Houghton Main Energy Centre Economic Benefit Statement

A Report by Hatch Regeneris
October 2018

Peel Environmental Ltd

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1. Introduction

This Commission

1.1 Hatch Regeneris was appointed by Peel Environmental Ltd to quantify and summarise the potential local and regional economic benefits from the proposed Houghton Main Energy Centre (Energy Centre) at the former Houghton Main Colliery in Barnsley. Peel Environmental Ltd want to understand and demonstrate the potential economic benefits of their proposal locally, in the Borough[1] and across the wider South Yorkshire area.

1.2 As this statement shows, the potential benefits would be predominantly employment and gross value added (GVA) related[2] during the construction and operational phases of the proposed development. The statement considers the different ways that employment and GVA impacts flow through the economy. It also considers other benefits, including the fiscal benefit in the form of business rates collected by Barnsley MBC.

The Proposed Development

1.3 Peel Environmental Ltd are working to develop the Energy Centre at the former Houghton Main Colliery in Barnsley. Planning permission was previously obtained in 2015 for a 20MW Timber Resource Recovery Centre (TRRC) which would have used waste wood as a feedstock to create both electricity and heat.

1.4 However, in advance of construction commencing on site, Peel Environmental wish to alter some of the conditions attached to the existing planning permission. This includes ensuring that the Energy Centre can accept a broader range of fuel types. The primary fuel source at the Energy Centre is proposed to be Refuse Derived Fuel (RDF). Given the change in fuel, a Section 73 application is being made to Barnsley MBC to approve this change.

1.5 The proposed Energy Centre would have a capacity to generate up to 22MW of low-carbon energy for export to the national grid and to local business (by direct wire). To put this into context, this is enough to supply approximately 51,000 homes[3] which is equivalent to 46% of dwellings in the Barnsley local authority area[4].

1.6 The proposed Energy Centre would be developed at the former Houghton Main Colliery, approximately half a mile north of Little Houghton, off the Houghton Main Colliery roundabout in the Barnsley local authority area in South Yorkshire. The local authority area is home to approximately 243,000 people, which is around 17% of South Yorkshire's 1.4 million total population[5] The area was significantly shaped by the coal mining industry, and the Colliery was a major employer until its gradual decline from the 1980s until closure in 1993.

[1] The Barnsley Metropolitan Borough Council (BMBC) local authority area.

[2] Gross value added (GVA) is used to demonstrate wealth creation and is principally composed of the income of employees (their earnings) and of business (profits).

[3] Based upon 3,100 kwh on average per home (https://www.ofgem.gov.uk/gas/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values)

[4] There were 109,380 dwellings in Barnsley in April 2017 according to the Ministry of Housing, Communities & Local Government (2018) *Live tables on dwelling stock (including vacants)* dataset.

[5] ONS (2017) Mid-year population estimates

1.7 Nonetheless, there has been significant regeneration activity undertaken since the Colliery's closure. This has included extensive public[6] and private sector investment in site remediation, as well as enhanced and new road infrastructure to support and encourage site development and economic activity at both the Houghton and Grimethorpe former colliery sites. At the Houghton Main site this includes ASOS's national distribution centre operated by XPO Logistics. This facility employs approximately 4,000 people.

1.8 While regeneration has been bringing forward positive change in the local area, a clear socio-economic need remains, with further economic development interventions and investments required, such as the proposed Energy Centre, to bring forward new local employment opportunities. Barnsley and South Yorkshire still have higher than average levels of economic inactivity. The latest data shows that in Barnsley 25% of the working age population are economically inactive, compared to 21% nationally[7]. Unemployment and worklessness need to be challenged locally, particularly for younger people and the long-term unemployed. In the year to March 2017, according to the ONS model-based estimates for unemployment, there were 6,000 unemployed people in Barnsley and 41,000 in South Yorkshire more widely[8].

1.9 The area's socio-economic challenges are also strongly highlighted through analysis of deprivation data. The latest data highlights there are areas with high levels of deprivation in the Barnsley local authority area. Barnsley ranks 32nd out of 326 Local Authority Districts in England for the proportion of Lower Super Output Areas (LSOAs) and is within the 10% most deprived nationally[9]. All districts in South Yorkshire are in the worst 15% in terms of districts with the highest proportion of LSOAs in the most 10% deprived nationally[10]. Employment opportunities and increased local expenditure flowing from it are a key route out of deprivation for these communities.

[6] Including national government and agency funding, Regional Development Agency (RDA) funding, European Funding programmes, and local authority funding.

[7] ONS, Annual Population Survey (2018)

[8] ONS (2017) Model-based estimates of unemployment

[9] Ministry of Housing, Communities & Local Government (2015) English Indices of Multiple Deprivation 2015

[10] ibid

2. Potential Construction Phase Economic Benefits

Total investment

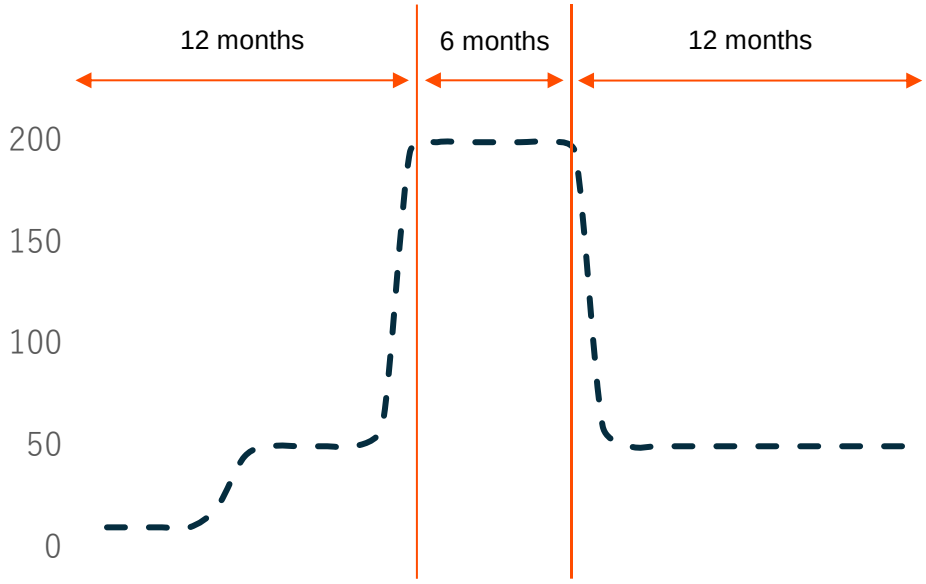
2.1 The Energy Centre is a significant investment into Houghton, the surrounding area, and the Barnsley local authority area. In total, approximately £100 million will be invested in the construction and development of the Energy Centre. This investment will support jobs during the construction phase, many of which would be located locally.

Construction Jobs

2.2 The construction phase is estimated to last approximately 30 months, from initial site preparation through to commissioning and testing of the constructed Energy Centre.

2.3 Based on similar energy centres constructed elsewhere in the UK, it is estimated that the proposed development would support **up to 200 jobs on-site during the period of peak construction activity**. This peak activity would be reached around one year into the construction phase and last for approximately six months. A pattern of on-site jobs similar to Figure 2.1 is expected during the construction phase of the Energy Centre.

Figure 2.1 Estimated level of jobs on-site during construction



Source: Hatch Regeneris, based on information provided by the client

2.4 An alternative approach to estimating the scale of construction jobs supported as a result of the proposed development, including those that are located off-site, is to use construction investment and construction labour co-efficients[11] to convert the expenditure into jobs. Using a breakdown of costs provided by Peel Environmental and pairing this with assumptions informed by the construction of similar schemes, the £100 million investment gives an indication of jobs that could be supported during construction.

2.5 We estimate, using this approach, that around 240 jobs would be supported in total during the 30-month construction phase. Comparing this to the expected 200 on-site jobs, this

[11] Homes & Communities Agency (Now Homes England) (2015) *Calculating cost per job, Best practice note: 3rd edition*

suggests that around 40 off-site jobs would be supported during the construction phase covering areas such as design and procurement. As the development project includes significant labour associated with groundworks, building structures, internal fit out, and the installation of plant and other machinery, this is considered appropriate. There is also a level of expenditure that is expected to be international, namely some of the specialist equipment that cannot be sourced domestically, and this expenditure has not been included in the calculation of jobs as it is not of benefit to the UK economy or locally.

2.6 There are over 5,000 construction workers in the Barnsley local authority area and 28,500 in South Yorkshire, representing 6% and 5% of total employment respectively[12]. There were also 1,100 construction sector firms with a presence in Barnsley in 2017[13]. A significant and relevant construction skills base contractors and construction workers is available in the local and sub-regional area.

2.7 The last census showed that around 50% of construction workers resident in Barnsley travelled up to 40km (25 miles) for work, while approximately 40% travelled 20km or less (12 miles or less)[14]. There is no evidence to suggest there has been a substantial change since 2011, though this propensity for travel to work distances is likely to fluctuate to some extent given market conditions and opportunities. The proposed development would provide a number of opportunities (e.g. sub-contracting work-packages) which would support local employment during the construction phase (e.g. sub-contracting work packages - site preparation; the erection of buildings; internal fitting out including plastering, plumbing, lighting etc; supplies of construction materials from local quarries, concrete batch plants, site landscaping. However, the exact proportion will only become clear once the appointment of the main contractor has taken place and their procurement proceeds. However, it is anticipated that an online community information page and email address will be advertised, so potential local contractors and workers will be able to register their interest with the appointed contractor.

2.8 The South Yorkshire and the wider Yorkshire and the Humber region's energy generation sector and supply chain is historically strong, with the potential to play a role in providing some of the specialist skills required to support the construction of the Energy Centre project. However, there will also be a requirement for some specialist skills and plant equipment (i.e. including the Energy Centre specific energy generation technology) which is likely to come from outside of the local and wider regional area. These are most likely to be workers/contractors from a national or international business who would accompany the equipment and assist in its installation. However, whilst on-site, there is potential for these workers to require accommodation, food and other amenities, resulting in additional expenditure in the local economy.

[12] ONS (2016) *Business Register & Employment Survey*

[13] ONS (2017) *UK Business Counts.* NB. Local units are used.

[14] ONS (2011) *Census*

3. Potential Operational Economic Benefits

Direct Economic Impacts

3.1 The Energy Centre, once fully operational, would support **20 full-time equivalent (FTE) jobs** directly on site. In addition, a further 2 FTE jobs would be created to assist in the management of the facility[15].

3.2 The range of operational roles at the Energy Centre would be as follows:

- around 20% of the jobs will be highly skilled[16] (4 jobs)
- around half (10 jobs) will be process, plant and machine operatives (SOC 8).
- around 25% (5 jobs) will be entry-level (Elementary Occupations) jobs.
- there will also be one administrative role created (SOC 4).

3.3 The broad mix of occupations will provide opportunities for a range of people within the local area. In particular, the process operatives and elementary roles are likely to be filled via local recruitment. While experience in similar roles is beneficial, with appropriate training those with lower-skills, or those entering the labour market for the first time, could fulfil these roles. It is also anticipated that the administrative role would most likely be filled by a local recruit. It is anticipated that the operational contractor will advertise potential roles towards the end of the construction process.

3.4 The higher skilled roles, which require specialist knowledge, are likely to be filled by those with experience in the waste and energy industries. While it is possible that these roles could be taken by Barnsley or South Yorkshire residents, these roles may also be attractive to skilled workers from other parts of the UK who may choose to relocate to the area. In either case, we conclude that that is likely that the highly skilled roles at Energy Centre would be filled by workers who will reside in the local or South Yorkshire area.

3.5 It is estimated that the total gross annual salaries (i.e. employment income) paid to staff employed directly on-site would be in the region of **£875,000 annually** (see below for how this injection of employment income can support further local employment). The estimated gross annual GVA impact from the direct employment of 20 FTE jobs at the Energy Centre is approximately **£0.88 million,** or just under **£1 million (£0.97m) of GVA per annum** based upon 22 FTE jobs.

Indirect and Induced Economic Impacts

3.6 The indirect impacts of the Energy Centre refer to the impacts (jobs and GVA) that are located within its supply chain and through its operational expenditure. The induced impacts refer to the jobs and GVA that are generated by the expenditure of the additional wage income of direct workers and indirect workers (as above) supported by the Energy Centre, once the facility is operational.

3.7 The latest financial modelling for the Energy Centre shows an annual operational expenditure (direct costs, operations and maintenance costs and other operating costs but excluding business rates) of approximately **£7.3 million (in 2022)**. Much of this will be

[15] A project management role on behalf of the scheme funders who would liaise with the operational management team, as well as Feedstock representative employed to ensure that feedstock contractors provide HMEC with appropriate volumes and quantities of feedstock.

[16] As defined by Standard Occupational Classifications (SOC) 1-3 – Managers and Senior Officials (SOC1); Professional Occupations (SOC2); and Associate Professional and Technical Occupations (SOC 3).

spent through various competitively tendered procurement process (e.g. for technology maintenance and cleaning, residue management contracts, supply of consumables etc). Local and regional companies will be encouraged to tender, given their strong track record in supplying services to the energy generation sector. However, it is not possible to state with certainty the location of this expenditure at this stage (and therefore where the economic impacts will be felt).

3.8 Nonetheless, the nature of the logistical cost of transporting items such as the feedstock and similar services mean that, in some cases, bidding contractors who are located within a reasonably short travel time to Energy Centre are likely to be well placed to submit competitive tenders. Services for the Energy Centre such as cleaning, general site maintenance, and security are more likely to be undertaken by local contractors, given the nature of these services.

3.9 Consequently, the methodology for calculating both indirect and induced economic impacts for the Energy Centre has centred around modelling the way in which benefits from the sector flow through the economy in the region (Yorkshire & the Humber is the best fit region for this type of 'Input-Output' analysis[17]). For the purposes of the Energy Centre, we established that this facility would be categorised under Standard Industrial Classification (SIC) Division 38 (Waste Support). This use explicitly includes the disposal of non-hazardous waste by combustion or incineration methods, with the resulting production of electricity, ash or other by-products (such as heat) for further use.

3.10 To identify the potential impact at a South Yorkshire level, we have proportionally adjusted the impacts based upon Barnsley's and South Yorkshire's share of Yorkshire & the Humber region's overall employment levels[18]. Due to the proximity of the Energy Centre site to the Metropolitan Borough of Doncaster, and the nature of city regions such as South Yorkshire, it is challenging to accurately identify the impact solely within the Barnsley local authority area. It is also likely that some of the potential indirect and induced impacts may arise in West Yorkshire due to the proximity of the Energy Centre site to the Wakefield local authority area.

3.11 Based upon this analysis, the potential gross indirect impact of the Energy Centre would be an additional **7 FTE jobs** and an additional **£0.31 million GVA per annum** for the economy of Barnsley and the wider South Yorkshire area.

3.12 The potential gross induced impact of the Energy Centre is calculated to be a further **2 FTE jobs** and **£0.13 million GVA per annum** for Barnsley and the wider South Yorkshire area.

3.13 Taking gross direct, indirect and induced impacts together would lead to a potential economic impact from Energy Centre in Barnsley and the wider South Yorkshire economy of **31 FTE jobs** and **£1.42 million** per annum of GVA.

3.14 Given how economic benefits can flow through the economy, the full economic impact of a development project can be significantly larger than the direct impact or the local impact for the economy of the UK overall. The above methodology suggests a gross national economic impact of 58 FTE jobs and £2.9 million GVA per annum, though this is likely to be highly diffuse throughout the UK's national economy.

[17] The 2018 Hatch Regeneris Input-Output Model models the pattern of expenditure through the economy, quantifying the likely impacts of that expenditure. Our model uses national data on the patterns of expenditure by industry as well as our own analysis. This allows us to track multiple rounds of expenditure through multiple tiers of the supply chain across a range of sectors to ensure that the full extent of impacts is captured and reported robustly.

[18] This has been modelled using ONS (2016) Business Register & Employment Survey

Table 3.1 Summary of the Potential Economic Impact of the Energy Centre		
Impact	FTE jobs	GVA (£m) per annum
Direct impacts of the Energy Centre	22	£0.97
Indirect impacts	7	£0.31
Induced impacts	2	£0.13
Total economic impacts	31	£1.42

Source: Hatch Regeneris. Figures may not sum due to rounding. Note: all figures are gross impacts.

Potential Wider Impacts

Business Rates

3.15 Analysing similar facilities that have been commissioned in the UK and evaluated by the Valuation Office Agency, we estimate as a minimum that this facility would generate around **£880,000 per annum** in business rates that would be collected by Barnsley MBC. This is based on an assumption of a £44,000 rate liability per MW at similar facilities. Depending on changes to rate multipliers and future re-evaluations, this figure can be expected to change over time; however, it is likely to remain within this order of magnitude for the foreseeable future.

3.16 Under the business rate retention arrangements introduced by the UK Government in 2013, local authorities such as Barnsley MBC retain around 50% of business rates paid locally. In addition to this, Barnsley is currently a pilot area for the 100% business rate retention scheme, meaning it retains all of its **real-terms growth above 2013-14 levels**, pooled at the Sheffield City Region level. However, the long-term trajectory for this policy is unclear, so it is difficult to say with certainty the amount of the business rates that would be retained by Barnsley MBC in the future once this site is operational.

3.17 Nonetheless, despite uncertainty around the scale of business rate capture locally, Barnsley MBC would directly receive a substantial proportion of the potential c. £0.88m business rates that the Energy Centre would pay. This would directly benefit and support the provision of public services to residents across the Barnsley local authority area and the Sheffield City Region.

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