Increasing the Use of Recycled Plastics in Products

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Marketing Director
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Content

• Axion – what we do
• Market Drivers
• Barriers to Using Recycled
• Demand Stimulation
• The Future
Axion Group

Axion recycling

Axion consulting

Axion polymers

- ~35 staff
- Manchester
- London
- Shanghai

- ~40 staff
- Salford
- Trafford Park
Axion Consulting Activities

Leaders in innovative resource recovery
Valuable Raw Material Resource
Input - Automotive Plastic Concentrate from SWAPP
Axion Polymers Salford

Advanced polymer recycling
Output Product

- Axpoly®
- Polystyrene, polypropylene, ABS resin compounds,
- for injection moulding & extrusion
Auto air vent moulding – Axpoly PP51

BMW Mini
Market Drivers to Increase Use of Recycled Polymers
Linear model

Increasing distance from End-Market

Recycler → Moulder → OEM → Retailer → End-user

Spectrum of Benefits

- Price
- Performance
- Service
- Functionality
- Price
- Sustainability
- “Green-ness”
- Brand Value
- Style / Design

Increasing ‘customer’ value
Manufacturers of Branded Goods

- Sustainable Sourcing as part of Corporate ‘Plan’
- Materials supply - risk reduction
- Reduced Carbon Impact
- Insulated from Oil Price volatility
- Cost Savings – (sometimes)
- Enhance consumer product appeal
- Create marketing ‘edge’ – ‘Cool Green’
Price Volatility

Historical Resin Prices

Resin: PS: PS General Purpose

60%
The Green success story

2010-2011 80% increase
2012-2011 60% increase
2012-2010 300% increase

Close to 30% of Ultra Silencer platform sales

“In 2011 NZ sold 29% of full size Electrolux vacuums in Green by volume. This contributed to a growth in sell through of Electrolux branded vacuums in the NZ market of 28% (GFK reported) while the market only grew 5%.” NZ CEO
Legislative Drivers

• Landfill Tax increases – diverting waste
• UK Packaging Recycling Targets
  ➢ 42% by 2017 - +5% per year!
• WEEE new targets – 45% POM to 65% 2019
• ELV – 95% Jan 2015 targets (10% recovery)
• European Waste Strategy
• Carbon Reduction Commitment
• Landfill Bans – future?
• Producer Responsibility
P.R. – who pays?

Packaging Obligation

Recycler \[\rightarrow\] Moulder \[\rightarrow\] OEM \[\rightarrow\] Retailer \[\rightarrow\] End-user

WEEE

ELV ?
## Product Lifecycle Comparison

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Working Lifetime</th>
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<tbody>
<tr>
<td>Plastic Packaging</td>
<td>6 days - 6 months</td>
</tr>
<tr>
<td>WEEE</td>
<td>6 months – 6 years</td>
</tr>
<tr>
<td>ELV</td>
<td>13 years average</td>
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</tbody>
</table>
Barriers to Recycled Use

- Inflexible Specification of Materials
- Negative Quality Perceptions
- Safety Rules – e.g. Food / Toy Standards
- REACH – at the ‘Waste:Product’ Boundary
- Secure Access to Sufficient Infeed Volume
- Poor Design Briefs from Branded OEMs
- Designer’s Awareness of r-Polymer
- “Why Bother? – we all pay the same”
The Challenge....

to go from this...............to this
Circular Economy

Incentivise it’s Development by:-

• Moving from ‘Polluter Pays’ to…
• Priming the Pump of Market Demand by…
• Off-setting Producer obligated tonnage by
  ➢ Demonstrating recycled material content
  ➢ Higher offset for ‘closed loop’ content
• Public Sector Procurement –‘Buy Recycled’
• Rewarding Good-practice by the Truly Responsible Producers
**EPEAT gets Results**

Electronic Product Environmental Assessment Tool

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**US Federal Govt. issues executive order – all agencies must purchase 95% EPEAT registered**

<table>
<thead>
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<th>2006</th>
<th>2011</th>
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<td>Participating Manufacturers</td>
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<td>48</td>
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<td>Participating Countries</td>
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<td>41</td>
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<td>Registered Products</td>
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<td>Gold-rated Products</td>
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<td>1881</td>
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</tbody>
</table>
Time to Change P.R.?
A Look into the Future
The Circular Economy

for durable consumer goods

• Intelligence-based, sustainable closed-loops
• Producers ‘linked’ to products through lifetime
• Monitoring system enables optimal timing of replacement – (before final failure)
• Collection – ordered / tracked / controlled
• Products – streamed by brand / design / model
• Knowledge of materials & components applied to enable ‘clever sorting’
RICOH Printers – Comet Circle
Future Benefits...

- Component re-use maximized
- High value materials identified and kept ‘pure’ for simpler recovery
- Producer / Collector / Recycler – Long-Term Partnerships
- Manufacturers’ OWN their materials
- and benefit from repeated value recovery
- and…increased Customer Loyalty
Fictional Utopia ?
or
Workable Reality ?

Remember this date:-
August 20th 2013
Consumption = 1.5E
Which Future?

1960-2008
- Ecological Footprint

2008-2050, Scenarios
- Moderate business-as-usual
- Rapid reduction

y-axis: number of planet earths, x-axis: years
Thank you for listening
- Questions?