

Waste Management Plan and the Bioeconomy

On 27th January, Defra released its Waste Management Plan for England 2021, which provides an analysis of the current waste management situation in England. The government is obliged to update the Plan every 6 years under the Waste Regulations of 2011, and the last Waste Management Plan was published in 2013. The latest version was released alongside a summary of responses and the Government response to the Waste Management Consultation, which had been open from August to October 2020.

An Updated Plan

The 25 Year Environment Plan, published in 2018, set out a plan to improve the environment for the next generation. One aspect of this is waste management. The Waste Management Plan brings together current policies under one national plan, in line with the Waste Regulations of 2011. It is primarily a reflection of the Resources and Waste Strategy of 2018 which built on the Environment Plan, but there are other Strategies too which are significant in some way to the Waste Management Plan, like the Clean Growth Strategy and the Industrial Strategy.

The latest plan includes some new commitments from the government. One being that the re-use and recycling of municipal waste is increased to a minimum of 65% by weight, and the amount landfilled is reduced to 10% or less, by 2035.

Waste Management in England

The Resources and Waste Strategy has 5 ambitions:

- To work towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025
- To work towards eliminating food waste to landfill by 2030
- To eliminate avoidable plastic waste over the lifetime of the 25 Year Environment Plan
- To double resource productivity by 2050
- To eliminate avoidable waste of all kinds by 2050.

In order to work towards these goals, the Strategy has outlined a number of potential reforms to the waste system. Some of the reforms include a deposit return scheme for drinks containers, extended producer responsibility for packaging, and consistency in recycling collections. It also sets out how we work towards having no food waste in landfill by 2030, as well as preventing other biodegradable waste from entering landfill sites. The Waste Management Plan evaluates how the implementation of these goals will be supported.

Some of the key ideas laid out in the Waste Management Plan are relevant to the bioeconomy sectors, which means multiple opportunities for the industry.

Anaerobic Digestion

The waste hierarchy says that waste should be recycled rather than discarded. Food waste and green waste sent to an anaerobic digester is a form of organic matter recycling, which can also provide

green energy and fertilizer. The Government currently supports AD as the most effective way to treat separately collected food waste to produce energy and bio-fertiliser.

Recycling rates in 2018 were at 44.7% but recently rates have slowed. Almost all garden waste is collected separately, and about 50% of local authorities collect food waste too, which provides a quality feedstock for AD and composting. There will be further consideration as to how to improve green waste and food waste collections from households.

Since the Anaerobic Digestion Strategy in 2011, AD has been supported by Feed-In-Tariffs (FITs) and the Renewable Heat Incentive (RHI), which are now coming to a close. Energy recovered from AD has increased and in 2018, AD produced 7.2% of total renewable heat, primarily as biomethane via the gas grid. Looking to future support, in April 2020, BEIS published the Future Support for Low Carbon Heat Consultation which included proposals for the Green Gas Support Scheme. This would be a new mechanism of support for biomethane and anaerobic digestion in the coming years. The GGSS is currently under consultation and due to be launched this Autumn.

Energy from waste

Energy from waste sites have the potential to substantially reduce carbon emissions when operating as part of a heat network, which helps to recover energy which would otherwise have been lost as heat. The Resources and Waste Strategy committed to strive for increased efficiency of energy from waste plants through such a mechanism. Currently, only around a quarter of energy from waste plants operate in combined heat and power mode. Heat networks take advantage of excess heat from industry and use it in nearby homes and other building, which can substantially reduce emissions. Support is available from the Heat Networks Investment Project, which to date has funded 6 energy from waste plants. In the future, the Green Heat Network Fund is a means of support and is expected to open in 2022.

End-of-life in consumer products

Extended Producer Responsibility is an approach through which a producer's responsibility is extended to the post-use stage, which incentivises designing products to be more easily reused and recycled. Packaging waste is one key aspect of this. As regards to other waste streams, the Resources and Waste Strategy intends to review the approach to producer responsibility post-use and some of these new waste streams include vehicle tyres, textiles, and construction materials.

In addition, the government is committed to reducing plastic waste, including single-use plastics, particularly the problem of plastic litter. Single-use plastic items like plastic drinking straws were banned in October 2020 under the Environmental Protection Regulations. Extending this to other single-use plastic items could be brought about under the Environment Bill.

As mentioned above, eliminating avoidable plastic waste is one of the 5 key ambitions of the Resources and Waste Strategy. It considers plastic waste to be avoidable: when the plastic could have been reused or recycled; when a reusable or recyclable alternative could have been used instead; or when it could have been composted or biodegraded in the open environment. This presents an opportunity for the bioeconomy as there are existing technologies and products, produced with compostability and biodegradability in mind. For example, PLA is a biobased and industrially compostable plastic, and has environmental advantages when used in some packaging applications and correctly collected and disposed of. In addition, materials such as polyhydroxyalkanoates and cellulose-based polymers are promising and can be used as biobased and biodegradable alternatives.

The majority of respondents to the earlier Consultation agreed that the Waste Management Plan will meet the requirements of the Waste Regulation. As such, it can be concluded that the plan comprehensively sets out waste management policies which, taken together, protect the environment and human health by preventing or reducing the generation of waste, the adverse impacts of the generation and management of waste, and by reducing overall impacts of resource use and improving the efficiency of such use. It is therefore government's intention to adopt the version of the Plan that was consulted on, subject to some changes. It will be a useful guide to current waste management policies, and it is exciting to see a place for the bioeconomy within Waste Management going forwards.