

Plastics Industry
Recycling Action Plan
(PIRAP)

This document has been prepared by Plastics 2020 – namely PlasticsEurope, the British Plastics Federation (BPF) and the Packaging and Films Association (PAFA) – along with WRAP.

Plastics 2020 was launched in 2009 in the UK to challenge itself, consumers and government to step up resource efficiency and stop sending plastic materials to landfill.

Plastics 2020 and WRAP would like to thank all the organisations involved for the contribution to the PIRAP project. A full list of these organisations can be found at the back of this document.

Find out more at

www.bpf.co.uk

www.pafa.org.uk

www.plasticeurope.org

www.wrap.org.uk



EXECUTIVE SUMMARY

Background

PIRAP provides a co-operative strategy for the plastic packaging supply chain to take action and contribute towards achieving the UK government's target for obligated users – of 57% plastic packaging recycling by 2017.

PIRAP was initiated by WRAP, which consulted with all stakeholders, including national and local government, the waste management industry, obligated users, producers, converters and recyclers.

Plastics 2020 (namely the BPF, PAFA and PlasticsEurope) has now adopted the task of engaging with the different stakeholders to agree on different actions for commitment.

The UK plastic packaging targets in a nutshell

The scale of the 2017 challenge is clear :

- The existing capture of plastics recycling, as reported, amounts to around 714,000 tonnes (2013 figures).
- The government has accepted the revised Placed on the Market (POM) of 2,260k, this will give a national recycling rate of 32% in 2013.
- With the revised POM figure, achieving the current business target of 57% in 2017 would mean that the UK would achieve a national recycling rate of 47%. This would require capture to increase by an additional 350,000 tonnes.

Without the full engagement, therefore, of all stakeholders including National and Local Government, the Waste Management Sector, Recyclers, Compliance Schemes and Obligated Users, producers and converters, these targets will prove extremely challenging to meet.

Required Stakeholder Actions

Clear and significant stakeholder benefits of the PIRAP (Plastics Industry Recycling Action Plan) are outlined in the body of this document and specific individual stakeholder actions for commitment set out later in the plan, however, an outline of roles and responsibilities for successful achievement of the Plastics Industry Recycling Action Plan may be summarised as follows:

Central Government: Is responsible for the regulatory environment and its outcomes and must therefore work to ensure that it is correctly adjusted to meet the requirements of the PIRAP. Through an honest and open dialogue with all the PIRAP stakeholders, it is imperative that any regulatory drivers that hinder achievement of the PIRAP are swiftly removed or replaced with constructive alternatives.

Local Authorities: Are responsible for facilitating the collection of end of life plastics packaging from households. Successful implementation of the PIRAP will require funding to be identified that enables Local Authorities to revitalise and extend existing collections. This would need to be supported through enhanced communication with householders and co-operation with Waste Management companies to incorporate plastic Pots, Tubs and Trays in household collections as the norm.

Waste Management Sector: Is responsible for the collection and sorting of recycled household plastic packaging on behalf of Local Authorities and the collection and sorting of commercial and industrial plastic packaging on behalf of the wider industrial sector. Whilst seeking to increase overall collection volumes, the Waste Management Sector must also recognise its important role, highlighted by the new MRF Regulations and the accompanying sampling guidance, for delivery of a rapidly improving quality of sorted plastic raw materials to the plastics reprocessing sector.

Plastic Reprocessing Sector: Is responsible for the delivery of the PRN/PERN evidence of recycling through a combination of the export of high quality segregated plastic raw material streams and the manufacture of high quality washed flake, melt processed pellet or second life plastic products. In order to meet the 2017 targets, the reprocessing sector will need to increase capacity by approx. 100KT/annum over the next three years through a combination of investment in capacity, process innovation and the development of new high quality markets for recycled plastics.

Compliance Schemes: Are the conduit through which many obligated businesses purchase the PRN/PERN evidence notes derived from Reprocessors thereby complying with their plastics packaging recycling obligations. Compliance Schemes are ultimately the means whereby the national plastics recycling targets are proven to be met and should therefore work to ensure that all reprocessors of plastics packaging are registered to issue PRN/PERN evidence notes in order that no significant tonnage of plastics packaging recycling goes unrecorded.

Obligated businesses – including retailers, brand owners, packaging converters and fillers -: Are responsible for obtaining evidence that plastics packaging recycling has taken place. The cost of obtaining the PRN/PERN evidence fluctuates according to the volume of plastics packaging being recycled relative to the targets. To ensure on-going low cost compliance, obligated businesses should wherever practical seek to increase the use of recycled plastics in the packaging products they produce and refocus their packaging design criteria upon both ability to incorporate higher volumes of recycled plastics and ease of recycling at end of life.

Conclusion:

Successful achievement of the UK's plastics packaging recycling targets for 2017 rests entirely upon the engagement and co-operation of all PIRAP stakeholders and upon full implementation of each particular stakeholder's stated goals as set out in this action plan. Whilst the PIRAP is primarily an industry plan, it requires active support from both Government and its agencies. No individual stakeholder or sector can or should be expected to carry the burden alone and the interests and actions of all within the supply chain must be aligned towards the common goal of meeting the 2017 targets if the plan is to succeed.

Next Steps:

1. For the plastics industry to engage directly with the main trade bodies representing stakeholders, and other relevant stakeholders, in order to establish a number of joint actions that can be taken to ensure the year on year growth in recycled plastics. This will cover all aspects of the packaging's end of life cycle including, collection and household participation, sorting and reprocessing, and support for innovation, etc.
2. For the plastics industry to engage with all relevant key stakeholders to establish where design changes can be triggered to create packaging solutions that minimise material use, are more easily recyclable with no compromise to overall resource efficiency.
3. For the plastics industry to secure agreement with all stakeholders on the baseline data to be used for monitoring progress and agree how and when to collect and disseminate such information to inform all of progress.

Table of Contents

1. Introduction	5
1.1. Why is an industry plan required?.....	5
1.2. Economic and societal benefits	7
2. Stakeholder Commitment	9
2.1. Government and regulators	9
2.2. Local Authorities	11
2.3. Obligated companies	12
2.4. Waste management companies, sorters and reprocessors	14
3. The Plastics Industry Recycling Action Plan - Desired Outcomes	16
4. List of Contributors to the PIRAP	18
5. Glossary	19

1. Introduction

1.1. Why is an industry plan required?

Taking its lead from Europe and aspiring to be 'best in class', the UK Government has set an ambitious and challenging target for obligated businesses to achieve a plastics packaging recycling level of 57% by end 2017. With three years to go an additional 100KT approx. per year of plastics packaging has to be identified, collected and recycled if the 2017 target is to be achieved.

Without the full engagement, therefore, of all stakeholders including National and Local Government, the Waste Management Sector, Recyclers, Compliance Schemes and Obligated Users, producers and converters, these targets will prove extremely challenging to meet.

Latest analysis indicates that the rate of increase in the UK's collection of waste plastics packaging has effectively stalled, whilst Far Eastern market demand for our plastic packaging waste also shows signs of levelling off as focus switches toward internally generated volumes. In order for the ambitious 2017 targets to be met, therefore, it is imperative that the UK's plastics recycling industry begins to undertake more of the heavy lifting.

Recent corrections in the price of oil and consequent steep falls in prime polymer pricing have placed severe pressure upon the operating margins of UK plastics recyclers, calling into question the economic sustainability of some plastics recycling processes. There has never, therefore, been a greater need for all stakeholders in the UK's plastics recycling infrastructure to work together and commit to delivery of a coherent, efficient and future proof industry plan, one that aligns the interests both of central government and the plastics packaging recycling supply chain in a joint endeavour to achieve our plastic recycling targets for 2017 and beyond. To do nothing, relying merely upon past performance, will be to invite abject failure.

Indeed, work published by WRAP and Valpak looking at the Plastic Packaging Market (Plastic Flow) 2014¹ indicates that based on current progress it could take until beyond 2020 to meet the current UK 2017 target.

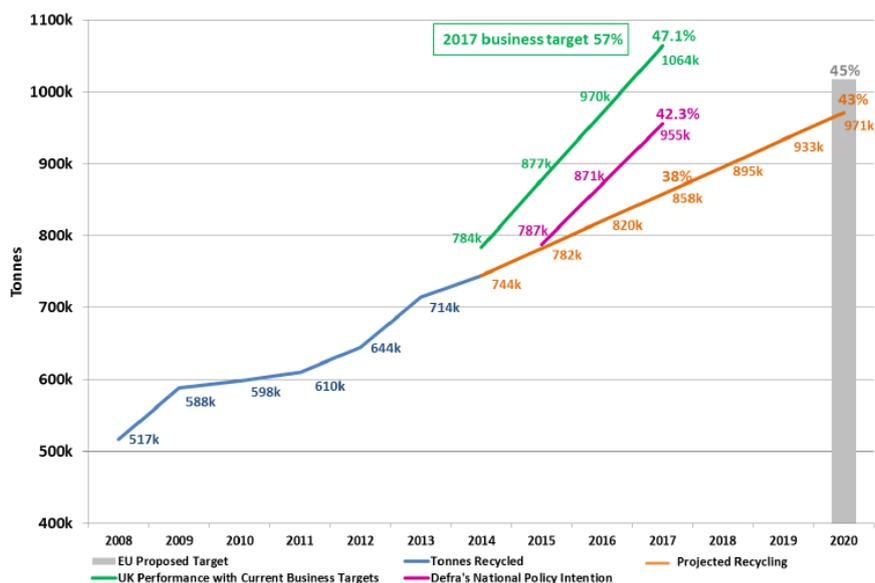


Figure 1. Challenges to achieve future UK and the currently proposed EU plastics recycling target.

¹ <http://www.wrap.org.uk/content/plastic-packaging-market-study-plastic-flow-2014-0>

In view of this, Government is currently consulting on whether the present obligated target should be revised down to meet the original policy intent of 42% and to extend the timeline to achieve this. See consultation on producer packaging regulations that needs to be responded to by 22nd May 2015 at <https://consult.defra.gov.uk/producer-responsibility-consultation>

1.2. Economic and societal benefits

Failure to further develop end markets for plastic recyclate not only risks undermining the UK's plastic recycling industry but it could also jeopardise the UK's entire recycling strategy, resulting in soaring PRN/PERN prices for plastics over the coming years. Given the significant waste collection and recycling infrastructure currently being installed across the world's emerging economies (i.e. China's plans to significantly increase household waste collection for recycling by 2017) it would be unwise to assume there will always be limitless global demand for waste.

Extensive and varied markets exist today for recycled plastics in both food and non-food sectors for the majority of plastics used in packaging. The use of recycled content in plastics packaging and other plastic materials and articles intended to come into contact with food must be done in accordance with relevant EU food contact legislation² including that specific to plastics³. However, there are an increasing number of non-food applications for recycled plastics that do not require the higher quality requirements for food contact use, e.g. clothing, bags and sacks, furniture, automotive components, paint pots, etc.

The high cost of PRN/PERNS would directly impact on those companies obligated under the Packaging Regulations. Without development of sustainable end markets for plastic waste this could amount to £Ms of additional compliance costs being passed on to businesses and consumers.

Undertaking the actions proposed in this plan will ensure many commercial benefits, job creation opportunities and help avert any fines that councils and the UK Government may face under EU law resulting from failure to reach recycling and landfill diversion targets. It also offers brand owners, retailers and suppliers the opportunity to lead the way in sound sustainable practice and for those in the industry that are affected by compliance costs, e.g. suppliers, packer fillers and retailers, a way to ensure that PRN costs remain affordable.

By recovering plastics that would otherwise be sent to landfill we will be increasing significantly the number of new jobs created. In their 2010 report 'More jobs, less waste', Friends of the Earth estimated that the number of jobs created in the UK for every 1000 Tonnes of used plastic sent for recycling was 15.⁴, accounting for more than 5400 jobs across the whole plastics recycling supply chain. Similarly, according to a study by WRAP and Green Alliance, over 200,000 new jobs could be created across Britain from the continued development of resource efficient activity through to 2030, such as recycling, reuse and remanufacturing⁵.

All players in the supply chain stand to benefit from implementation of the actions in this Plan. Specific benefits are:

- **Governments and Regulators** would benefit as the UK becomes more likely to meet its EU packaging recycling and recovery obligations, whilst at the same time contributing to the UK's household waste target. They would be viewed as responding positively to industry proposals and initiatives, therefore encouraging a cooperative approach for the future; other stakeholders would then be more likely to follow their lead and commit to the PIRAP.
- **Obligated companies.** Engagement in actions that drive forward recycling activities will save resources and cost, help ensure that national and business targets are met and deliver a lower environmental footprint and associated corporate social responsibility benefits.
- **Waste management companies, sorters and reproprocessors** stand to benefit from increased material availability, greater market share and increased revenue flows.

² http://ec.europa.eu/food/food/chemicalsafety/foodcontact/eu_legisl_en.htm

³ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0282&rid=1>

⁴ Friends of the Earth, September 2010. More jobs, less waste. P. 18

⁵ <http://www.wrap.org.uk/content/employment-and-circular-economy>

- **Local Authorities** should benefit through increased collection of recyclable plastics and reductions in the associated costs of incineration and/or landfilling whilst at the same time helping to meet national and EU targets through provision of enhanced collection services offered to households. Financial and performance benefits will, however, vary according to contractual arrangements, prevailing market conditions and factors not necessarily within the control of Local Authorities.

2. Stakeholder Commitment

All stakeholders must act if the 2017 targets are to be achieved. This will require:

1. Government to create the right environment for increased plastic packaging recycling through the establishment of a coherent policy strategy, one that identifies the investment required to enable stakeholders to assist in delivering the industry's recycling targets.
2. Councils to respond positively to the proposals outlined in PIRAP that encourage increased collection of recyclable material.
3. Waste management companies to provide flexible and efficient collections services to their local authority customers and to ensure that robust quality management systems result in high quality recycle delivery.
4. Those involved in retailing and specifying products to ensure that good design practice is developed and a lower carbon footprint delivered.

It will also require that consistent and clear messaging be given to consumers regarding end of life recovery options, the recycling industry to promote suitable outlets for collected material and that supplier's end of life solutions are promoted more fully and coherently. In addition, consumers must be encouraged to fully engage and participate in collection schemes to maximise the collection of recyclable materials. Additional stakeholder specific actions necessary to ensure full delivery of increased plastic packaging recycling, target achievement and future supply chain investment are set out below.

2.1. Government and Regulators

In order for the PIRAP to succeed there is a key requirement for UK Government to ensure that legislative drivers are developed to be fit for the purpose of ensuring that the UK maximises its opportunity to meet the aspirations of resource efficiency, the circular economy and the creation of wealth and employment in a new low carbon manufacturing economy.

Plastic recyclers believe that improved regulatory and non-regulatory drivers are needed to help incentivise investment in UK sorting and reprocessing of all plastic formats as well as to incentivise the development of new and existing markets for recycled materials.

The following actions have been suggested by both the working groups and industry in order to help and support the supply chain to meet its targets. Failure to address these issues – especially points 1 and 2 - will undermine PIRAP. The success of PIRAP will be dependent upon the establishment of appropriate regulatory, commercial and environmental drivers.

Government and Regulators are encouraged to consider all actions included in the list below and to commit to their active implementation.

Governments & regulators:		
Action	Supporting Information	Time scale
A review of the PRN/PERN system to ensure a level playing field for domestic reproprocessors and exporters	Government needs to explore PRN/PERN reform to ensure a level playing field for domestic reproprocessors and exporters. There is a need to engage with industry to ensure that the system can deliver both quantity and quality and not just through exporting waste, but also through significant tonnage from domestic reprocessing into reprocessed products. Neither should prohibit/inhibit the other, both are necessary. Suggestions: Stakeholders are encouraged	

	<p>to engage with Defra in order to help facilitate PRN reform so that both domestic reprocessing and waste exports are equally incentivised commercially. Engagement is also required to ensure that collection systems are fit for purpose to ensure that UK waste plastic is always in demand both at home and abroad by reducing cross polymer and other types of contamination. Proposals need to provide traction to encourage investment in UK recycling infrastructure and lead to the development of secure end markets for recycled plastics and new jobs, such as those suggested by UK recyclers⁶.</p> <p>Enforcement Agencies should work to fully implement and communicate the revised guidance⁷ for accredited operators to ensure all are issuing evidence in a consistent and compliant manner.</p> <p>Agencies should monitor whether the PRN/PERN issuance varies now that the accreditation guidance has been revised and issued.</p>	
Consider how to incentivise the use of recycled plastic.	<p>With the UK recycling rates increasing every year there is also a need to drive demand for recycled material in the domestic market. For that reason, the industry believes it is fundamental to create incentives to drive investment in recycling and UK manufacturing to increase recycled polymer usage, by developing end markets for recycled plastic in UK manufacturing.</p> <p>Suggestions For example Industry recommends a reduction or discount against obligation within the 'producer responsibility' legislative framework or to provide tax breaks for recycled content.</p>	
Enforcement Agencies will continue to explore with industry how data on plastic format can best be collated and reported on a voluntary basis.		
Government will consider proposals for amending regulations to require reprocessors and exporters to report plastic tonnages by format and type of plastic so that progress towards overall achievement can be effectively monitored.	<p>Although understanding of the intention and potential value of more transparent data on recycling by format and type of plastic, Government needs to be able to demonstrate a reduction in burden on business and/or show how a market failure will be addressed through these proposals.</p>	
Government will also consider how greater harmonization of collection of different plastic products can be achieved across the UK.		

⁶ BPF Recycling Group Manifesto 2014 <http://www.bpf.co.uk/recycling/Default.aspx>

⁷ Environment Agency Guidance ACC-GN01 Guidance Notes

2.2. Local Authorities (LAs):

Local Authorities provide municipal waste collections in the UK and are therefore critical to ensuring that material is collected in the first place. By means of clear communications with householders, Local Authorities play a key role in boosting capture rates from the domestic waste stream.

Local Authorities are encouraged to consider all actions included in the list below and to actively commit to their implementation.

Local Authorities (LAs):		
Action	Supporting information	Timescale
Benchmarking current performance against other LAs to identify where improvements might be made.	http://laportal.wrap.org.uk/ For LAs currently providing collections of plastic bottles / PTTs LAs can assess how well these schemes are performing by comparing kg/hhd captured.	
When reviewing service provision all LAs will need to consider adding pots, tubs and trays (PTT) to kerbside collections as well as bottles.	WRAP/ZWS provide support and guidance: To find out more about LA support: England: http://www.wrap.org.uk/category/sector/local-authorities e-mail: lasupport@wrap.org.uk or tel: 01295 819663. N.Ireland: http://www.wrapni.org.uk/content/supporting-local-authorities-0 Scotland: http://www.zerowastescotland.org.uk/category/sector/local-authorities Wales: http://www.wrapcymru.org.uk/content/local-authority-support-wales	
Support the Pledge 4 Plastics consumer communications' campaign.	This could be in the form of helping to fund the programme or providing communications channels to deliver the campaign. For more information please contact Recoup: http://www.recoup.org/	
Specify recycled content in all plastics items procured, where possible		
Explore options to enhance collection of recyclable packaging 'on the move'		

2.3. Obligated companies (Retailers, brand owners, packaging converters and fillers, and Compliance Schemes):

Companies who have a recycling obligation under the UK Producer Responsibility Regulations are responsible for delivery of the UK targets and must pay for them to be achieved. This includes retailers, brand owners, packaging converters and plastic polymer producers. These companies use plastic to manufacture and to package products placed on the market and therefore have an incentive to implement practices that both fit with a more circular economy and that also save them unnecessary cost.

They also have close links to consumers and can therefore help influence recycling behaviour.

Retailers and Compliance Schemes are encouraged to consider all actions included in the list below list and to actively commit to their implementation.

Obligated companies (Retailers, brand owners, packaging converters and fillers, and Compliance Schemes):		
Action	Supporting information	Timescale
Obligated companies to review their data submitted to NPWD to ensure it is as accurate as possible		
Compliance schemes to identify unregistered reprocessors and encourage them to get registered		
Use design for recyclability (DFR) guidance in all pack design processes.	<p>For example:</p> <p>Recyclclass Tool: http://www.plasticsrecyclers.eu/recyclclass</p> <p>Recoup's 'Recyclability By Design': http://www.recoup.org/p/130/recyclability-by-design</p> <p>WRAP guidance for PET drinks bottles: http://www.wrap.org.uk/content/pet-bottle-categorisation-tool</p> <p>WRAP guidance for HDPE milk bottles: http://www.wrap.org.uk/content/hdpe-categorisation-tool</p> <p>WRAP guidance for Pots, tubs, trays and non-drink bottles: http://www.wrap.org.uk/node/15321</p>	
Review products and packaging to look for opportunities to use more recycled plastic and improve recyclability.	The use of recycled content in plastics packaging and other plastic materials and articles intended to come into contact with food must be done in accordance with relevant EU food contact legislation ⁸ including that specific to plastics ⁹ .	
Specify recycled content in all plastic items procured, where possible e.g.		

⁸ http://ec.europa.eu/food/food/chemicalsafety/foodcontact/eu_legisl_en.htm

⁹ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0282&rid=1>

for use in estates/building, shops/stores and facilities e.g. shelving/pallets etc.		
Specify recycled content in plastic packaging and products manufactured and sold, where possible		
Sign up to Pledge 4 Plastics consumer communications' campaign.	This could be in the form of helping to fund the programme, providing communications channels or working with Local Authorities to deliver the campaign. For more information please contact Recoup: http://www.recoup.org/	
Support Local Authorities with introduction of new collection schemes or improvements in participation and capture by carrying out communications campaigns directly to customers in partnership with Local Authorities.	Further increase collection of films from households	
Increase in-store/ front of store collections	Particularly film as kerbside collections are less developed for film	
Use the On Pack Recycling Label (OPRL) on as many items as possible – including front of store collection label for PE film.	To sign up or for more information: http://www.onpackrecyclinglabel.org.uk/	
Use detectable black pigments if packaging needs to be black.	For more information see reports of projects by WRAP with industry partners: http://www.wrap.org.uk/content/recyclability-black-plastic-packaging-0 Around 30,000-60,000tonnes per year of black plastic packaging enters the UK market and could be recycled if detectable rather than carbon black.	

2.4. Waste management companies, sorters and reprocessors:

The waste and resource management sector provides the infrastructure to collect the waste and recycle it into useful secondary materials thereby ensuring that both materials and value derived from the plastic packaging supply chain is kept in the economy and available for manufacturers to use again.

The benefits of participating in the PIRAP for the waste management and recycling sector are:

- Increased material availability/supply.
- A demonstration to their customers that they are investing in the provision of a flexible and efficient collection and recycling infrastructure for a wide range of plastics which will in turn contribute towards winning additional contracts and increased market share.
- They can boost quality through collaboration with Local Authorities and improved communication with residents.
- They may access greater value from the material they handle (e.g. by playing their part in the development of improved sorting technologies thereby increasing revenue derived through raw material sales and the creation of accompanying PRNs/PERNs)

Waste Management Companies, Sorters and Reprocessors are encouraged to consider all actions included in the list below and to actively commit to their implementation

Waste management companies, sorters and reprocessors:		
Action	Supporting information	Timescale
Develop end markets (new and existing markets)	Especially for formats and polymers where end markets are still under developed such as PET trays and household films. Having end markets for all the material is essential to the commercial viability of plastics recycling and ultimately achieving the targets. Proof of concept work has been done for much of this but now needs Industry to take it to the next level and commercialise.	
If not already done so, register for accreditation to raise PRNs/ PERNs	All legitimate exports/reprocessing should be captured on the system. For more information: https://www.gov.uk/packaging-waste-apply-to-be-an-accredited-reprocessor-or-exporter https://npwd.environment-agency.gov.uk/Public/PackagingHome.aspx	
Invest in more UK sorting and reprocessing infrastructure		
Modify existing sorting facilities to allow for additional stream(s) such as pots, tubs, trays (PTT) to be recycled.		
Look for opportunities to allocate PRN/PERN revenue to areas that need it most	The idea is to drive more recycling and meet the requirements of the action plan (e.g. funding comms' programmes to boost collections, investment in infrastructure etc).	

Work with Local Authorities to help them with communications campaigns	This could be by raising the awareness of the Pledge 4 Plastics programme, providing communications channels or helping Local Authorities to deliver the campaign. For more information please contact Recoup: http://www.recoup.org/	
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3. The Plastics Industry Recycling Action Plan - Desired Outcomes

- a. **The creation and promotion of both new and existing end-markets for use of recycled content in order to drive opportunities for the use of plastics recycle both today and for the future.**
- Support for innovation for new products and systems, e.g. use of A-B-A systems, enhanced separation, etc.
 - Green public procurement focusing on the use of resource efficient materials will help reinforce the demand for products with recycled content.
 - Specific policy improvements have been suggested by stakeholders in section 5.
- b. **The necessary investment required firstly to extend the range of plastics collected from households, thereby increasing the overall average of plastic collected per capita but without undermining the quality of existing streams, and secondly to increase the collection of rigid packaging from Commercial and Industrial streams.**
- To achieve the industry's recycling targets, a national average of around 25.5kg of PTT and bottles/household/year, which equates to:
 - An uplift of 60% in PTT material collected for recycling.
 - An uplift of 35% in Bottle material collected.
 - Innovative programs will also need to be considered to raise awareness and promote use of current collection infrastructure, such as Pledge4Plastics and the post code locator.
 - There will need to be enhanced collection of recyclable materials from packaging on the move.
 - Also if more consumer film is to be collected Retailers will need to further promote front of store recycling of film, e.g. OPR, shopping bags.
 - The encouragement for Local authorities to continue and increase efforts to simplify and harmonise collection infrastructure to accelerate diversion of recyclable materials (plastics) from landfill.
- c. **Improved engagement by consumers in plastic recycling schemes.**
- Targeted messaging at both local and national level to influence behaviour of citizens to increase recycling and reduce littering.
- d. **Identification and implementation of the required improvements in sorting infrastructure that will ensure high quality output of plastics recycle.**
- Domestic and export recycling infrastructure will require another 250k tonnes of capacity.
 - A broader range of plastic materials, shapes and sizes will require sorting.
 - Systems for the recovery and sorting of materials from "hidden" waste streams, e.g. institutions, hospitality sector, public events, etc., will need to be put in place.
 - Support is required for innovation and for the development of the technology necessary for rapid separation of materials that are non-recyclable and of those that today are difficult to detect.
- e. **The establishment of an environment that encourages investment in modern facilities able to handle an increased range of materials and product types collected.**
- Funding will be required to support innovation for increased recycling, e.g. black CPET tray separation and tray to tray recycling.
- f. **A business environment where end of life considerations are consistently factored in at the product design stage and that design for recyclability guidance is followed and implemented whenever possible.**

- Design guidance on packaging for sustainable functionality, resource efficiency and recycling will be required and need to be continually refined and updated as new packaging solutions enter the market place.
- Use of the Design For Recyclability (DFR) guidance for all pack design processes will need to assume a higher priority but this should not compromise resource efficiency benefits. For example:
 - WRAP guidance for PET drinks bottles: <http://www.wrap.org.uk/content/pet-bottle-categorisation-tool>
 - WRAP guidance for HDPE milk bottles: <http://www.wrap.org.uk/content/hdpe-categorisation-tool>
 - WRAP guidance for Pots, tubs, trays and non-drink bottles: <http://www.wrap.org.uk/node/15321>
 - Recyclclass Tool: <http://www.plasticsrecyclers.eu/recyclclass>
 - Recoup's 'Recyclability By Design': <http://www.recoup.org/p/130/recyclability-by-design>

g. Continuous monitoring of the PIRAP progress and a preparedness to take corrective action whenever required.

h. To successfully achieve the UK's plastics recycling targets for 2017 and beyond.

4. [List of Contributors to the PIRAP](#)

Working Group and Steering Groups <i>* Steering Group only</i> <i>** Steering Group and working Group</i> <i>No star = working group only</i>	
Advisory Committee on Packaging (ACP)* Axion Recycling Biffa Polymers Boomerang Plastics BPI British Plastics Federation (BPF)** British Retail Consortium (BRC)* Britvic Soft Drinks BT-Wolfgang Binder GmbH Closed Loop Recycling Coca-Cola Enterprises Defra** ECO Plastics Ltd Ecotech London Ltd Entropex Environmental Services Association (ESA)** Food and Drink Federation (FDF)** Foodservice Packaging Association (FPA)* Giraffe Innovation Ltd INCPEN Innovia Films Jayplas Kent Resource Partnership** Kier MG Kingfisher Group	Local Authority Recycling Advisory Committee (LARAC)** LRS Consultancy M&S Mondelez National Association of Waste Disposal Officers (NAWDO)** Nestle UK Nextek Packaging and Films Association (PAFA)* PELLENC selective technologies Pentex Plastico Plastics Europe** Recoup** Resource Association** RPC Group Sainsburys Shanks SITA The Packaging Society Unilever Valpak** Veolia Viridor Ltd Viscotec WRAP** Zero Waste Scotland**

5. Glossary

BPF	British Plastics Federation
BRC	British Retail Consortium
C & I	Commercial and Industrial
CHP	Combined Heat and Power
CO ₂	Carbon Dioxide
CSR	Corporate Responsibility
Defra	Department for environment, food and rural affairs
DfR	Design for Recyclability
EfW	Energy from Waste
ESA	Environmental Services Association
FDF	Food and Drink Federation
FPA	Foodservice Packaging Association
GHG	Green House Gas
GJ	Giga Joules (10 ⁹)
HDPE	High-density polyethylene
hhd	Household
INCPEN	The Industry Council For Research On Packaging And The Environment
K	Thousand
kT	Kilo Tonnes (10 ³)
LA	Local Authorities
LARAC	Local Authority Recycling Advisory Committee
M	Million
MT	Million Tonnes (10 ⁶)
NAWDO	National Association of Waste Disposal Officers
NPWD	National Packaging Waste Database
OPRL	On Pack Recycling Label
PAFA	Packaging and Films Association
PDM	Plastics Design and Moulding
PE	Polyethylene
PERN	Packaging Export Recovery Note
PET	Polyethylene terephthalate
PIRAP	Plastics Industry Recycling Action Plan
Plastics 2020	Trade Association Consortia (PlasticsEurope, PAFA and BPF)
PRN	Packaging Recovery Note
PTT	Pots, Tubs and Trays
RDF	Refuse Derived Fuel
SRF	Solid Recovered Fuel
VLCC	Very Large Crude Carrier
WRAP	Waste Resources Action Programme
ZWS	Zero Waste Scotland