Climate Change Emergency Motion

Sustainability and Transport Overview and Scrutiny Committee 25th September 2019

Street Scene Response – Waste and Energy Investment Plans and Policies

Street Scene has two areas of work that will contribute to the City's aspiration to be zero carbon by 2030, these are the management of waste and operating a large fleet of vehicles.

1. The Vehicle Fleet

   The fleet across Street Scene is almost entirely made up of diesel vehicles. The vehicles are used for refuse and recycling collections, street cleansing, road sweeping, grass cutting and grounds maintenance operations.

   The largest fleet requirement is within Waste Management where there is a need for 237 heavy goods vehicles. The fleet across Waste Management is aging and a replacement strategy has been approved by Cabinet and a process has started to replace the oldest vehicles first.

   As part of this process the service is looking at alternative fuels and the size of vehicle. The market does offer compliant diesel engines, CNG and fully electric options. CNG and electric are fairly new to the UK market and we are currently investigating the practicality of the vehicle and the infrastructure needed to support the fleet.

   There are limited options for an alternative fuel for our mid sized fleet. Diesel engines at the Euro 6 standard are the most viable

The collection vehicles will need to compliment the management of waste across the City.

2. The Management of Waste

   By investing in existing waste infrastructure across the city, and where possible, locating any new facilities the Council is seeking to minimise "waste miles;" i.e. the distances covered in transporting waste to its final destination for treatment. Furthermore, future maintenance and refurbishment opportunities at the Tyseley Energy Recovery Facility (ERF) will allow the Council to upgrade the plant to ensure that it continues to meet the highest environmental standards, including anticipated changes to the best available technique references due to be updated by the European Commission in late 2019.

The waste hierarchy ranks waste management options according to what is best for the environment. The most preferred option is at the top of the scale and the least favoured options at the bottom. It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill).

The need to reduce carbon emissions is widely acknowledged on a global scale. Birmingham City Council is in an excellent position to help achieve our local contribution to a reduction in carbon emissions and our associated impact on climate change.

The UK management of waste was responsible for around 4 percent of UK greenhouse gas emissions in 2013, with methane being by far the most prominent gas (91 percent). The vast majority of these emissions are from landfill sites. Therefore by minimising waste to landfill we can contribute to climate action.

In 2018-19, 37,779 tonnes of waste were sent directly to landfill primarily due to industrial action (7.73% of municipal waste) and a further 9,208 tonnes of post incineration ash and recycling facility rejects were also landfilled (1.88% of municipal waste), making a total of 46,986 tonnes (9.62% of municipal waste). In the same period, 345,128 tonnes of waste were sent to Energy from Waste or used as bio-fuel (70.65% of municipal waste) of which 77,261 tonnes of post incineration ash and metals were recycled. A total of 183,964 tonnes, including post incineration ash and metals, (37.66% of municipal waste) was recycled or reused in 2018-19.

We currently dispose of around 9.6% of our waste to landfill, which already meets the Government's target for reducing landfill to below 10% by 2035. Whilst this also compares favourably with the average for English disposal authorities (19.7%), there is still room for improvement, with nearly 40 disposal authorities having a lower landfill rate (2015-16). Therefore, landfill diversion options will be considered as part of the Council's ongoing procurement program.

The demands on a city's energy consumption are changing. The demand for electricity is increasing and there is a need to reduce the carbon impact of our energy system. Maximising energy recovery, in the form of heat and electricity, from our waste and then selling it at an affordable rate is one way to meet these challenges.

Increasing recycling across the City is a priority. There is a need to move more of our residual waste to recycling opportunities. The recent DEFRA consultation paper asked the question of the industry to separate waste streams and provide a consistent approach to what can be recycled. Legislation is likely before 2023 to introduce food waste collections and introduce a glass return scheme. This will reduce the waste sent to our Energy Recovery Facility (ERF). The Service is currently procuring a new disposal contract that will increase the recycling opportunity.

The existing disposal contract will continue until 2024 with our primary outlet for residual waste going to our energy recovery facility powered by waste.

ERF includes proven and reliable technologies. It allows recovery of value in the form of heat energy and recycled materials as resources that would otherwise be wasted. ERF can help prevent a UK energy deficit as it is reliable and secure.

ERF facilities are required to meet strict emissions standards under the European Union (EU) Waste Incineration Directive (WID). All ERF facilities need an Environmental Permit from the Environment Agency to operate. The permit controls all operations and will only be granted if the Environment Agency is sure there will be no adverse effects on the local community and environment.

ERF facilities are fitted with advanced technologies that control and monitor emissions. A major part of the plant infrastructure is the air pollution control technology. The extent of 24 hour a day air emission control technology coupled with stringent environmental regulations means ERF facilities are designed and operated to have no significant impact on air quality or health.

As with any combustion process, burning waste in an ERF facility generates carbon dioxide. However given the composition of the waste a significant proportion of the carbon dioxide is from biogenic sources rather than fossil fuels. It is, therefore, estimated that for every tonne of waste combusted in modern ERF plants, over 460kg less of carbon dioxide equivalent is released into the air due to avoided methane from landfilling, fossil fuel power generation, and metals production.

Housing response:

The areas below describe the current Housing related activity:

Asset Management and Capital investment.

The Housing Repairs/Gas and Capital Contracts assist BCC to reduce the Carbon Footprint and hopefully play our part in mitigating the pace of climate change.

In the first year of the contract, we measured Waste Recycling, City Wide this was above 95% which was very pleasing. There is always a drive to recycle equipment where possible such as using “Lift Controllers” from blocks designated for Clearance for use in retained High-Rise blocks.

We have adopted the following approaches and also carried out the following works thus reducing the impact on the environment:

1. The Contract requires all employees to live within 30 miles of the Council House. This not only helps immensely to contribute to the success of the local economy but also reduces the environmental impact of delivering such a huge Repairs/Gas and Capital Contract

2. New efficient LED light fittings have been installed in many blocks as part of the upgrade of communal areas

3. Replacing old inefficient Warm Air Systems and very inefficient old boilers with new A rated energy efficient boilers

4. Installing New double glazing with low emissivity and replacing singular glazing

5. Installing New External Wall Insulation (EWI) in numerous refurbishment projects across the city such as Barry Jackson Tower, Holly Bank Road , The Heathway, Adelaide Tower, The Boat Blocks ETC. This work has helped to take many tenants out of fuel poverty. In the case of BJT the EWI reduces our running costs of the building further reducing the Carbon Footprint of our newest nationally recognised Homeless Centre

6. Our contractors are utilising Electric Vans and have installed Charging Points at some of our Depots. I.E. Kings Road

7. A report by the Committee on Climate Change (CCC) says that from 2025 at the latest, no new homes should be connected to the gas grid – with super-efficient houses and flats heated using low-carbon energy instead. Therefore we are already completing soft market testing to consider the use of more sustainable renewable energy sources moving forward. These developments are already factored into our investment strategies for major refurbishment projects in Birmingham.

8. We are constantly working with contractors to deliver our My Home approach which encourage a right first time repairs solution. It also encourages the completion of multiple repairs in one visit. The Contract pricing model (Price Per Property) encourages contractors to work efficiently by minimising call outs and the impact on the environment.

New Housing Development

Birmingham Municipal Housing Trust Building Specification – The BMHT building specification includes energy and water saving measures including:

- Using a fabric first approach to construction.
- Building components to wherever practicable have a rating of “A” as stipulated in The Green Guide to Housing Specification” published by the BRE. Where not practicable to use an “A” rated material, the Employer may consider an alternative which must achieve a minimum “B” rating.
- Air tightness and thermal bridging – every property on the scheme is to achieve an air permeability maximum figure of 3m3/hr/m2 @ 50Pa. To ensure best practice in the construction of the properties the design and construction solutions incorporated into the scheme are to comply with the guidance of

"Enhanced Construction Details for Thermal Bridging and Air Tightness", Energy Saving Trust Guide CE302.

- Use of sustainable urban drainage, with a Sustainable Drainage Operation and Maintenance Plan will be required for all major development in Birmingham.

- Reasonable provision must be made by the installation of fittings and fixed appliances that use water efficiently for the prevention of undue water consumption. The potential consumption of wholesome water by persons occupying each dwelling must not exceed 110 litres per person per day (including a fixed factor of water for outdoor use of 5 litres per person per day), calculated in accordance with the methodology set out in "The Water Efficiency Calculator for New Dwellings" by the DCLG.

- All contractors must arrange for the proposed design to be assessed on the National Home Energy Rating (NHER) and provide certification to the Employer, together with an estimate of the annual energy cost. The certificate shall confirm that the property has achieved a minimum rating of 9.0.

Modular Housing - Developing innovative construction methods such as modular construction through the BMHT programme and the requirement for social value actions to address carbon reduction targets from building design, materials used, standards for heating and power through to providing EV charge points.

Additional Bullet points in regard to BMHT housing development

- Fabric first approach to construction – Green Guide to Housing 'A' rated components where practicable 'B' rated as a minimum
- Enhanced thermal bridging and airtightness
- Use of SUDS (sustainable drainage systems)
- Water efficiency target
- Achieve 9.0 National Homes Energy Rating

<u>Other Housing related activity</u>

- We are progressing a local authority 'statement of intent' setting out eligibility criteria to allow energy providers to access government grant to undertake fuel and energy efficiency improvements in Private Sector Housing as part of the Energy Company Obligation (ECO) 3.

- All new Social Housing tenants of the Council receive advice and support in responding to any Energy Performance Certificate (EPC) recommendations and where they can get further help in regard to Energy providers.

- local housing teams are area based and actively promote agile working using local bases to reduce vehicle travel and shared workspace

- Promoting our Best Use of Stock programme to help households under-occupying dwellings to downsize to a more suitable home thus reducing unnecessary energy use in an under-occupied home.
- Reviewing our estate based vehicle fleet to look at opportunities to replace with more energy efficient vehicles.