# Principles for Waste Strategies

## Resources & Waste Strategies (England, Scotland, Wales, Northern Ireland)

**September 2019**

The chemical sciences play an important role in understanding the environment around us, including preventing and remediating the adverse impacts of waste from human activity.
Drawing on evidence from chemical scientists working on these issues, we recommend that implementation of waste strategies across all devolved nations of the United Kingdom relies on the following four principles:

1. **Reduce and re-use: following the waste hierarchy***

| *Critical Raw Materials (CRMs) in Waste Electrical and Electronic Equipment (WEEE)* | *Plastic Waste* |
|---|---|
| Incentivise CRM substitution (reduce), offer convenient product take-back schemes that guarantee secure data wiping and encourage design for re-use (re-use) | Find ways to enable a move away from 'take, use, dispose' models (reduce) and offer convenient deposit return schemes for plastics (re-use) |

2. **Working together: enabling a circular economy through government-academia-industry-society ('Quadruple Helix') collaboration**

| *CRMs in WEEE* | *Plastic Waste* |
|---|---|
| Address the lack of quality CRM data by covering CRM streams in the National Materials Datahub | Facilitate tracking, management and recycling of plastic waste using new digital technologies |

3. **Invest in Research & Innovation: addressing technological challenges to implementing the waste hierarchy**

| *CRMs in WEEE* | *Plastic Waste* |
|---|---|
| Invest in development of CRM substitute materials, collaborative work with designers to enable design for circularity, and scale-up of CRM recovery processes | Invest in chemistry of better materials, analysis of plastic waste in the environment, and interdisciplinary & international collaboration to achieve this |

4. **Product requirements: requiring lifecycle impact reporting, ecodesign and product labelling**

| *CRMs in WEEE* | *Plastic Waste* |
|---|---|
| - Require lifecycle impact reporting to assess environmental impact, ecodesign to ensure resource efficiency, and product labelling to inform consumers<br>- Strive for global harmonisation of requirements | - Require effective product labelling to ease recycling<br>- Use lifecycle based considerations to take decisions [particularly to determine the environmental impact of biodegradable versus conventional plastics] |

***The waste hierarchy – reduce, reuse, recycle**


The 'waste hierarchy' ranks waste management options according to what is best for the environment. It gives top priority to preventing waste in the first place (*'Reduce'*). When waste is created, it gives priority to preparing it for re-use (*'Re-use'*), then recycling (*'Recycle'*), then recovery, and last of all disposal (e.g. landfill).[1] The waste hierarchy, as referred to here, is set out in the revised European Waste Framework[2].

## Contact

The Royal Society of Chemistry would be happy to discuss any of the issues raised in our position in more detail. Any questions should be directed to policy@rsc.org.

## About us

With about 50,000 members in 120 countries and a knowledge business that spans the globe, the Royal Society of Chemistry is the UK's professional body for chemical scientists, supporting and representing our members and bringing together chemical scientists from all over the world. Our members include those working in large multinational companies and small to medium enterprises, researchers and students in universities, teachers and regulators.

[1] Guidance on applying the Waste Hierarchy, Defra, June 2011
[2] DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on waste and repealing certain Directives, European Commission, November 2008