

### Environment and Sustainability Assessment

Birmingham City Council is required to assess any positive or negative impacts that any policy/strategy/ decision/development proposal is likely to have on the environment. This assessment must be completed for CLT and Cabinet reports where appropriate. It is the responsibility of the Service Director signing off the report to ensure that the assessment is complete.

To complete the assessment, you should consider whether the proposal will have a positive or a negative impact on each of the key themes by placing a (✓) for positive, (x) for negative and (?) for unclear impact, and (N/A) for non-applicable impact. Further guidance on the completion of the template is available on page 3 below.

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| <b>Project Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | P0599: Tyseley Energy Recovery Facility, Waste Transfer Stations & Household Waste Recycling Centres – Operate, Maintain & Renewal |                                                           |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Directorate:</b><br>City Operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Team:</b><br>Street Scene                                                                                                       | <b>Person Responsible for assessment:</b><br>Darren Share |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Date of assessment:</b><br>31/01/2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Is it a new or existing proposal?</b><br>New Contract Award                                                                     |                                                           |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Brief description of the proposal:</b><br>To approve the award of a contract following the Competitive Dialogue (CD) procurement process for the operation and maintenance of Tyseley ERF (Energy Recovery Facility), HWRCs (Household Waste Recycling Centre) and WTS (Waste Transfer Stations) at Tyseley, Kings Norton and Perry Barr, including the re-development of the Kings Norton (Lifford Lane) waste management facility in accordance with the delegations approved by Cabinet in the strategy report in support of the Waste Strategy Framework 2017 – 2040 (Forward plan Number: 004374/2017) dated 13 February 2018. |                                                                                                                                    |                                                           |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Potential impacts of the policy/development/ decision on:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Positive Impact</b>                                                                                                             | <b>Negative Impact</b>                                    | <b>No Specific Impact</b> | <b>What will the impact be? If the impact is negative, how can it be mitigated, what action will be taken?</b>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Natural Resources - including water, soil, air                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                    | ✓                                                         |                           | There are both positive and negatives as a result of the award of this contract, however the cumulative impact is negative. Part of the award of this report is for the operation and maintenance of the Tyseley Energy Recovery Facility (ERF) which is used to process residual waste collected in Birmingham through incineration. Several major studies have been completed which have been analysed and summarised in a wide ranging study issued by Public Health England (PHE) on the health impacts of modern municipal |

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|                                          |  |   |  | <p>waste incinerators. PHE has concluded from the studies that “modern, well run and regulated municipal waste incinerators are not a significant risk to public health. While it is not possible to rule out adverse health effects from these incinerators completely, any potential effect for people living close by is likely to be very small.” Tyseley ERF is a well-run incinerator and is operated in compliance with the latest regulations for modern incinerators. <a href="https://www.gov.uk/government/publications/municipal-waste-incinerators-emissions-impact-on-health/phe-statement-on-modern-municipal-waste-incinerators-mwi-study">https://www.gov.uk/government/publications/municipal-waste-incinerators-emissions-impact-on-health/phe-statement-on-modern-municipal-waste-incinerators-mwi-study</a></p> <p>The redevelopment and modernisation of our Waste Transfer Stations at Kings Norton and Tyseley ensures for better facilities for the management of waste during the transfer process to reduce noise and air pollution and any potential for ground contamination.</p> <p>The Contract has a strong emphasis on ensuring that extremely minimal levels of waste is sent to landfill, which has impacts on water, soil and air quality, and provides management of the ERF facility for those wastes (Persistent Organic Pollutants) for which government guidance is that they can only be dealt with through the process of incineration.</p> |
| Energy use and CO <sub>2</sub> emissions |  | ✓ |  | <p>There are both positive and negatives as a result of the award of this contract, however the cumulative impact is negative. The CO<sub>2</sub> emissions from the operation of the Facility are reported in the National Atmospheric Emissions Inventory, which reports that in 2020 Tyseley ERF emitted 42,270 tonnes carbon dioxide (reported as carbon), which is 155,000 tonnes of carbon dioxide, from the combustion of the non-biogenic fraction of the waste processed at the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|  |  |  |  | <p>facility. Approximately 50% of the carbon dioxide emitted from waste combustion is from biogenic sources which is short cycle and therefore has no net global warming impact.</p> <p>The award of this contract will ensure that plant at Tyseley will continue to be updated to ensure that it complies with emissions limits and the wider requirements of its Environmental Permit through to the end of its service, whilst ensuring the residual waste which BCC has a statutory obligation to collect is dealt with responsibly and efficiently. It is important to recognise that the Tyseley Energy Recovery Facility (ERF) displaces the Greenhouse Gas (GHG) emissions from the landfill that would otherwise be needed to dispose of the waste. The electricity generated by the ERF also displaces the electricity and associated carbon emissions that would otherwise be generated by fossil fuel power stations. Our Technical Consultants have undertaken a number of quantitative assessments, in line with government guidance, which show that when a municipal waste incinerator is compared with the alternative of disposal of the waste in a typical large modern landfill site, there is a net reduction in carbon emissions. The waste processed by Tyseley ERF is the residual waste left after recycling has taken place, for which the only alternative would be disposal in landfill.</p> <p>Nationally, the move away from landfill to energy recovery resulted in a 63% reduction in the waste sector's carbon emissions since 1990, since on average every tonne of waste treated at Tyseley energy recovery facility saves 0.2 tonnes of carbon dioxide compared with landfill.</p> <p>The Tyseley Energy Recovery Facility has R1 status Permit, meaning it is classified as an efficient recovery option by the Environment Agency. The Tyseley ERF generates power</p> |
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|                                                        |   |  |  | from non-recyclable waste, that generated 184,157 MWh of electricity in 2021 this helped power approximately 63,000 households, equivalent to 15% of the homes in Birmingham. Each tonne of residual waste converted to electricity in the ERF generates ~490 KWh of electricity exported which is enough to meet the electrical requirements of an average household for 2 months. Birmingham City Council is working with its citizens to improve recycling rates, but there are some parts of the waste stream that cannot currently be recycled at this time, including certain types of plastic. The waste processed at Tyseley is waste presented by residents as residual waste, which is the waste that remains after all current recycling activities have taken place. |
| Quality of environment                                 | ✓ |  |  | This contract award ensures that BCC meets its statutory obligations for duty of care to Birmingham citizens by providing a proven and reliable method for the disposal of its waste, to prevent any build-up of waste which could be harmful to public health                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Impact on local green and open spaces and biodiversity | ✓ |  |  | The redevelopment of Kings Norton facility includes a biodiversity area which will give improved biodiversity to the local area. The Tyseley site improvements includes the creation of a biodiversity corridor which will link areas of biodiversity in Birmingham.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Use of sustainable products and equipment              | ✓ |  |  | The approach to the redevelopment at Kings Norton follows that outlined in BCC's Guidance Note 'Sustainable Construction and Low and Zero Carbon Energy Generation', and reports on how the proposed redevelopment meets the standard of sustainable design and construction throughout all stages of the development including both construction and long term management.                                                                                                                                                                                                                                                                                                                                                                                                      |

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|                  |   |  |  | <p>The development has been designed with a focus on how it will:</p> <ul style="list-style-type: none"> <li>• adapt to climate change through implementation of a Sustainable Urban Drainage System (SuDS), reduces overheating, conserves water and reduces flood risk;</li> <li>• procure materials which promote sustainability, including by use of low impact, sustainably sourced, reused and recycled materials;</li> <li>• minimise waste and maximise recycling during construction and operation;</li> <li>• be flexible and adaptable to future occupier needs;</li> <li>• incorporate measures to enhance biodiversity value;</li> <li>• reduce carbon dioxide emissions through the energy efficient design of the site; and</li> <li>• further reduce carbon dioxide emissions through the use of on-site renewable energy technologies where feasible.</li> </ul> <p>Further details of this are included in the planning application.</p> |
| Minimising waste | ✓ |  |  | <p>The bid will improve the customer experience at the Council's five Household Recycling Centres (HWRCs) through better traffic management, clearer signage and communications and recycling or diverting from landfill up to 70% of material arriving at the HWRCs. Improvements to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|                                                                                    |  |   |  | <p>the dated site at Kings Norton will also ensure greater waste separation, further helping to drive waste up the hierarchy.</p> <p>The bid offers education opportunities which can be delivered to Birmingham citizens to improve their knowledge of waste and recycling to enable them to make better decisions in the personal management of their waste at home.</p> <p>Part of the focus for this this contract award is also to allow for the movement of Birmingham citizen's household waste up the waste hierarchy. The proposals as part of the contract includes:</p> <ul style="list-style-type: none"> <li>• Three additional reuse shops at the HWRCs and an innovation hub for both community and industry to develop and share skills around repair, reuse and sustainable living.</li> <li>• An electric narrowboat recycling centre proposed to run between Kings Norton and Tyseley.</li> <li>• Improvements to the Castle Bromwich recycling site which allows the ERF by-products to be recycled and used in road construction.</li> <li>• Provision of infrastructure at the Waste Transfer Stations to allow future food waste collections.</li> </ul> |
| Council plan priority: a city that takes a leading role in tackling climate change |  | ✓ |  | <p>As stated above, it is important to recognise that processing the residual waste at Tyseley ERF generates less GHG emissions than would be emitted if the waste were disposed of via landfill. This means that the operation of the ERF is a net benefit for climate change when compared to landfill. The waste processed by Tyseley ERF is the residual waste</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|  |  |  |  | <p>left after recycling has taken place, for which the only proven alternative would be disposal in landfill.</p> <p>Climate change has been at the forefront of this procurement and a number of carbon reduction measures will be implemented as part of the contract, where there is technology at a suitable level of development ready to deploy. These include solar PV panels, heat pumps in offices, electric vehicle charging, and recycling improvements.</p> <p>A strategy for a long-term solution for the city is being developed, and it is at this point where we anticipate being able to explore emerging technologies (not yet sufficiently tried and tested) to realise our ambitions for a cleaner environment. However, the complexity and importance of a secure path for the disposal of the large quantities of waste that Birmingham generates as a city needs to be considered. It is also important from a climate change perspective to ensure that the solution provides a robust and reliable diversion from landfill to prevent the associated GHG emissions associated with landfill. Any new technology deployed as an alternative to ERF that then fails or even just underperforms, could result in significant quantities of waste to landfill, with the consequent climate change and cost impacts.</p> <p>The importance of the BCC's ambitions and the options available has been a part of discussions throughout the various phases of dialogue, taking place between late 2020 and continuing until August 2022. As part of their submission, bidders were required to propose carbon reduction measures. It is recognised that this is a transitional contract procured for a minimum term of ten-years to focus on the post 2034 solution procurement</p> |
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| Overall conclusion on the environmental and sustainability impacts of the proposal | <p>Whilst we appreciate that some elements of this contract may delay Birmingham's aspirations for 2030, but this allows for the opportunity for Birmingham to find the solutions to meet these targets in 2034. This contract has been secured with the lowest term possible within the industry to allow for emerging technologies to mature during the term to place Birmingham in the most beneficial position once these technologies are proven and reliable.</p> <p>Over the short term, this contract is the most sustainable and has the least environmental impact of all the options we have considered. This is because we are using existing facilities, which avoid the significant carbon footprint of the development of a major new facility.</p> <p>This contract is supporting the energy security of Birmingham by generating power from non-recyclable waste, that generated 184,157 MWh of electricity in 2021. This helped power approximately 63,000 households, equivalent to 15% of the homes in Birmingham</p> <p>There are also a number of opportunities being provided as part of this new contract, as demonstrated above, which will make improvements for Birmingham's residents and their environment.</p> |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |