

HEAT AND POWER: TIME TO STOP FIDDLING AS GAS BURNS

An independent report from energy consultants Pöyry points to modern and efficient combined heat and power (CHP) systems as the leading low carbon technology to meet the UK's immediate electricity generation needs whilst tackling our growing dependency on natural gas.

The report, commissioned by environmental campaign group Greenpeace, identifies the potential for up to 16,000 Megawatts of new CHP capacity at just 9 major industrial sites around the UK, that could save up to 10 million tonnes of carbon emissions each year,

Successive Government reviews have highlighted the threat to energy security posed by the UK's growing dependence on natural gas. Gas is the dominant fuel heating our homes, businesses and industrial processes, which together account for 59% of all gas consumed. It also accounts for over a third of the energy consumed in power generation, although more than half of this energy is thrown away as waste heat.

Graham Meeks, Director of the CHPA, welcomed the report at today's launch:

"With industry and householders struggling with higher heating costs driven by rising gas prices, it makes no sense to perpetuate the waste of energy we see today in the power sector. And with natural gas taking an increasing share of the power generation market, the problem of gas dependency is only set to grow. If we take seriously the threats of energy security, fuel poverty and climate change, then we must redouble our efforts to recover and use the heat lost from power generation.

"The bad news is that in spite of the logic, in today's market there are no effective long-term incentives to invest in CHP in preference to cheaper and simpler options. While the Government has put measures in place, the most important of these expire in 2013 and so present few attractions for investors. Worse still, the EU Emissions Trading Scheme may even disadvantage CHP after 2012. In these uncertain conditions for CHP, is it any surprise that the power industry will resort to building alternatives that are lower cost and lower risk, but ultimately more wasteful and more polluting?

"The good news is that we still have the opportunity to tackle the problem, before too many power stations are built that simply cannot recover their waste heat, or are built on sites where there is no realistic prospect of finding a market for this valuable resource. This is a real chance to save 10 million tonnes of carbon every year.

"CHP is a proven technology that could deliver real energy security and environmental benefits, but it needs the certainty of effective incentives. Any credible energy policy, whether from the Government or the opposition, needs to drive an expansion of CHP. It is time to stop fiddling as gas burns."

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Notes to Editors:

1. The Combined Heat and Power Association is one of the leading industry bodies active in the sustainable and clean energy sector. The Association is a representative body supported by member subscription. It has over 80 members active across a range of technologies and markets, from microCHP to major utility-scale energy plants serving industrial processes and city-wide district heating systems. Our aim is to support our members' interests through the development and maintenance of positive market conditions for CHP.
2. CHP works by recovering heat from the power generation process and putting it to work in industry, buildings and homes. Making the most efficient use of scarce and expensive fossil-fuel, CHP can mitigate our dependency on gas and help maintain the viability of our strategic energy and industrial installations.
3. The Pöyry report provides a best estimate for the technical potential for additional major CHP in UK industry of 13.9GWe +/- 2.5GWe. The report outlines 9 case studies of industrial clusters where the authors believe there is significant potential for CCGT CHP to meet local heat demand, as well as providing electrical capacity to the grid. The report finds that CHP on these sites could save up to 10 million tonnes of carbon (36 million tonnes of CO₂) emissions each year, whilst cutting energy costs. The report can be downloaded from the [Greenpeace website](#).
4. CHP can be configured for a range of scales and applications, from micro CHP units replacing a conventional domestic boiler, to gas engines in commercial buildings and utility-scale plant serving major industrial loads and city-wide district heating schemes. The larger CHP schemes are based upon combined cycle gas turbine (CCGT) technology that is already commonplace in the power generation sector.
5. The UK's largest CHP is located at ConocoPhillips' Humber Refinery, and is proof-of-concept of the approach proposed in the Pöyry report. The project had an original electrical capacity of 734 Megawatts (MWe), which is currently being extended to 1,180 MWe.
6. Although the technology is essentially similar, CHP development typically incurs greater costs and presents greater risks to investors than a conventional 'power only' development. Additional costs arise through greater sophistication of the generating plant, costs of heat recovery infrastructure, and some loss of economies of scale. Additional commercial risks can be presented through the additional requirement for heat sale contracts. In a competitive market, investors require incentives to absorb these additional costs and risks.
7. The Government has a target to see 10 GWe of CHP capacity installed by 2010. The latest Government estimate of installed CHP capacity is 5.5 GWe ([DUKES 2007](#)) On 19 October 2007, DEFRA published a [study](#) 'Analysis of the UK Potential for Combined Heat and Power', demonstrating the economic potential for an additional 8.2 GWe of capacity by 2010 and 10.6 GWe by 2015. The report noted that 'in practice, decisions on CHP will be influenced by a number of site-specific issues, which tend to reduce cost effectiveness and slow decision making on CHP development'.

8. The electricity produced by qualifying CHP plant benefits from an exemption from the Climate Change Levy – worth c. £4.56/MWh (c.10% of wholesale price of electricity) to the plant. This exemption from the Levy is set to expire in March 2013, presenting a loss of revenue and considerable uncertainty to CHP developers, who often face long lead times (up to 3 years) for the development of plant.
9. Out of all the members of the European Union the UK's current CHP capacity is the fourth lowest.
10. The report 'Benchmarking Study of the UK against our countries in terms of CHP policies and impact' has been prepared by Delta Energy and Environment for the CHPA and can be downloaded from the CHPA website at www.chpa.co.uk. The report compares support regimes and investment conditions for CHP in Belgium, Germany, Portugal, Spain and the UK. The report finds that:
 - A comparison of EU Member States reveals the evidence that many Member States are pursuing proactive policies that not only deliver significant increases in CHP capacity, but represent a major renewal of their energy supply infrastructures.
 - The UK support is the least generous of the countries considered, with the payback periods with all support included remaining extended beyond acceptable levels, especially for industrial companies.

The report will be launched at 09.30 on Thursday 18 June 2008 at The Royal Academy of Engineering, 3 Carlton House Terrace, London SW1Y 5DG.

For further details please contact Ben Ayliffe on 020 7865 8282 or ben.ayliffe@uk.greenpeace.org.

For further information or to request an interview please contact:

Graham Meeks

Director

Tel: 020 7828 4077

Mob: 07802 242498

E: graham.meeks@chpa.co.uk

Paul Gardiner

Head of Policy

Tel: 020 7828 4077

Mob: 07850 371894

E: paul.gardiner@chpa.co.uk

Peter Smith

Research & Communications Manager

Combined Heat and Power Association

Tel: 020 7828 4077

Mob: 07866 720476

E: peter.smith@chpa.co.uk