

Combined Heat and Power:- Pathway to decarbonisation.

CHPQA Workshop 2022

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Overview

- **Current position:-** Rapid grid decarbonisation risks unabated gas CHP displacing lower carbon generation. Currently ~1400 CHP installations accredited via CHPQA and accessing support via exemptions from CCL, CPS rates, ROC uplift and RHI tariff. Uptake since 2001 driven by prioritising efficiencies in system operation compared to separate heat/power provision, and legislation. Current economic uncertainty and affordability issues may delay implementation of reform options.
- **Desired position:-** Establish a pathway to move away from fossil fuels to low carbon fuelled CHP by early 2030's. Reduce fossil fuel support mechanisms and incentivising CHP use of low carbon fuels to aid transition. Signal a clear direction of travel with suitable policy framework to enable change as easily and swiftly as possible.
- **Change being considered:-** Introduction of a gCO₂/kWh threshold as part of CHPQA benchmarking and potential gateway for eligibility. To align with emerging low carbon technology policies to achieve cessation of unabated fossil fuel support at the appropriate time once alternative low carbon fuels become viable and affordability of energy costs stabilise.

Why reform is needed

- UK committed in legislation to bring all greenhouse gas emissions to net zero by 2050 – and Nationally Determined Contribution reduction of at least 68% by 2030.
- To achieve Carbon Budget targets, heat and electricity demands from all sectors must be decarbonised.
- UK generation mix has changed considerably since CHPQA introduction in 2001.
- Virtually all areas of heat and power demand need to take significant action and a broad low carbon portfolio approach is required to meet the needs of different industries.
- Modelling the impact of additional new unabated natural gas CHP plant in the 2020's indicates displacement of an increasing proportion of low carbon generation by the early 2030's.
- It will be necessary to reform CHP policy to encourage decarbonisation so that carbon savings can be made which contribute to achieving Carbon Budget targets.

Issues to consider

- Industrial and large-scale CHP benefit from current support via CHPQA.
- Long asset investment cycles and planning timescales.
- Preferred low carbon technologies are still being developed which creates an element of uncertainty when considering investment decisions.
- Need to reduce support for burning unabated fossil fuels whilst recognising the inherent efficiency benefits and potential of CHP technology to help achieve decarbonisation goals and making most efficient use of fuels.
- Sectoral and geographical factors may influence decarbonisation plans and decisions.
- Current economic climate increases investment uncertainty across all sectors.

Potential options

- Encourage the switch from fossil fuel to low carbon fuel alternatives from the late 2020's to early 2030's leveraging CHPQA to access low carbon fuel business models that will be developed.
- Introduction of carbon measurement as part of certification.
- Potential use of carbon thresholds which reduce over time as part of scheme eligibility to act as a taper on support of unabated fossil fuel use as viable low carbon alternative fuels become available.
- Closing scheme to new (and significantly refurbished) applicants using unabated fossil fuels.
- Raising efficiencies by enhancing PES criteria and total efficiency thresholds.

Next steps

- Examine potential options based around the common themes derived from the two recent calls for evidence.
- Outline potential options for changes to CHPQA and consider impacts to business via future consultation.
- Plan and implement changes to CHPQA scheme.

Conclusion

- CHP technology and the CHPQA scheme have the potential to support the required transition to low carbon fuels.
- Feedback from stakeholder engagement is helping formulate potential options which will signpost a clear direction of travel transitioning away from fossil fuels where possible towards lower carbon fuel alternatives. Options may potentially include:-
 - Closure to new / refurbished unabated fossil fuel applications and gradual end of existing unabated fossil fuelled CHP support mechanisms tapering to an end in the 2030's as alternative fuels are developed.
 - Expanding the use of CHPQA certification to act as a passport to developing business models for alternative fuel options.
 - Enhancement of CHPQA accreditation criteria (primary efficiency benchmarks and carbon measures) and alignment with emerging low carbon policies.
- Recognise the key advantages of CHP technology as a relevant, flexible, dispatchable, cost effective and highly efficient use of low carbon fuels during the transition away from burning unabated fossil fuel.

Thank you.