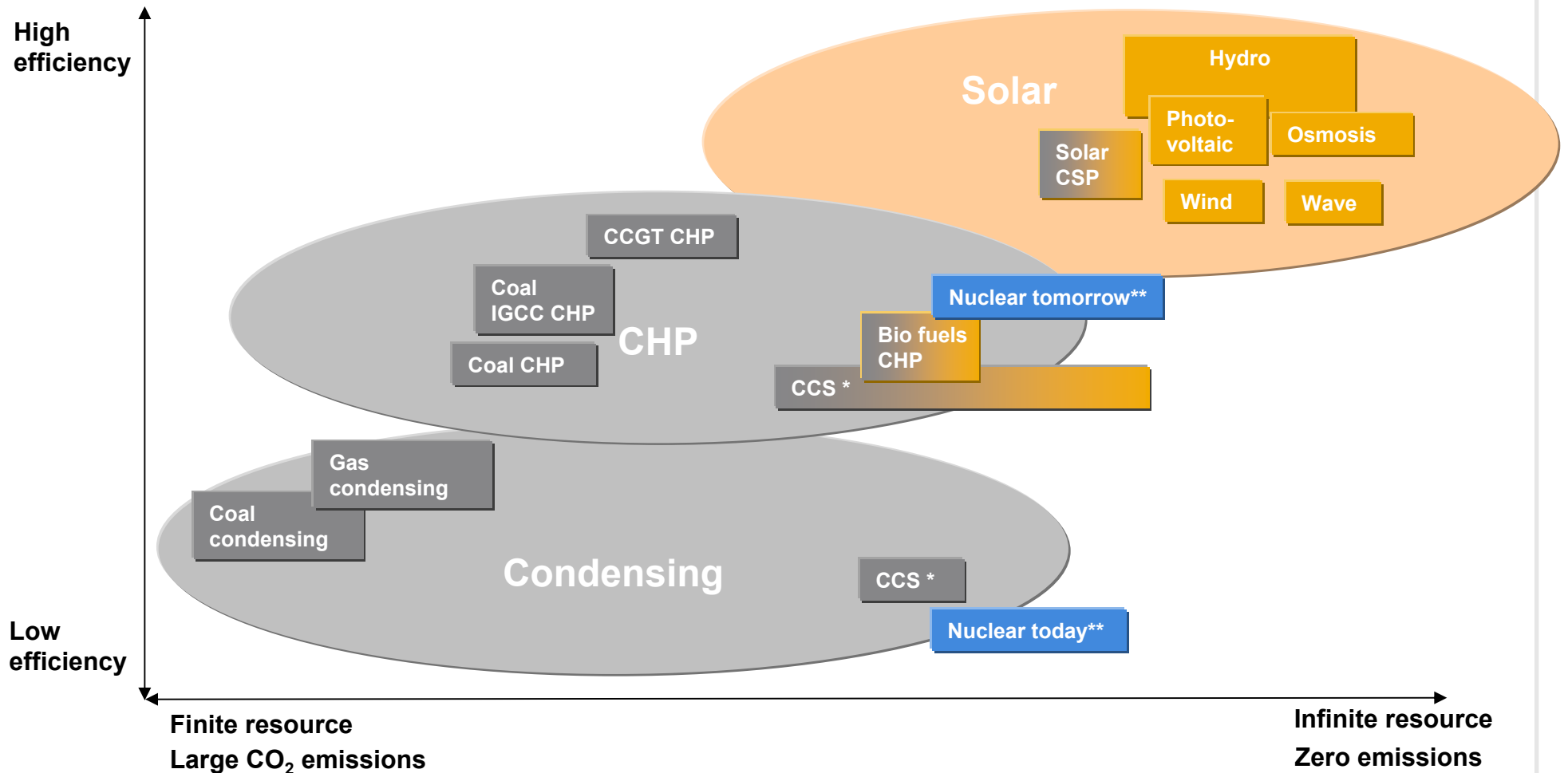
- Global warming expected to stay at 3-4°C based on voluntary pledges
 - No global emission reduction deal foreseen that would limit warming to 2°C
 - In electricity generation, biggest relative growth estimated in renewables but in absolute terms coal and gas grow still most
- Abundance of reserves and existing infrastructure (coal and gas)
- Share of nuclear expected to decrease, despite absolute growth in TWh's
- CO₂ free production increasingly rewarded in the OECD countries

Fossil fuels continue to dominate power supply



Source: IEA WEO 2009, reference scenario. Figures include final consumption of electricity, network losses, own use of electricity at power plants and "other energy sector".

The electricity generation system will slowly develop from a “Carnot world” towards a “solar economy”



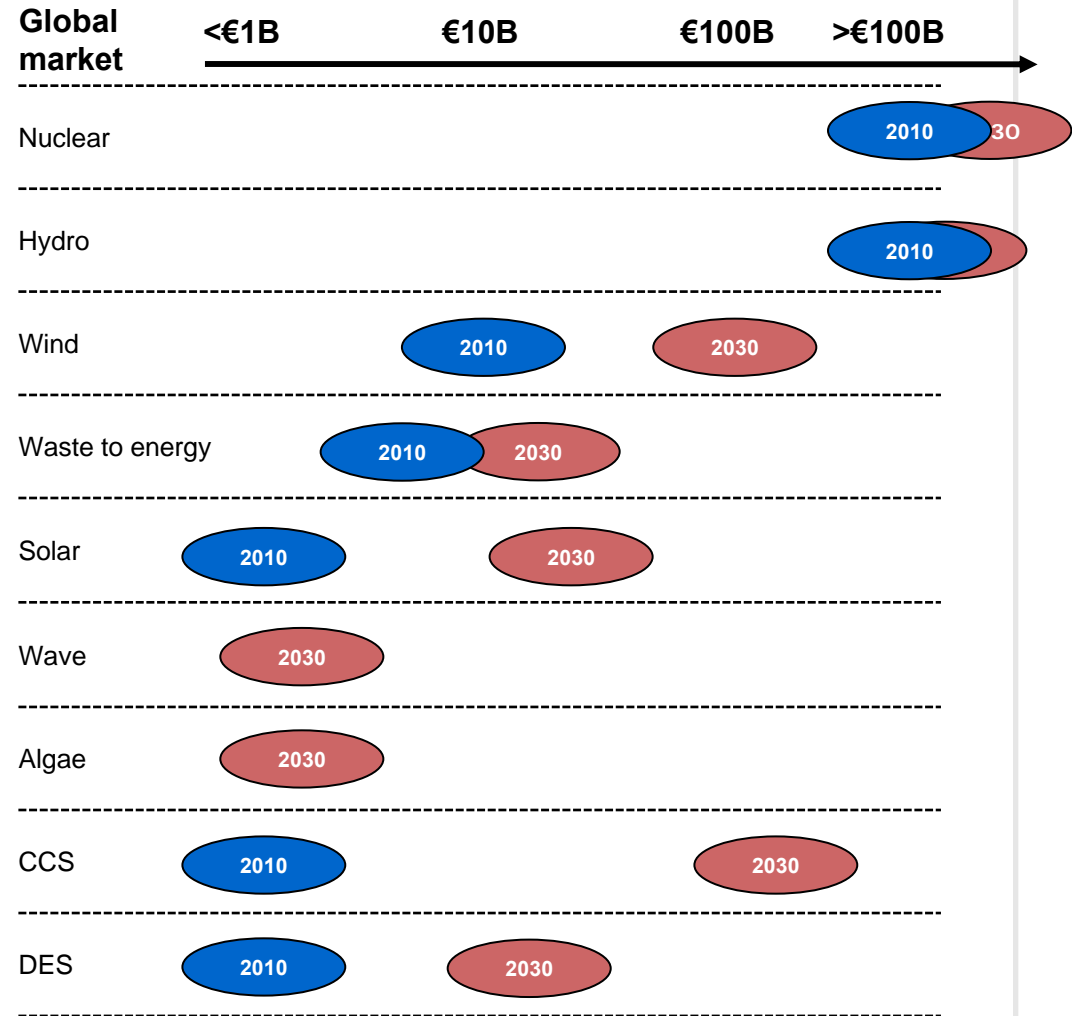
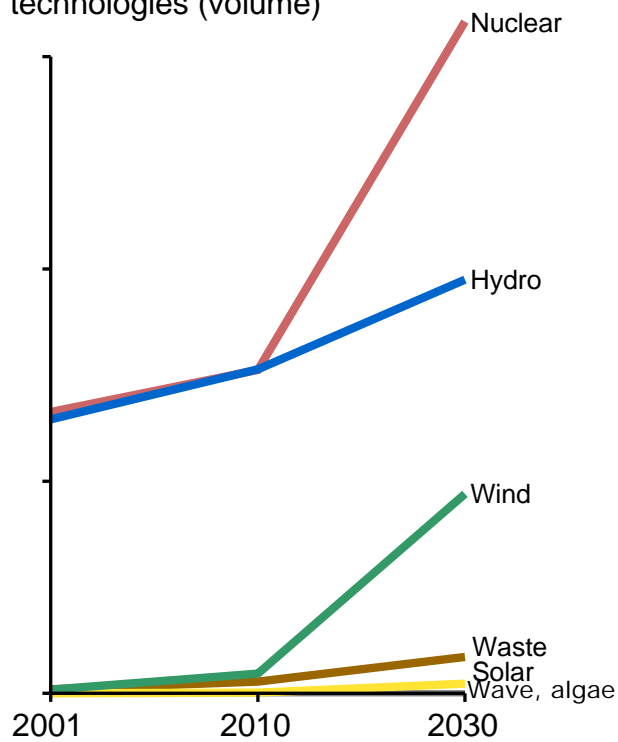
* CCS decreases plant output (energy efficiency), while at the same time reducing CO₂ emissions dramatically.
If applied to bio-CHP, “negative” emissions = removing CO₂ from the atmosphere

** Extremely low utilization (<5%) of uranium energy content in LWR with final deposition of spent fuel.
However, huge improvement potential both with CHP mode and Generation IV (breeder) technologies

Conventional technologies continue to play a key role for a long time to come

Illustrative

Global electricity generation, Selected technologies (volume)

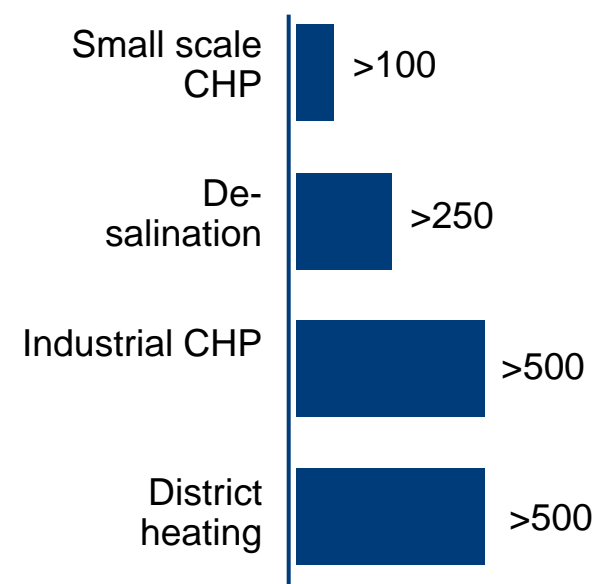


Market size estimated for electricity generation. Assumption: 50€/MWh.
 CCS based on value of carbon tonnage captured. Estimate: 25% of coal powered generation CO2 captured, 40€/t
 Source: WETO 2050 and Fortum

The competitiveness of energy efficient CHP production will increase driven by fuel prices and need to reduce emissions

- CHP is local, smaller scale production
 - Resource efficiency compensates scale
 - Possibility to use local fuels (bio, waste)
- CHP covers about 10% of world electricity supply with significant growth potential globally
- CO₂ issue will increase CHP's competitiveness
- Synergy opportunities in the growing bio energy and bio fuel markets
- Organic growth potential in emerging markets

**Global new CHP potential to 2020
about 1,350 TWh_e***



* Current CHP-based electricity generation ~2000 TWh_e

- Fortum today
- Industry analysis
- Summary

TAPIO
Kuula
FORTUM
today

2010/09/16

Strong Nordic core combined with Russian potential – good fit to the market need

 = Market
 = Fortum

- Competitive market model driven by the need for private capital globally
- EU power market integration moving forward – new transmission capacity and market coupling
- Less potential for new green field generation in the Nordic region
- Climate issue will stay at the forefront, but conventional technologies continue to dominate
- CHP needed to combat emissions and improve resource efficiency

- Clean and competitive generation portfolio
- Attractive position in Russia, with relatively large investment programme to drive earnings
- Strong platform in heat as the 4th largest producer in the world

FORTUM
Capital
Markets
Day/10

2010/09/16