Where next for Distributed Energy?

- The CHP contribution

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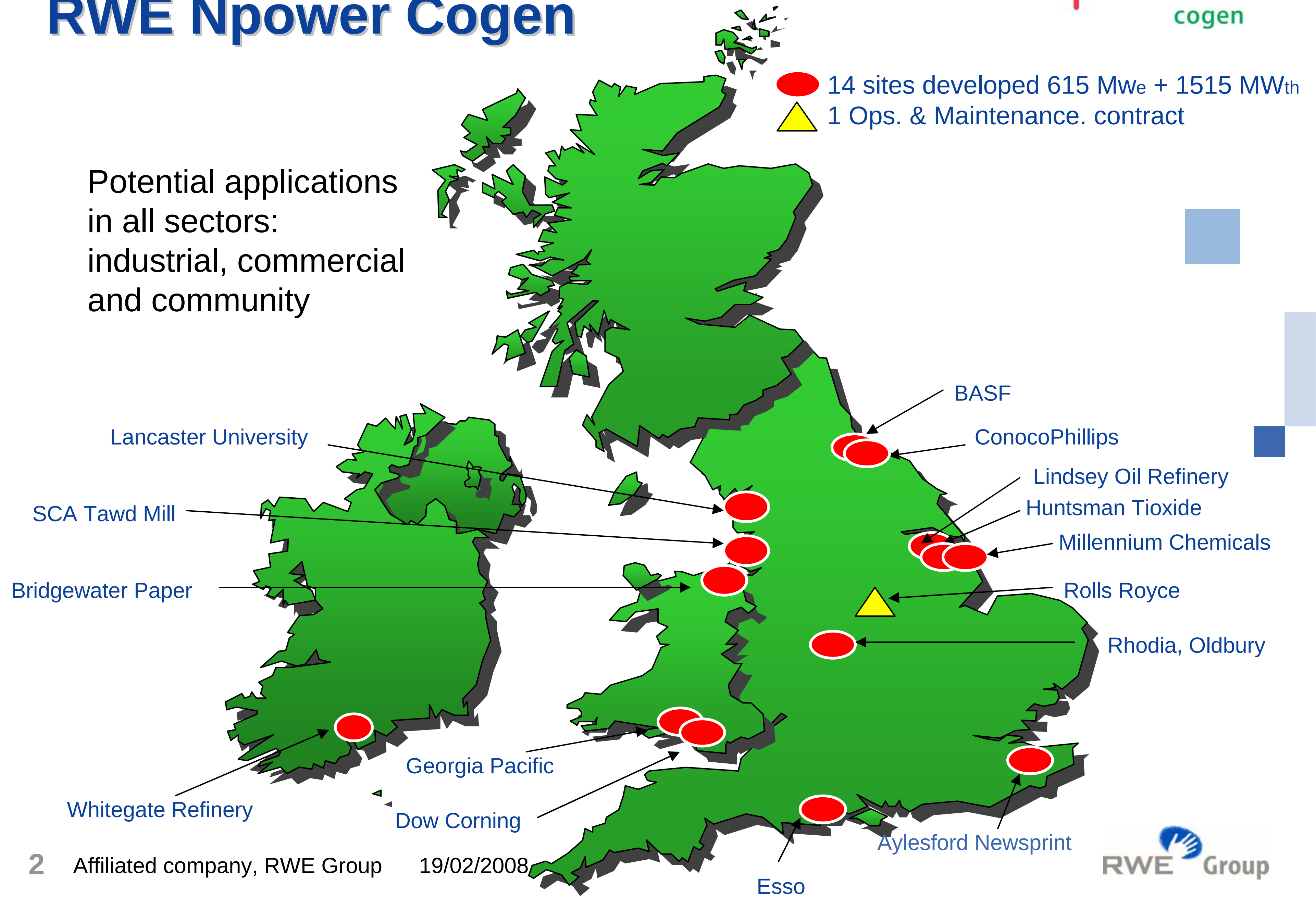
npower cogen

Potential applications in all sectors: industrial, commercial and community



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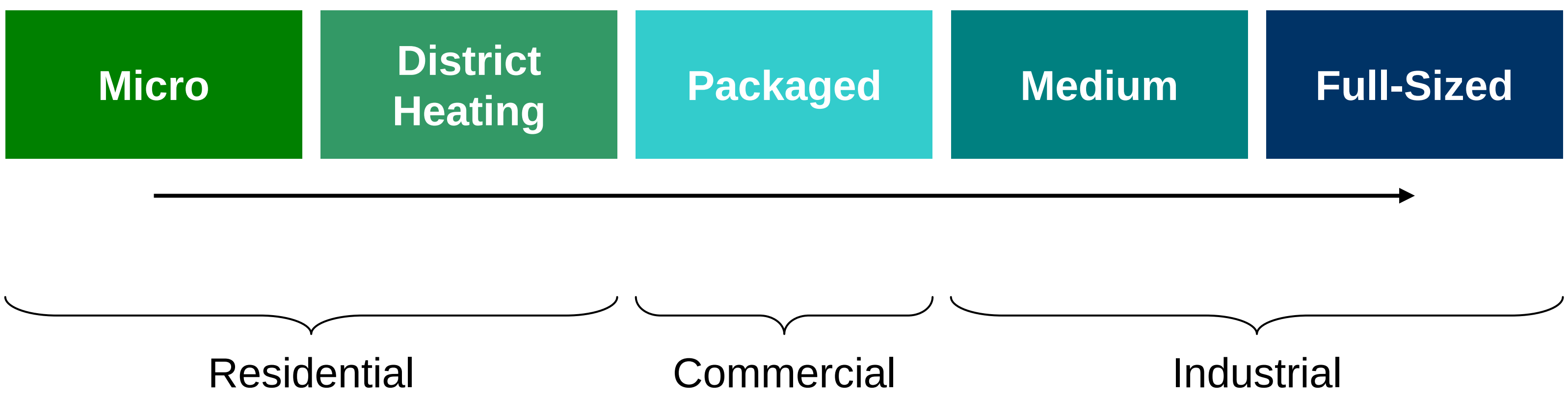
CHP Market Segmentation

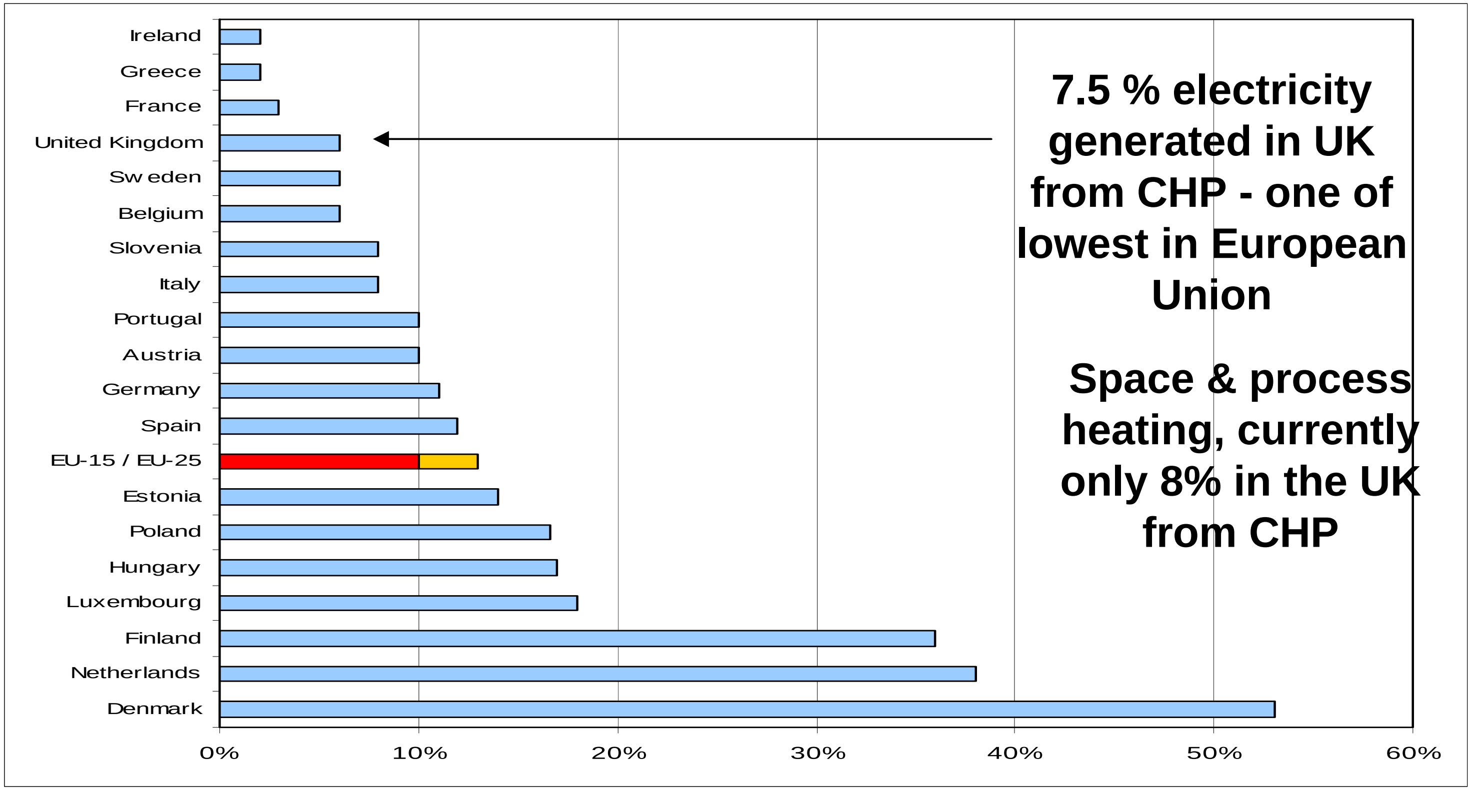
- CHP is ‘the opportunity to efficiently generate electricity whilst serving a heat load”, and so is thus defined by the existence of a heat load

- Current categorisation according to service requirements, roughly customer type:



UK National Potential

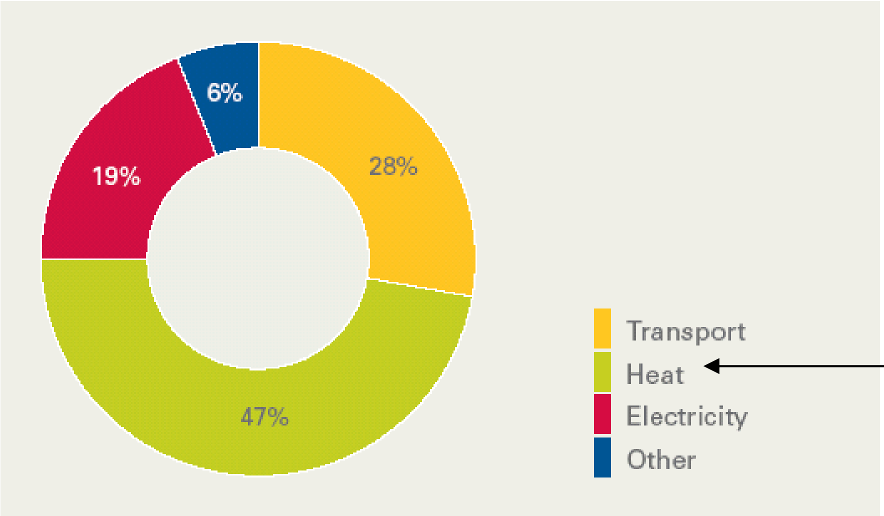
- In 2006 the UK had 5.55 GW_e (DUKES) of CHP capacity and is forecasted to be 7.2GW_e in 2010 (Office of Climate Change 09/07), despite 2010 target of 10 GW_e



- UK national potential up to 6 times current capacity

CHP Potential in Communities & Cities

CARBON DIOXIDE EMISSIONS BY SECTOR, 2005



The 2007 Energy White Paper, highlighted the need to address CO2 emissions resulting from heat consumption

Includes emissions from electrical heating

- 60% of the gas we use in the UK is used to provide this heat, over half of which is for the domestic sector
- Energy Saving Trust study in 2000; 83% of energy usage in the home is for space and water heating

Opportunities & Barriers

- Opportunities:

- CHP gives cost effective carbon abatement
- Gas, energy-from-waste (EFW) and now biomass

- Barriers to development:

- High initial cost & cost effectiveness of retrofitting
- Lack of incentive on housing developers
- Contract management with host of customers & customer longevity
- Seasonal variations in heat demand & market volatility
- 2016 zero carbon homes target & fall in energy demand
- Fuel supply / sustainability issues on biomass / biofuels

Enabling CHP in cities & industry

- Restart of Community Energy Programme?
- "Good Quality" CHP plants are exempt from the Climate Change Levy…….but only until 2013. (State Aid issue)
- Enhanced Capital Allowances for all Good Quality CHP plants?
- Tighter planning guidelines on new mixed developments are required
- Consideration of total energy supply with regards 2016 zero carbon homes target
- Office of Climate Change report into the UK heat market needs taking forward
- Appropriate incentives for investors

Conclusions

- UK heat market represents major source of CO_2 emissions
- Significant DE / CHP potential present (industrial, commercial and community) to reduce emissions & fuel costs.
- Targets on building of new homes, building regulations, 2016 zero carbon homes target provide opportunities and barriers to CHP.
- Commercial structures need to be agreed for D. Heating projects.
  - It is not opportunities we are short of.
- DE solutions will deepen the relationship between customers and utilities. We are poised to be a key part of the solution.