

Eco Impact Checklist

Title of report: Bristol Waste Fleet Renewal				
Report author: David Lawrence, Interim Shareholder Liaison Director				
Anticipated date of key decision 4th December 2018				
Summary of proposals:				
<p>This proposal is to renew the Bristol Waste Company fleet over a period of 6-12 months at an estimated cost of up to £12m.</p> <p>The purchases will take place in separate tranches, with the first tranche funding the purchase of 45 Multi Compartmental Recycling Vehicles (MCRV), followed by Refuse Vehicles, and Street cleansing vehicles and vans.</p> <p>The vehicles will be equipped with an array of safety features and will conform to the latest energy and CO2 requisites.</p> <p>Alternative fuels are being examined as at this stage electric vehicles are not currently at the level needed to fully support the contract, however it is hoped electric options might be available for the third tranche.</p>				
Will the proposal impact on...	Yes/No	+ive or -ive	If Yes...	
			Briefly describe impact	Briefly describe Mitigation measures
Emission of Climate Changing Gases?	Yes	+ive	<p>The vehicles will conform to the CO2 regulations but will still have an impact. This is likely to be less than the old fleet due to the new vehicle design.</p> <p>The purchase will be tendered via the Companies procurement portal and will comply with</p>	<p>Bristol Waste has joined the University of Oxford and have signed up to Tantalum's trial with Imperial College London to road test its Air Car Technology. Our current fleet is being monitored for NOx and CO2 impact. The Environmental Performance Team would like to see some information about how this would improve driver driving habits? Does it offer any further benefits that the drivers would not get from telematics for example</p> <p>Council officers may wish to comment during the procurement process.</p>

			<p>Other alternative fuel sources seem to not have been considered</p>	<p>compatible with low entry cabs (needed to comply with DVS), and would deliver reduced maintenance and fuel costs, reduced lifecycle carbon emissions, and zero contribution to air quality concerns. While meeting all these objectives, the capital cost can be up to twice the cost of a standard Euro VI diesel equivalent vehicle. We recommend that one electric lorry be procured to run as a trail. This would also provide preparation and resilience for future changes (eg costs associated with diesel will increase due to Clean Air Zone charges etc)</p> <ul style="list-style-type: none"> • Diesel-electric hybrid. While suitable to the stop-start nature of waste collection rounds, most manufacturers who were looking at this have focused on full electric vehicles instead. Reliability and maintenance costs may be a significant concern. • CNG / biogas. Gas can reduce NOx emissions by 40% (compared with up to 15% for
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				<p>GTL and an increase for biodiesel). There is also the possibility of sourcing biogas locally, produced from waste by Geneco. As Bristol Waste takes some waste to Geneco, this would make a nice closed loop. However, there may also be maintenance and reliability concerns associated with gas vehicles.</p> <ul style="list-style-type: none"> • Replacing Adblue with Amminex ASDS cartridges, which can reduce NOx and NO2 emissions by up to 99% over standard diesel, when combined with a suitable SCR system.
Production, recycling or disposal of waste	Yes	+ive	<p>The new fleet will also allow for additional material separation and capture. This will increase recycle totals by reducing waste to landfill which will lead to a rise in recycled material percentages and income. .</p>	<p>The new fleet, and accompanying technology will make monitoring the routes more effective, and could lead to more efficient route planning which could reduce the number of journeys</p>
		-ive	<p>Scrappage of current vehicles will generate waste</p>	<p>Ensure vehicles are disposed of according the waste hierarchy and waste legislation.</p>
The appearance of the	Yes	+ive	The new fleet will	

city?			break down less, causing less service disruption, the new fleet will also contain, camera's which should assist with more efficient route planning and less waste being left behind after collection.	
Pollution to land, water, or air?	Yes	-ive	<p>Fleet will run where possible on biofuels/diesel mix as opposed to diesel alone. Additional alternative fuel source of GTL (Gas to liquid) is being looked at.</p> <p>Vehicles will be subject to any future Clean Air Zone charges</p> <p>Additional alternative fuel source of GTL (Gas to liquid) is being looked at. Running on GTL reduces the consumption of add blue from 6% of total diesel fuel use to 2% of total GTL use and reduces the need to regenerate the DPF (diesel particulate filter) which saves 45min of high engine speed stationary running.</p> <p>Efficiency savings also include reduced fuel cost due to</p>	<p>Biodiesel will have no improvement and possibility of an increase in the emissions of NOx vrs using diesel. No improvement to local air quality through this route.</p> <p>Consideration needs to made to this and looking at replacing fleet with vehicles that may be exempt to the charges if possible.</p> <p>What is the current practice to regenerate the DPF and where is this done. Thought needs to be put into this process to avoid it being done in an AQMA which has negative impacts to local air quality.</p> <p>Ensure fuel is stored according to bulk fuel storage regulations and</p>

			better mpg, and the installation of storage fuel tanks to enable us to bulk buy fuel at a reduced rate with managed usage.	the appropriate spill response measures are in place.
Wildlife and habitats?	No			

Consulted with: Nicola Hares, Giles Liddell – Environmental Project Manager, Steve Random – Energy and Environment Programme Manager, Steve Crawshaw – Air Quality Co-ordinator.

Summary of impacts and Mitigation - to go into the main Cabinet/ Council Report

The significant impacts of this proposal are that the BWC fleet will be replaced, and although they will conform to the latest energy and CO2 requisites, at this stage electric vehicles are not currently at the level needed to fully support the contract. BWC cannot afford to wait until technology has caught up as our ageing fleet is deteriorating to the point of putting our service at risk due to too many breakdowns and repairs. Some electric refuse collection vehicles are on the market and it is recommended that at least one is procured as a trial vehicle.

The proposals include the following measures to mitigate the impacts: the use of alternative fuels is being examined including Gas to Liquid (GTL) or Hydrated Vegetable Oils (HVO). It is also hoped that electric vehicle technology may be suitable for the third tranche of street cleansing vehicles.

The net effects of the proposals will be mixed. It is advised that BWC speak with BCC air quality and environmental performance team about tender specifications to be able to consider that most sustainable options in this case. It will still be important for BEC to continually review rounds to ensure the vehicles are being used as efficiently as possible. A follow up meeting will be set up between the interested teams to follow this up.

Checklist completed by:

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Date:	19 th October 2018
Verified by Environmental Performance Team	Nicola Hares – Environmental Project Manager