

Summary Report: Analysis of the Allerton Waste Recovery Park

Eunomia Research & Consulting Ltd ('Eunomia') is a consultancy specialising in issues relating to waste management and low carbon energies. We have considerable experience in providing information to support waste treatment infrastructure investment and development. In this regard, we have recently worked on behalf of The Cooperative Bank, Nord LB, New Earth Solutions, Shanks Waste Management, Foresight Group, FCC, Ludgate Environmental Fund and Scottish & Southern Energy (SSE). We publish a national 'Residual Waste Infrastructure Review' on a six-monthly basis and have also undertaken waste facility 'gate fee' (pricing) surveys on behalf of the UK Waste and Resources Action Programme (WRAP) for each of the last five years. Furthermore, over the last decade, Eunomia has provided strategic and commercial advice to around 120 waste collection authorities across the UK.

This Summary Report draws upon two recent studies undertaken by Eunomia on behalf of the Parish Councils' Group.¹ The aim of the first study was to determine whether the 'waste flow' modelling undertaken by North Yorkshire County Council (NYCC) justifies the scale of the proposed Allerton Waste Recovery Park (AWRP).² The aim of the second study was to review the modelling of 'climate change impacts' of the AWRP, which was undertaken by Fichtner Consulting Engineers ('Fichtner') on behalf of AmeyCespa to provide justification for the AWRP from an environmental perspective.³

With regard to the 'waste flow' modelling study, the key findings from our analysis are:

- The proposed AWRP will not enable NYCC to achieve the current Government's requirement for 50% recycling by 2020;
- Future recycling targets for England are likely to rise above 50% during the contract period to 2040. The level of local authority collected (LAC) residual waste available to the AWRP is therefore very likely to be far lower than has been modelled by NYCC;⁴
- The NYCC waste model greatly overestimates the future growth in trade waste capture by local authorities. It is extremely over-optimistic to argue, as NYCC do in a related letter, that this growth will result from the ending of the Landfill Allowance Trading scheme (LATS);⁵
- Eunomia's own modelling of the related waste flows, using more realistic levels of recycling and trade waste captures, shows that AWRP will be much larger than is required. When AWRP starts operating it will have a capacity of up to 350,000 tonnes per year, some 100-115,000 tonnes per year larger than the expected LAC residual waste volume. This excess capacity will increase during the course of the contract and by 2040 will amount to 170-185,000 tonnes per year;
- NYCC has stated that any shortfall in LAC tonnage for the AWRP would be easily filled by commercial wastes, as the 'gate fee' charged will be commercially competitive.⁶ This is a very risky

¹ Eunomia (2012) *Review of Waste Availability Modelling for the Allerton Waste Recovery Park*: Final Report to The Parish Councils' Group, September 2012; Eunomia (2012) *WRATE Analysis of Allerton Waste Recovery Park*: Final Report to The Parish Councils' Group, September 2012

² North Yorkshire County Council (2012) *York and North Yorkshire Waste Partnership Waste Flow Model*, July 2012, <http://www.northyorks.gov.uk/index.aspx?articleid=15309>

³ These impacts are modelled using the Environment Agency's Waste Resources Assessment Tool for the Environment (WRATE) and focus on use of the Global Warming Potential (GWP) indicator as a representation of climate change

⁴ 'LAC waste' was previously defined as municipal solid waste (MSW), but following clarification of the definition of MSW by the European Commission (EC) to include all commercial wastes, Defra introduced the new term. 'Residual waste' means all waste which is left over after materials (including plastics, metals, glass, paper and food) have been removed for recycling or composting/anaerobic digestion

⁵ Letter from David Bowe, Corporate Director for Business and Environmental Services, North Yorkshire County Council to Antony Long, Chair, Marton cum Grafton Parish Council, 21st August 2012

⁶ Ibid.

strategy because of the impacts of competing infrastructure, lower-cost exports and AmeyCespa's relatively weak current market position compared with larger UK waste companies;

- The York & North Yorkshire Waste Partnership (YNYWP) contract includes provision of a guaranteed minimum tonnage (GMT) of waste to the AWRP. But commercial waste, which is not collected by local authorities as trade waste, does not count as part of this GMT. Based on Eunomia's revised modelling there will be a shortfall on this GMT from 2027/28 onwards that will exceed 73,000 tonnes per year by the end of the contract. This shortfall is likely to present a significant long-term financial risk to YNYWP because failure to deliver the GMT could invoke financial penalties;
- To better manage these risks, YNYWP and AmeyCespa should consider amending plans for the proposed AWRP so that it is smaller in scale and potentially uses a more flexible technology, such as mechanical-biological treatment (MBT). This would allow for the resulting solid recovered fuel (SRF) to be sent to spare thermal treatment capacity both in the UK and other EU Member States.

With regard to the 'climate change impacts' study, the key findings from our analysis are:

- Modelling the impacts of waste treatment on climate change requires data and assumptions relating to waste composition, rates of materials recovery for recycling and the 'climate change benefits' of electricity generation. Fichtner's three studies on behalf of AmeyCespa do not provide full information relating to all of these assumptions. This means that Eunomia (and, we assume, other stakeholders) has not been able to fully verify the results presented by Fichtner;
- Eunomia's analysis of Fichtner's three reports shows that the 'climate change impacts' of the AWRP are underestimated because:
 - The assumed waste composition used by Fichtner is based on data from 2006/7. This is already out-dated, being neither representative of LAC residual waste today, nor, more importantly, representative of the waste to be treated in later stages of the contract;
 - Fichtner's assumptions relating to the recovery of non-ferrous metals from both the sorting and incineration processes are over-optimistic;
 - The proposed use of a highly contaminated feedstock in the anaerobic digestion (AD) plant is likely to result in lower energy recovery and adverse operational issues including plant stoppages; and
 - In the first two reports, the assumptions used to quantify the 'climate change benefits' associated with electricity generated at the AWRP are unrealistic.
- Eunomia has remodelled these impacts using both more accurate assumptions and more commercially viable treatment solutions, to give a 'future' scenario around half-way into the contract period. In this scenario, in terms of climate change impacts, the AWRP solution performs at least as badly as landfill (the 'do nothing' option), and far worse than both a MBT 'Dual Fuel' solution and a MBT 'biostabilisation' solution;
- Furthermore, our analysis shows, as does Fichtner's own third report (under their '2020 energy mix' scenario), that the mechanical treatment (MT) / AD / incineration approach proposed by AmeyCespa for the AWRP does not perform discernibly better than an 'incineration only' solution. Thus, the inclusion of both MT and AD appears, at best, to offer very limited environmental benefit; and
- Finally, it is important to acknowledge that Fichtner do not claim that any of the three published WRATE reports represents a full options appraisal. This suggests that these reports should not, therefore, be presented as evidence within the consenting process that the proposed AWRP is an environmentally sound solution.