

**Initial comments:**

1. Section 2.4.2 – there are significant references to air-CHP throughout the report & in the modelling. A stronger evidence base should be presented to warrant the inclusion of this technology in the analysis. In the absence of same, I think its overplayed and distorting the outcome of the study.
2. Section 2.5 – a basis for the 20% & 50% load factors should be detailed. Data, tables & charts in this & other sections appears to ignore data on RH in the business (& possibly public) sectors. For example, the CT loan scheme has supported around 27 biomass installation in local businesses with an estimated annual output of 40 GWh.
3. Section 3.2 – ‘unknown’ biomass figures should relate back to data in Table 1
4. 4.4.2, Figure 9 – Balcas are already using wood to power their plant: has this been accounted for? Tyrone Brick plant now closed.
5. 4.4.3 & elsewhere in report – a ‘step-change’ energy efficiency scenario is needed to present DETI with a costed option to accelerate the deployment of EE ahead of policy instruments to promote RH
6. Figure 16 – not sure the text reflects what the figure shows vis heat densities
7. 4.5 – we’ve loads of evidence regarding the uptake of EE in the non-domestic sectors. The 1% pa modelled is not ambitious; see point 5 above. Across a range of businesses we’re consistently seeing cost effective opportunities ~20% through improved energy management & investment in EE technologies
8. 5.2.3 – ref to CT study needs updating: the total magnitude of organic & food waste in Northern Ireland is estimated to be 457,270 tonnes per annum. Increase will impact on Table 12 and subsequent analysis
9. 6.3.2 – opening and closing sentences appear contradictory
10. Section 6 – a clear cost benefit & resource analysis for each technology would be beneficial here
- 11.7.1 – 3<sup>rd</sup> para: “..on current market assumptions..” should be changed to current market realities based on cost of RE technologies & FF/carbon costs
- 12.7.2.2 – Fig 28 typo: align y-axis label & title (p/kWh or £/MWh)
- 13.7.3 – Fig 30, 31, 32, 34, 39: see comment 1 above: data on cost effective of CHP air-turbine needs to be evidenced or removed/modified...
14. P65 – Para below Fig 32: needs challenged; not convinced that businesses will pay more for biomass than domestic consumers (taking account price differential in the FF prices both sectors pay)
15. P67 – Para below Fig 35: what does “...delaying adoption..” mean?
- 16.7.5 – ref uptake of biomass in commercial sector: see point 2 above. Suggest biomass data from the commercial sector is collated and review commentary/analysis
17. 7.6.2 – typo top of page 74: “...consumer in per annum..”
18. 7.6.3 – rework para to explain better the impact of carbon costs avoided. Fig 41 title typo? Replace “cumulative” with “annual”?
19. 7.9 – see CT biomass sector guide for detailed cost analysis of various technology options (although 2005 conclusions are still valid)
20. 7.9.1 – “..subsidies..” is this a ref to NIRO? If so, not material when air-CHP removed. Typo in next sentence
21. 8.1 – capital grants: evidence of profiteering/price inflation where capital grants are made available?? Should be listed under disadvantages also
22. Table 28 – commentary explaining the large deltas between GB/NI for solar thermal
23. 8.4, P86 – bullet point ref opex needs justified with cost data
24. Table 29 – significant role of air-CHP needs to be justified..
25. 8.6 – mission should be to identify a route map to commercial biomass & in that context the suggestion of a ‘biomass agency’ needs challenged (cost/benefit etc )

**Carbon Trust comments on draft AECOM renewable heat report**

- 26.** 9.1.1 – last para downplaying opportunity for commercial/industrial DH needs to be justified (we're involved with a number presently)
- 27.** 9.1.2 – typo: "renewbale"
- 28.** 9.1.3 – would expect to see discussion/recommendations regarding the development of heat networks as part of the gas roll-out plans
- 29.** 9.2.2 – expand on/clarify the 72% figure for biogas
- 30.** Table 39 – how does 23,302 relate to 23,033 stated in 3.4 & elsewhere?
- 31.** 10.4.1 – comment on extent of nat gas network would be useful to understand potential conflicts in policy of gas roll-out v biomass
- 32.** 10.4.4 – does it also show that successive capital grant based schemes have failed to pump-prime the market? See note 21 above
- 33.** Section 11 – where does the evidence and analysis take the target? E.g. 11.2.2 states 8.3% cost effective potential. Current figure of 1.7% will be over 2% when existing commercial RH systems taken into account. Some AD CHP systems have been identified as cost effective. Some large-scale industrial biomass/waste scheme will be cost effective (accounting for avoided waste disposal costs / cost of carbon through EUETS etc). A build-up of technologies by cost effectiveness is necessary
- 34.** 13.1 – with ref to 33. above, further justification for a 10% target should be provided. Recommendation 3 (RHI) is premature ahead of an assessment of the impact of current cost effective schemes that can be deployed by 2020
- 35.** 31.1 – retrospective payments: no justification is given for this and clarity required as to what is meant i.e. backdated for existing schemes? Double subsidy / cost of admin / benefit?
- 36.** 14.2 & elsewhere – ignores/underplays the option of importing sustainable biomass from elsewhere