

The Park Royal Partnership renewable fuels plant will process 100,000 tonnes of mixed commercial waste per year, using:

- Hydro-mechanical separation
- Anaerobic digestion
- Pyrolysis

It will deliver:

- Renewable bio-gas (enough to run 3,000 houses)
- Synthetic diesel fuel (enough to run a fleet of 100 refuse vehicles every day)
- Major reductions in waste road freight
- 80% reduction in commercial and industrial waste deposited in landfill

It will save London 21,293 tonnes of direct CO₂ emissions per year (through recycling and producing sustainable fuels).

Unprocessed, the waste would have produced 887,208 tonnes of CO₂ emissions (methane produced in landfill).

So the total amount of CO₂ emissions saved will be the equivalent of the amount produced by 265,790 households in a year.

Benefits: contribution to London

10 carbon management plants could treat 1,000,000 tonnes of commercial and industrial waste per year = 15% of London's total commercial and industrial waste stream.

They would save 212,930 tonnes CO₂ from direct emission, contributing 3% of London's 2015 goal of a 20% reduction in emissions.

What are the benefits to Park Royal?

The renewable fuels plant will:

- Reduce waste disposal costs
- Reduce congestion
- Increase employment opportunities.
- Reduce landfill
- Reduce carbon emissions.
- Give a supply of renewable fuels.
- Address the European Waste Directive, government legislation and the Mayor's Climate Change Action Plan

Similar plants have been operational for over eight years abroad.



An ArrowBio plant in Israel

RENEWABLE FUELS PLANT

The solution to London's rubbish

Take 384 tonnes of mixed, unsorted rubbish. Deliver it to the Park Royal Partnership renewable fuels plant and turn it into:

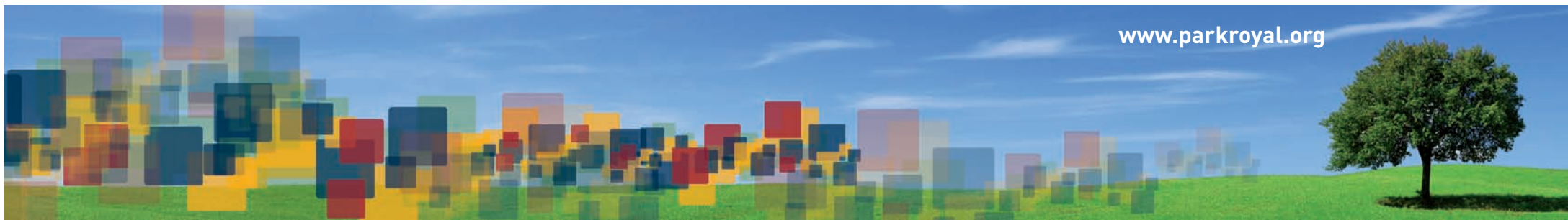
- 45,000 m³ of bio fuel gas
- 18,000 l of synthetic diesel
- 38 tonnes of sorted recyclable material (glass, aluminium, etc)
- 27 tonnes of soil conditioner*
- Water
- Only 23 tonnes (less than 6%) can't be recycled and has to go to landfill.*

This is a daily rate – the plant can process 100,000 tonnes of waste per year. And there are no emissions or smells: all local people see is a quiet, clean, water-run plant.



* The soil conditioner will initially have to go to landfill, until the Environment Agency grants a licence to sell it.

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Waste is fed into a water-filled vat. Heavy inorganic materials sink, plastics and other materials float, grit remains in suspension, and organic particles dissolve in the water.

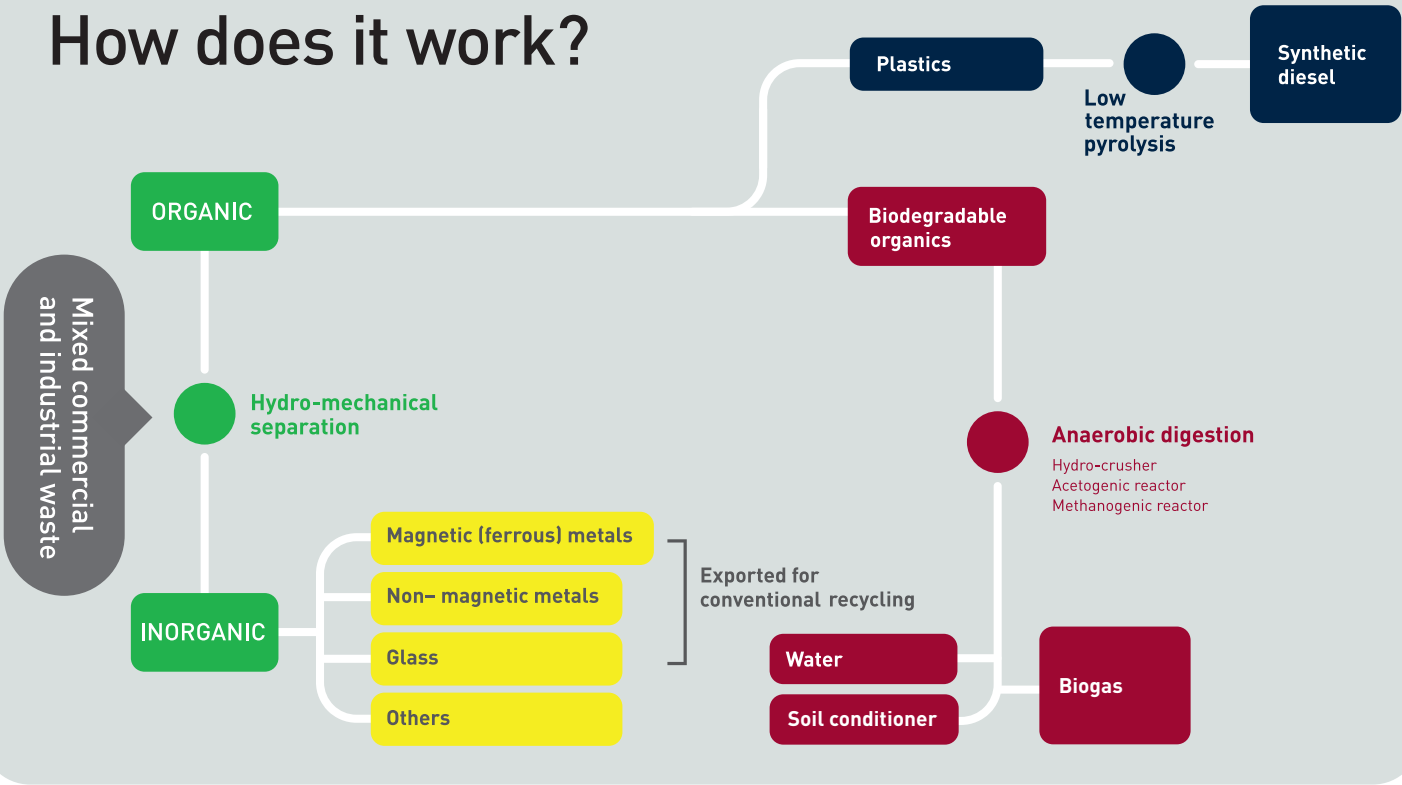
The plastic (about 6.8% of the waste) is melted and fed into a heated oxygen-free chamber; the gases are cooled and purified to produce hydrocyclone, a high quality synthetic diesel.

The heavy inorganic waste is separated into different recyclable components (eg glass, iron, copper, aluminium), using a magnetic pick-up and an eddy current separator. The glass and metals are sent away for conventional recycling. About 29% of London's waste consists of glass and recyclable metals. The rest of the inorganic waste (things like textiles and grit) must go to landfill.

The biodegradable waste is put into a digester, where bacteria break the waste down into:

- biogas (45,000 m³ per day: enough gas to supply 3000 houses)
- water (6.75 million litres of industrial water per year)
- soil conditioner (7,000 tonnes per year)

How does it work?



PARK ROYAL PARTNERSHIP Renewable fuels plant: addressing climate change

The Arrowbio process doesn't rely on pre-sorting. It uses water to separate inorganic and organic parts of mixed commercial waste. The PRP plant could process 100,000 tonnes of mixed waste per year.

- The PRP renewable fuels plant will:**
- Eliminate landfill of bio-degradable and plastic waste
 - Deliver major reductions in long distance waste transport (waste brought into the site is sorted and processed on site)
 - Produce renewable bio-fuel gas and synthetic diesel fuel - without significant emissions
 - Divert more from landfill and produce more green fuel than any other technology presently available

For more information call the Park Royal Partnership on **020 3110 2300** or email kmilnes@parkroyal.org

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Below: Pyrolysis converts plastic into fuel

Below: Hydro-mechanical separation

