

Challenges for the British Plastics Industry

**Peter Davis, Director- General
British Plastics Federation**

**RSC Marketing Group
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The British Plastics Federation

- Longest established plastics Trade Federation in the world
- Unique in Europe due to diverse membership
 - Including materials, machinery and processors
- Represents 75% of industry by turnover
- 400 direct members, 1600 including affiliates
 - Covering 140,000 + staff

Group Structure



Central Committees

Environment

Industrial Health
and Safety

Fire Safety

Product Safety

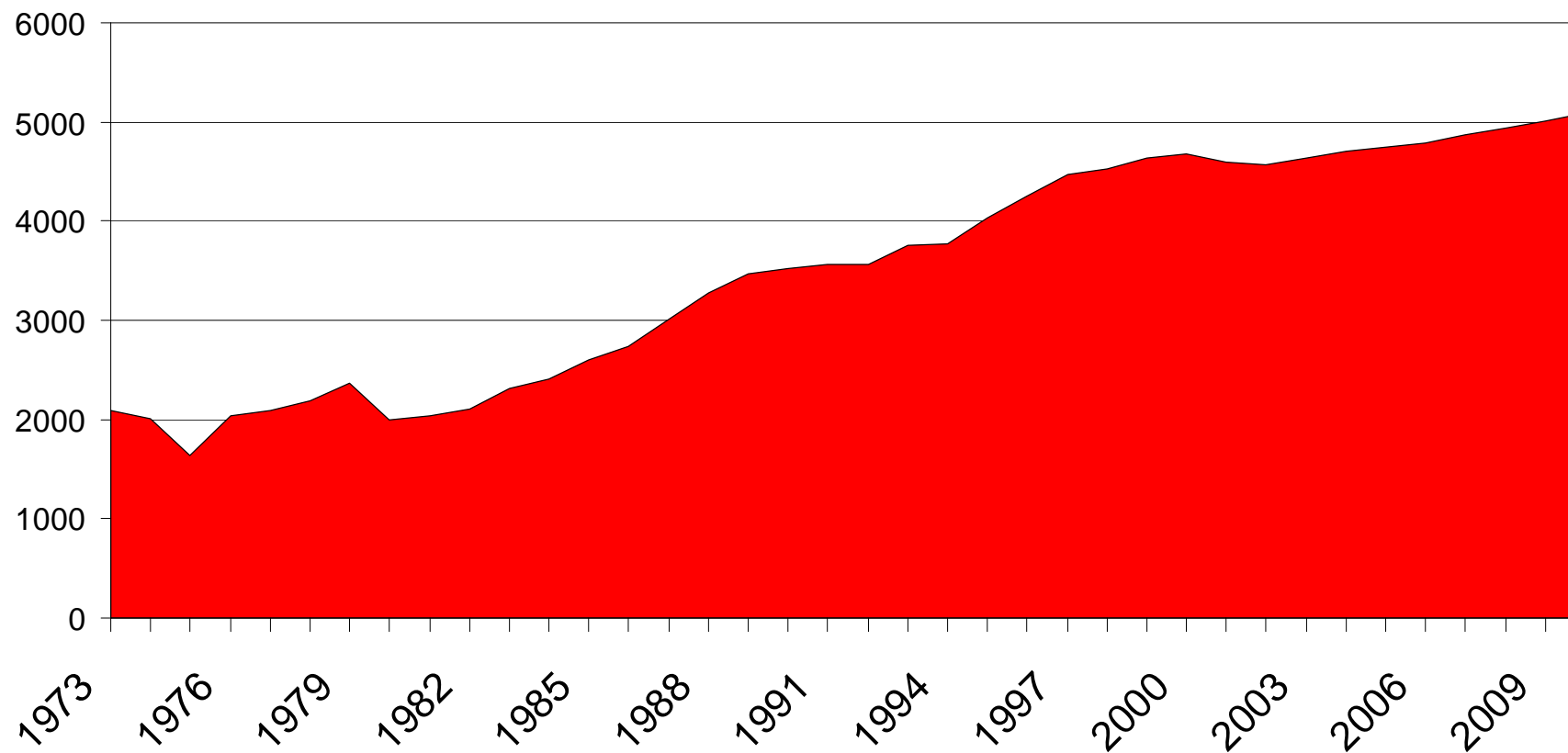
Affiliated Organisations



The Plastics Processing Industry in the UK

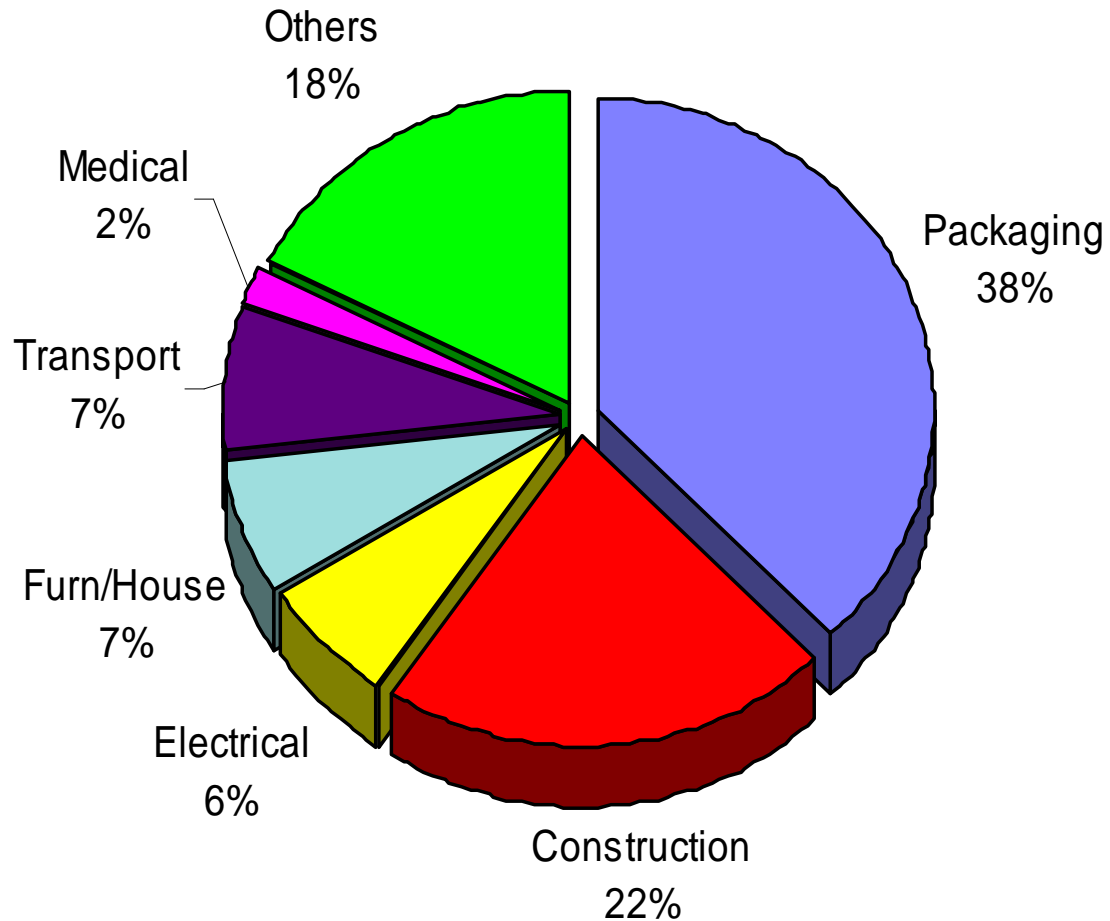
- Material processed – 4.8 million tonnes
- Plastics material produced – 2.5 million tonnes
- Processor sales turnover - £13.1 billion
- Value of exports - £4.6 billion
- People employed – 186,000
- Over 3,000 primary processors
- 7,430 companies in the polymer industry
- Plastics industry turnover £19bn
- 25% of plastics products manufactured are exported

UK Plastics Consumption (ktonnes) 1973-2010

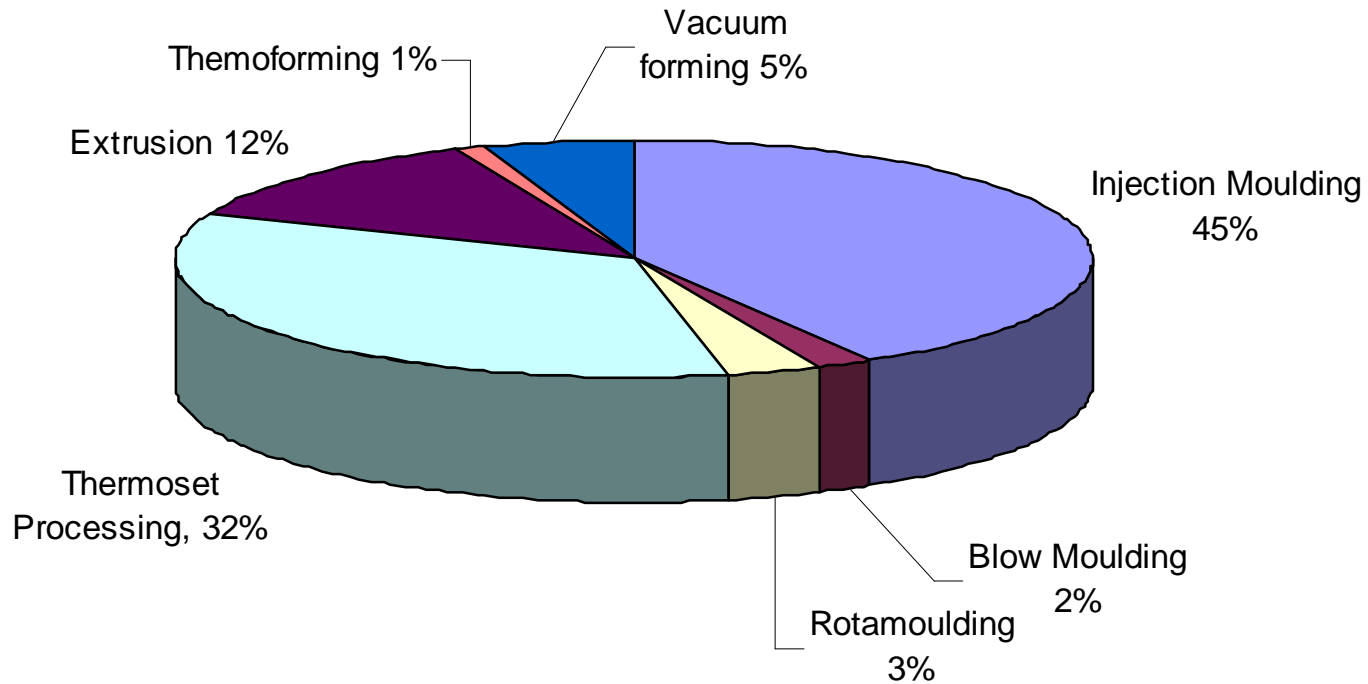


Source: The British Plastics Federation

UK Application Split For All Plastics

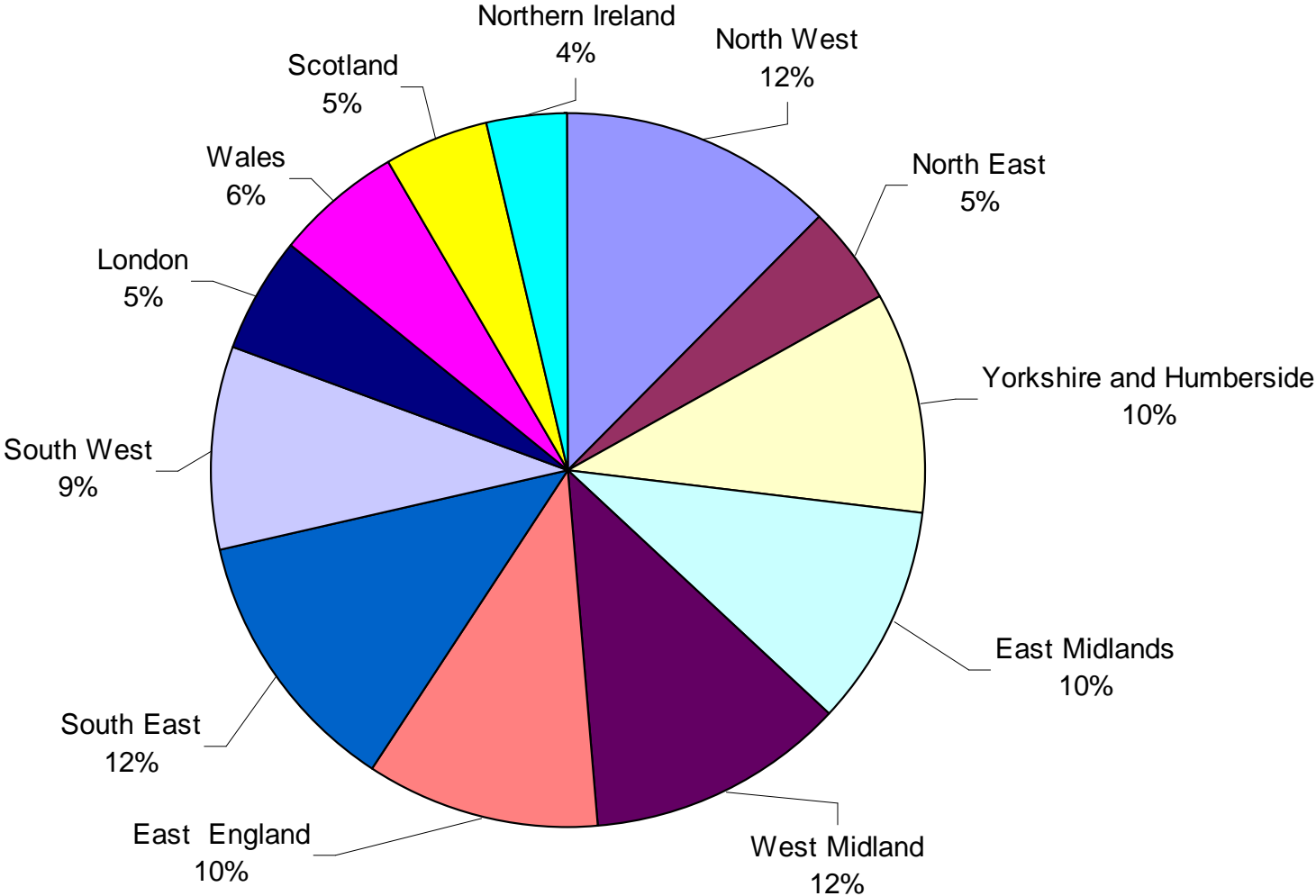


Number of Plastics Processors defined by Process



Source: The British Plastics Federation

Location of Polymer Companies

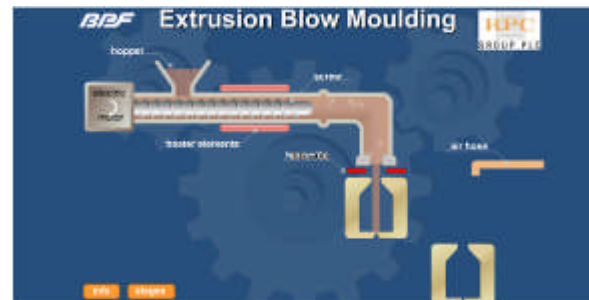




- A History of Plastics
- A-Z of Additives
- A-Z of Polymers
- A-Z of Plastics Processors
- Plastics Translations
- Key Plastics Applications

Plastics Translations

English	Deutsch	Français	Español	Italiano
Autoline	Autolin	Autolin	Autoline	Autoline
Autocatal	Autocatalisator	Autocatalyseur	Autocatalizador	Autocatalizzatore
Antistatic agent	Antistatikum	Agent antistatique	Agente antistático	Agente antistatico
Barrel	Zylinder	Cylindre	Cilindro	Cilindro (barile)
Blow moulding	Blasformen	Soufflage	Moldeo por soplado	Soffiatura
Blow Film	Blasfolie	Film soufflé	Felma de soplado	Felma soffiata
Calendering	Kalenderen	Calendrage	Calendrado	Calendriatura
Catalyst	Katalysator	Catalyseur	Catalizador	Catalizzatore
Conduction	Conduktion	Conduction	Conduccion	Conduzione
Conduction Line	Conduktionenlinie	Ligne de conduction	Integración de conduccion	Linea di conduzione



UK Plastics: A positive future 1)

Society needs plastics:

- The key to a 'sustainable' society
 - Role in saving energy
 - Role in conserving water
 - Role in preventing food wastage
- UK plastics industry is leading the way in the understanding of what sustainability means for an industrial material

UK Plastics: A Positive Future 2)

- There is continuing investment in UK plastics industry
- The industry is served by a cadre of excellent academic centres: Belfast, Bradford, Queens, Loughborough, London Metropolitan and Edinburgh Napier.
- The industry is working more closely with the world-class UK design industry

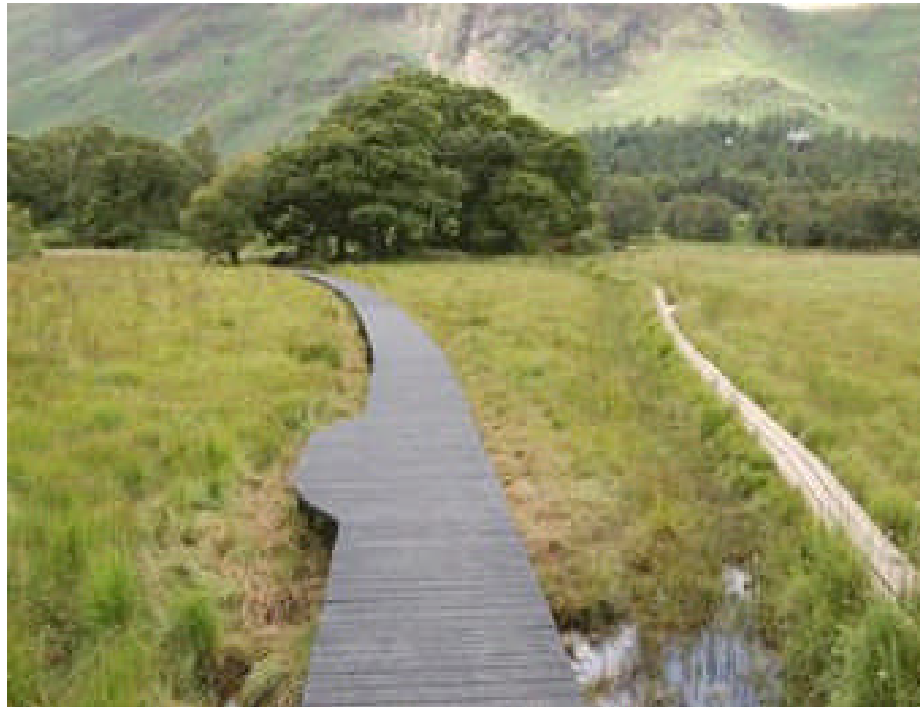
Plastic Blood



Developed at
University of Sheffield

For battlefield applications, no need to fridge, just add water.

INNOVATION IN RECYCLING 1)



Lake District
boardwalk made from
500,000 plastic bottles

Centriforce Products has built a 450 metre boardwalk made from 500,000 plastic bottles in the Lake District . It lasts four times longer than wood

Innovation in Recycling 2)

- The Epwin Group claims to have developed the world's first fully recycled PVC-U Window, from social housing refurbishment waste

Innovation in Plastics 1)



- **A380 Maiden flight from Heathrow with lightweight plastics**

The Airbus A380 is 22% carbon fibre reinforced plastics and burns 12% less fuel per seat, better for environment and operating costs



- **Boeing 787 Dreamliner has 40% plastic composite fuselage**

The lighter but strong fuselage will give a 30% reduction in maintenance costs and a 20% saving in fuel

Innovation in Plastics 2)



- **Plastic semiconductors –
Plastics Logic**

A revolutionary development for light, tough flexible display screens such as electronic paper



- **Innovative dissolving textiles
– University of Ulster &
Sheffield Polymer Centre**

Fabric made from a clear polymer that dissolves and could be recycled into a bottle

INNOVATION IN PLASTICS 3)



- **Gloves enabling wearers to climb walls – University of California**
Dry gecko inspired directional adhesive uses hard plastic microscopic fibres of polypropylene to climb walls

Challenges for Plastics 1)

Product Safety

- Use of polycarbonate in baby bottles banned from March 2011
- Attempted EP ban on PVC in RoHS Directive re-cast thwarted
- Spin versus sound science

Challenges for Plastics 2)

Plastics in Waste

- Plastics 2020 Challenge seeks to drive plastics from landfill by 2020 and double to 50% packaging recycling
- Plastics bottle recycling has reached 46% - milk bottles 72% - Overall 24%
- 30% of EPS packaging is recycled
- Mixed plastics a challenge
- Unrecyclable plastic should go to Energy from Waste. Could provide 11% of UK Energy needs

Challenges for Plastics 3 a)

Plastics in Marine Litter

- BPF 'Operation Clean Sweep' to prevent pellet loss
- Participation in Beach cleans and primary school bottle recycling drive with Marine Conservation Society
- BPF partner in a major European plastics industry project on marine litter. EU funding sought.

Challenges for Plastics 3b)

Plastics in Marine Litter

- BPF sponsoring Ghent University study in microplastics ingestion by marine organisms
- BPF gives pledges at December National Litter Convention

Plastics and Carbon

- Only 4% of global oil production is used for plastics
- Not energy intensive in production
- Huge CO₂ savings through light-weighting aircraft, cars and packaging
- Plastics insulation to conserve energy
- Plastic water mains in London preventing 30% leakage
- Key material for windmill rotor blades, electric cars and solar panels

And the Future Beyond 2030?

“I have long been of the opinion that human evolutionary destiny is to merge human biology with machine intelligence to create a successor species, a semi-plastic species which, freed of biological time constraints, will be free to leave this planet and begin to colonise the universe with a form of intelligence thatcan only be described as post-human.”

Ray Hammond, The World in 2030