

Recycling Trivia

General Information

Website: http://www.deq.state.ms.us/MDEQ.nsf/page/Main_Home?OpenDocument

Aluminium Facts

One ton of recycled aluminium saves 14,000 Kwh of energy, 40 barrels (1,663 gallons) of oil, 238 million Btu's of energy and 10 cubic yards of landfill space.

Glass Facts

One ton of recycled glass saves 42 Kwh of energy, 0.12 barrels (5 gallons) of oil, 714,000 Btu's of energy, 7.5 pounds of air pollutants from being released, and 2 cubic yards of landfill space.

Plastics Facts

One ton of recycled plastic saves 5,774 Kwh of energy, 16.3 barrels (685 gallons) of oil, 98 million Btu's of energy, and 30 cubic yards of landfill space.

Approximately 88% of the energy is saved by producing plastic from plastic as opposed to plastic from the raw materials of oil and gas.

Steel Facts

Recycling one ton of steel saves 642 Kwh of energy, 1.8 barrels (76 gallons) of oil, 10.9 million Btu's of energy and 4 cubic yards of landfill space.

The United States throws away enough iron and steel to continuously supply all the nations automakers.

The average household throws away two pounds of steel per week which if recycled would save enough energy to keep a 60 watt bulb burning for two days.

Steel recycling results in 74% savings in energy, 90% savings in virgin materials, 86% reduction in air pollution, 40% reduction in water use, 76% reduction in water pollution and 97% reduction in mining wastes.

Reusa-Can Comment

Reusa-Can has based these savings on those calculated by Recycling Trivia. Calculations vary according to those quoting them and Reusa-Can quote against whatever figures are quoted by any particular institution.

Oil: In each case Reusa-Can would prove to be better. It would save substantially more oil Steel ½ tonne, Plastic 2 tonnes, Glass ½ barrel and Aluminium 8 tonnes of oil. In total tonne for tonne of refurbished cans would save approximately 77.5 barrels of oil compared with a tonne of aluminium, glass, plastic and steel (total 4 tonnes), which is approximately 10.5 tonnes of oil. There would be no pollution.

Reusa-Can savings Aluminium Cans (Energy Electric & Gas): By refurbishing aluminium containers it would save per tonne 14,736 kWh to the ingot stage plus thousands of kWh converting ingots into cans. It would save transport costs to take the cans to foreign smelters and returning the raw materials or finished cans to the UK. It would reduce our imports and a huge amount of pollution. It will also save 250 million Btu's (73,267kWh) of gas energy per tonne. This makes a total energy usage of 88,000kWh per tonne. An average UK home uses 4,100kWh, 88,000kWh hours is enough for 21 UK homes for twelve months, that's just to the ingot stage. Now add transport to India or China and back plus the energy used to make the ingots into cans. Per tonne they are probably using enough to supply 40-50 UK homes for twelve months. We have the cans already made – what a waste!!! Only 43% of aluminium cans are recycled so 57% are made from virgin materials.

Reusa-Can savings Glass containers (Energy Electric and Gas): For every tonne of glass containers 98kWh of electricity and 1,666,000Btu (488kWh) of natural gas energy, which added together, is a total of 586kWh. However, the burden of glass is in the weight when in transit. Refurbished cans are lighter and less likely to be damaged during transit and can also be refurbished up to ten times. Pollution from a refurbished can is nil whereas there is still considerable pollution during glass recycling. We use about 2.6 billion glass containers per annum.

Reusa-Can savings Plastic containers (Energy Electric and Gas): Reusa-Can has an enormous advantage of plastic containers. It requires 2 tonnes of oil to make a tonne of plastic Reusa-Can only requires enough oil to lubricate machinery. Electric energy savings would be about 6,500kWh and gas would be approximately 12 million Btu's. In each case by refurbishing these cans ten times it would multiply savings by ten. Only 10% of plastic is recycled but 56% of steel cans are recycled so there is more chance of a can being refurbished than a plastic bottle being recycled.

A plastic shampoo bottle may be sexier but when we run out of oil in a few years time that will not be very sexy – it will be frightening.

Reusa-Can savings Steel containers (Energy Electric and Gas): Our savings in steel production would be over 800kWh of electricity and 14.5 million Btu's of gas. We also save five tonnes of each of coal, water, minerals, ½ tonne of chemicals, ½ tonne of oil and 3 tonnes of CO2 emissions and we can do it up to ten times. Figures quoted by Recycling Trivia refer to only recycling scrap to the ingot stage. To make a can from ingots uses a massive amount of energy and only 25% of recycled material is used to make a new can 75% is made from virgin material.

There is no need for these cans to be sent abroad to be recycled they can be refurbished in each country they are purchased. When everything is taken into consideration enough energy per tonne is saved to supply an average UK home for 2 years.

When all four types of container are taken into consideration and oil usage is calculated I believe that Reusa-Can could save up to 4% of total oil production. At today's prices (\$71d/b), that would save \$40 billion per annum.