Towards a Route Map for Plastic Recycling: Creating Circularity for Plastics in Wales

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The Challenge

Wales leads the way in household recycling in the UK and is third in the rest of the world\(^1\). However, along with the rest of the world, Wales is facing a number of significant challenges concerning the manufacture, use and disposal of plastics. Key to addressing these challenges is the adoption of new initiatives and business models that retain plastics in economic use for as long as possible and avoid escape into the environment. The plastics value chain must collaborate to ensure that products and packaging placed on the market are recyclable, easy to recover and reprocess and should incorporate as high a % of recycled material as possible. This document, produced by WRAP Cymru, is the first stage in the development of a Route Map for improving the circularity of plastic in Wales.

The Route Map, to be published autumn of 2018, will focus on identifying the opportunities and barriers acting on markets for recycled plastics in Wales and propose actions and initiatives that can be undertaken by industry, government, trade bodies and support organisations to increase the circularity of plastics in the economy. The Route Map is intended to be a practical, action-orientated document, developed in partnership with a wide range of stakeholders. Key to delivery will be engagement and action from stakeholders in the plastics value chain who are ready to embrace change and able to adopt a ‘business unusual’ perspective. The Route Map will include indicators to allow progress to be monitored. It will be a ‘living document’ and will be reviewed periodically by the stakeholders, with revisions and updates made in the light of new data, infrastructure, policy or economic developments.

\(^1\) Recycling– Who Really Leads the World? Eunomia 2018
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1.0 Wales Plastic Facts

Wales has achieved great success in recycling and has come a long way in improving the recycling of plastics from households, achieving a 75% recycling rate for plastic bottles. It was also the first nation in the UK to introduce a single use carrier bag charge. However, there's still work to do.

Key Statistics:
- 400,000 tonnes per annum total plastic waste arising
- Reprocessing capacity circa 55,000 tonnes per annum
- 10% recycled plastic used in manufacturing (primarily packaging)
- Around 61% of collected plastic waste is recycled outside of Wales.

### Plastic Bottle Recycling Rates

<table>
<thead>
<tr>
<th></th>
<th>UK Average</th>
<th>Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Packaging</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Bottles</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Other Plastics</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Films</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>33%</td>
</tr>
</tbody>
</table>

#### Where does Wales' Plastic Waste Go?

- Recycling
  - Wales
  - Rest of UK
  - Outside EU

- Residual Waste
  - Energy Recovery
  - Landfill
  - Broker
  - Reprocessor
  - China*
  - Rest of World
  - Other EU

*from 2018 this is no longer the case as China has banned plastic waste imports

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² Plastic Reprocessors and Manufacturers Welsh Mapping Exercise. Databuild, Giraffe 2017
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2.0 WRAP Cymru’s Vision

WRAP Cymru recommends that Wales should have long-term aspirations to be self-sufficient in reprocessing capacity where plastic waste does not leave the country without added value.

This will also result in reduced leakage of plastic waste to the marine environment, in particular through eliminating waste exports to countries with poorer waste management practices and infrastructure.

WRAP Cymru recommends that by 2025 Wales should aim to:

- Achieve a fourfold growth in reprocessing capacity to around 200,000 tonnes per annum.

In order to do this, it should:

- achieve a 75% capture rate for plastics through local authority collection services, with a consistent range of plastics collected;
- lead the way on capture of accurate and reliable waste data from all sources;
- reduce plastic waste exported outside of Wales for recycling to 25%;
- meet the UK Plastics Pact targets for relevant organisations in Wales;
- lead the way in Green Public Procurement of plastic products;
- support and encourage the development of new business opportunities, innovation and technologies throughout the plastics value chain, supported through the Welsh Government Circular Economy Fund; and,
- encourage and support collaboration between research institutes and businesses to fully realise the benefits of using recycled plastics.

The opportunity exists to establish a circular economy model in Wales where recycled plastics are highly sought-after for the manufacture of products and packaging. This requires support from cost-effective, efficient and consistent collection schemes with regional infrastructure for recycling and reprocessing plastic and the capability to produce high quality recycled materials for end users.

This should be achieved through improved monitoring and accountability of plastic waste arisings, treatments and use in manufacturing, and phased out export of low quality plastic waste.

WRAP Cymru’s Vision

http://www.wrap.org.uk/content/the-uk-plastics-pact

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Collection is the important point at which plastics can be captured for recycling. It provides the input material for all further processes, therefore it is critical that collection systems are as efficient and effective as possible.

### Household

**Where is Wales now?**
- 132,000 tonnes of plastic waste per annum arising from households
- 33% plastics recycling rate
  - 75% bottles capture rate at kerbside
  - 45% rigid food packaging capture rate at kerbside
- less than 6% retained for treatment in Wales
- 70% sent for treatment in UK

**WRAP Cymru's recommendation for Wales by 2025**

To explore options to achieve stretch targets for household plastics whilst maintaining a firm focus on quality of material

<table>
<thead>
<tr>
<th>Type</th>
<th>Incremental Goal</th>
<th>Stretch Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Films</td>
<td>37%</td>
<td>60%</td>
</tr>
<tr>
<td>Bottles</td>
<td>80%</td>
<td>92%</td>
</tr>
<tr>
<td>Rigid Food Packaging</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td>Other Plastics</td>
<td>37%</td>
<td>77%</td>
</tr>
<tr>
<td>Overall</td>
<td>48%</td>
<td>75%</td>
</tr>
</tbody>
</table>

### Non-household

**Where is Wales now?**
- Estimated at 266,000 tonnes per annum (including 8,000 tonnes collected by local authorities); but
- Limited reliable and accurate reporting in place to track waste generation on an annual basis.

**WRAP Cymru recommends that by 2025 Wales should aim to:**

Capitalise on Part 4 of the Environment (Wales) Act 2016 for separate presentation of waste by:
- Implementing a system to track waste flows from non-household sources with annual reporting; and,
- Setting targets in line with households (with the possibility of variance based on business type) once good reliable data is available.
4.0 Reprocessing

Reprocessing is the operational activity that converts plastic waste material to product (flake, pellet, granulate etc) that can be used in manufacturing to replace virgin raw material. Encouraging the expansion of this industry in Wales is vital to achieving a successful plastics circular economy.

Where is Wales now?

Wales currently has around 55,000 tonnes annual capacity for plastic reprocessing. Figure 1 indicates the reprocessing destinations for collected plastics.

WRAP Cymru recommends that by 2025 Wales should aim to:

- phase out use of export markets to less than 25% with verified auditable evidence provided to ensure materials are recycled;
- enhance capacity to reprocess 50% of the total plastic waste in Wales (i.e. circa 200,000 tonnes);
- develop additional capacity to accept and reprocess plastic waste from other parts of the UK; and,
- achieve a reputation for excellence in reprocessing/compounding.

2025 Vision

50% reprocessing capacity for plastic waste in Wales
5.0 Manufacturing

Central to the achievement of the plastics circular economy is the use of recycled material in manufacturing. Increasing demand in Wales for recycled material is therefore critical; normalising the use of recycled content and challenging misconceptions of low product quality are key.

Where is Wales now?

- Plastic demand estimated to be around 500,000 tonnes per annum with a GVA of £765 million annually
- Drivers are lacking for increased use of recycled material
- Recycling capacity is not currently available in Wales to meet additional demand

Figure 2 shows the plastics demand by sector in the EU. Each one of these sectors has a significant presence in Wales and should therefore be a focus for targeted engagement.

WRAP Cymru recommends that by 2025 Wales should aim to:

- achieve 30% recycled content in all plastic packaging;
- agree additional industry led sector/product specific targets for plastic products made in Wales;
- ensure that all plastic packaging and products made in Wales can be feasibly recyclable or reusable; and,
- require annual reporting, by manufacturers and importers, of virgin plastic and recycled plastic volumes used in products made in Wales.

**2025 Vision**

30% Recycled content for plastic packaging produced in Wales
6.0 Green Public Procurement (GPP)

WRAP Cymru recommends that the Welsh Government and the public sector should take the lead by encouraging circularity in material use through the products and services they purchase. Public spending on products, services and works amounted to £6 billion in 2016, which is equivalent to approximately 10% of Welsh GDP.

“[Procurement is] the process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, whilst minimising damage to the environment”

Welsh Public Procurement Statement (2015)

The Well-being of Future Generations (Wales) Act 2015 requires public bodies to take account of the impact of their decisions on both the people and the environment both now and in the future. Public bodies can demonstrate their commitment to the well-being goals through Green Public Procurement, specifying goods that are recyclable and contain recycled content, thereby reducing associated green house gas emissions. Opportunities exist across a wide range of procurement categories including furniture, office and IT equipment, textiles, cleaning products, catering and food & drink provision, and construction.

Where is Wales now?

- Public bodies are bound to demonstrate procurement is aligned with the principle of sustainable development
- Green initiatives are driven by individual choice rather than policy
- No specific initiatives for plastic products or packaging
- The Welsh Government is currently revising procurement policy and its implementation.

WRAP Cymru recommends that by 2025 Wales should:

- mandate that all plastic products and packaging procured by public sector to be reusable, recyclable and to incorporate recycled content, wherever technically possible;
- achieve a collection and recycling rate of >90% of publicly procured plastics; and,
- set and achieve recycled content targets for selected products.

2025 Vision

>90% collection and recycling rate of publicly procured plastics
## 7.0 Action Planning

The following are the key actions which form WRAP Cymru’s recommendations needed to achieve the vision of each sector.

<table>
<thead>
<tr>
<th>Objective</th>
<th>2025 Target</th>
<th>Summary of Action</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increase capture of plastics in household waste.</strong></td>
<td>70% recycling</td>
<td>Introduce a target for increased recycling of plastic household waste. Revise recommendations in the Collections Blueprint to require the collection of a wider range of plastics; Costs may, in future, be offset by payments from producers under packaging Extended Producer Responsibility (EPR).</td>
<td>Welsh Government/WLGA/WRAP Cymru Collaborative Change Programme (CCP)</td>
</tr>
<tr>
<td><strong>Increase capture of plastics for non-household waste</strong></td>
<td>70% recycling</td>
<td>Explore opportunities for extended commercial use of HWRCs in exchange for cost recovery charges.</td>
<td>Welsh Government/WRAP Cymru (CCP)</td>
</tr>
<tr>
<td><strong>Improve the availability of quality recycled materials for use in products and packaging.</strong></td>
<td>50% of all plastics collected for recycling reprocessed in Wales</td>
<td>Explore potential for a tradable credit scheme for using secondary materials in manufacturing with the potential to link secondary materials use to the value of avoided carbon emissions. Support the resource management and reprocessing sector to develop plastic recycling capacity utilising the Welsh Government Circular Economy Fund (available 2019/20) focusing on providing supporting for innovative technologies and business models.</td>
<td>Welsh Government/WRAP Cymru</td>
</tr>
</tbody>
</table>
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<tr>
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<th>Summary of Action</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significantly increase the use of recycled plastics in manufacturing in Wales</td>
<td>30% recycled content in plastic packaging produced in Wales</td>
<td>Develop and implement design standards for key plastic packaging/products (with a view to eliminating unsuitable design choices). Encourage sign up of key manufacturing and packaging producers to the UK Plastics Pact (PP). Engage industry sector bodies to develop and deliver sector/product specific targets for recycled content. Require the reporting by manufacturers and importers of the amount of virgin and recycled plastic used in products made in Wales.</td>
<td>Welsh Government/NRW/WRAP Cymru Welsh Government/NRW</td>
</tr>
<tr>
<td>The Welsh Government to lead by example by sustainable procurement of products and services.</td>
<td>&gt;90% Collection and recycling rate of publicly procured plastics</td>
<td>To eliminate, through green public procurement (GPP), all non-recyclable materials and products (including plastics) arising from public sector purchases. To identify and evaluate opportunities to specify minimum % of recycled content across targeted spend categories.</td>
<td>Welsh Government/NPS Wales/Value Wales/WRAP Cymru</td>
</tr>
<tr>
<td>Cross-cutting measures – measures that support multiple targets</td>
<td></td>
<td>Enforce and publicise the EU ‘essential requirements’: allow for public challenge through social media regarding a) recyclability b) excessive packaging. To provide guidance for all procurers (LA’s, government. and private sector) on procuring to deliver high recycled content and recyclability of goods. Evaluate options to implement a carbon-related performance target for energy from waste (EfW); thereby incentivising plastics recycling. Develop a system of electronic reporting of waste quantities arising from non-household sources to allow for capture and processing of waste data.</td>
<td>Welsh Government/NRW Welsh Government/NPS Wales/Value Wales/WRAP Cymru Welsh Government/WLGA Welsh Government/Defra</td>
</tr>
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</table>
WRAP’s vision is a world in which resources are used sustainably.

Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.

Find out more at www.wrapcymru.org.uk