Paper Recycling

Paper is one of the most commonly used materials for packaging and comes in a variety of forms.

Natural Resources used to make paper

The primary raw material used in making paper and cardboard products today is wood pulp, derived from wood chips, either from short-fibred hardwoods (e.g. eucalypt trees) or long-fibred softwoods (e.g. pine trees). Some high quality paper is produced through the use of cotton fibres.

Manufacturing

Paper production

Paper is made from 'pulp' which is the fine fibre of the crushed trees mixed with water to produce a paste. This paste or pulp is then strained from the water, rolled smooth and dried. The paper forms as the fibres interlock and overlap, essentially tying them together.

To make the paper we write and print on, there are a number of additional steps, including bleaching the paper pulp to make it white, as well as cutting and shaping the paper.

While it has been streamlined over the years, the same process for paper production has been used for centuries. Unfortunately, the process uses a great deal of water and energy which has meant producers of paper and paper products are in need of alternative, more sustainable options for production. This is where the recycling process begins.

Cardboard production

Cardboard is made using three layers of heavy paper. Two flat layers are bonded to either side of a fluted or corrugated layer of heavy paper.

Liquid paperboard production

Liquid paperboard is made using a layer of cardboard that is sandwiched between layers of wax, plastic, or aluminium foil.

Decomposition

Paper is one of the quickest of all the materials to decompose; it takes three weeks to three months to break down.

General Paper Recycling – beyond the recycling bin

Paper and cardboard that is placed in your yellow lidded recycling bin is transported to the Materials Recovery Facility (MRF) for sorting. Here they are removed from the other recyclable materials by a trommel which is like a large tumble drier that rotates and sends the paper down onto the paper sorting line. Once sorted the paper is baled and transported to companies for reprocessing.
At the reprocessing plant, paper and water are mixed together at high speed in a 'Turboflex Pulp Maker' to break up the paper into separate fibres. Contaminants such as staples, wire, plastic and string are removed by passing the pulp through cleaning and screening equipment. The pulp is then treated with chemicals and heated to loosen ink and glue so they can be washed out. The cleaned pulp is diluted with water and mixed with small amounts of paper-making additives. The paper is then turned into new paper and cardboard products, using the same pressing and drying process used to make paper and cardboard from virgin materials.

Recycling paper saves trees, water and electricity. Only one sixth of the amount of electricity is used to produce new paper from recycled paper as is used to produce new paper from wood pulp.

**What can be recycled at the kerbside?**

Logan City's kerbside recycling system makes it easy to recycle all sorts of paper products including:

- newspapers, magazines and junk mail
- office paper and envelopes
- milk and juice cartons
- cereal cartons and cardboard boxes

**What can't be recycled at the kerbside?**

The following paper items cannot be recycled:

- paper that has been used for hygiene (tissues, hand towels)
- excessively greasy food contaminated paper (eg. Pie packets with sauce or pizza boxes with food stuck on them)
- waxed cardboard (fruit and mushroom cartons)

**Facts**

- One tonne of recycled paper or cardboard saves:
  - approximately 13 trees
  - 2.5 barrels of oil
  - 4100 kwh of electricity
  - 4 Cubic meters of landfill
  - 31,780 litres of water. per.

- Paper can usually be recycled eight times.

**Sources:**