Why do we need multiple polymer types?

The versatile properties of plastic make it an ideal packaging material. The variety of products that we consume in modern life all require different packaging properties. One polymer is not able to provide all of these characteristics.

Different polymers are used to provide different functions. Sometimes different polymers are used on the same packaging to meet all the requirements for a protection and long life.

As well as being light weight, non-breakable, resealable and with a low carbon footprint, some polymers allow products stored in specific states such as keeping liquids fizzy.

Some polymers snap, others bend. Portion control from snappable packaging can reduce food waste as consumers only open what they need.

Some surfaces are bacteria resistant which is important in the case of food. Airtight packaging allows product quality to be maintained, improving shelf life and product hygiene.

While some polymers are flexible and stretchy, others can be resistant to extreme temperatures allowing products to be microwaved, oven-cooked and frozen.

The properties listed above are just some of the properties of these materials. Combining polymers enables highly useful packaging applications with enhanced properties.
Plastic Prevents Food Waste & Saves Energy

A report by Trucost determined using alternative materials to plastics would increase total environmental costs by nearly four times. The ability of plastic packaging to prevent food waste is critically important because a lot of energy and resources are used to produce and transport the food.

Food waste has 10x environmental impact of packaging waste

Cucumbers extend their life when wrapped in film by up to 14 DAYS

Plastic bags reduce waste of potatoes by 2/3

Bananas in a flexible bag extend their shelf-life by 3 DAYS

Plastic Prevents Food Waste & Saves Energy

Additionally, non-food items such as electronics when improperly packaged can be damaged in transit – ending up in landfill, where extra resources are then required to create new products to replace them.

Recycling is Expanding

Every year the range of recyclable products increases, with more opportunities to recycle plastic packaging from the kerbside:

98% of local authorities collect plastic bottles.
74% collect pots, tubs and trays (up from 28% in 2010).
20% now collect plastic film (up from 10% in 2010).

Packaging such as films, which cannot be recycled by householders, can be recycled commercially and household collection services can expand to include these in the future.

Current initiatives explore how to recycle even more:

REFLEX: Expanding the UK flexible packaging recycling market www.reflexproject.co.uk.
CEFLEX: Design for Recycling guidelines www.ceflex.eu
Readable inks: Using florescent pigments to identify black plastic and food contact material.

Industry Project to Increase Recycling

The Plastics Industry Recycling Action Plan (PIRAP) is working to increase plastic recycling with actions for the entire value chain. It aims to overcome barriers to recycling different materials.

All retailers, packaging suppliers, producers, brands, recyclers, local authorities, waste management companies and anyone else involved in the value chain are encouraged to sign up as a supporter of
PIRAP: www.pirap.co.uk

British Plastics Federation