

Case study – O-I Sydney



Owens-Illinois Sydney – where the glass is greener

Next time you drain the last drop from a glass bottle or jar, make sure you recycle the container. Every recycled container used in production of new glass saves energy and water and reduces carbon emissions.

Owens-Illinois, (O-I) the world's largest manufacturer of glass packaging, says glass is the most easily-recycled packaging material known to man. Glass is 100 per cent recyclable forever. Even when it's recycled again and again, the quality, purity and clarity of it does not deteriorate.

Founded in 1903 in the United States, O-I has grown to more than 22,500 employees at 78 plants including four in Australia. The company reported revenues of \$7.0 billion in 2012. The company has 10 glass plants in the Asia-Pacific region, which represent around 10 per cent of its worldwide sales.

A Sustainability Advantage member since 2009, the company's plant in Penrith has employed lean manufacturing principles and continuous process improvement to enhance energy and water efficiency, eliminate waste, and cut carbon emissions. There have been many highlights.

O-I Sydney's water usage is better than world's best practice for water efficiency in glass container manufacturing, with average daily usage of less than 300 kilolitres per day. ▶

In brief

Owens-Illinois, (O-I) is the world's largest manufacturer of glass packaging. In Australia, the company focuses exclusively on containers for the food and beverage industries, including beer, wine, food, spirits and non-alcoholic drinks, and supplies some of the country's best-known brands.

O-I has a sustainability program that is the envy of its industry and the firm's Australian division has been a Sustainability Advantage member since 2009. Some results include:

- water use better than world's best practice for efficiency in glass container manufacturing, with average daily usage less than 300 kilolitres a day
- decreased energy use from 2.62 petajoules per annum in 2002 to 1.92 petajoules per annum in 2012 (a large amount of this savings was due to SP2 shut down)
- reduced waste by 1,000 tonnes or 50 per cent since 2002
- cut greenhouse gas emissions by more than 20 per cent in 2012 compared to 2010
- reduced selected bottle weights by nearly 30 per cent.



- ▶ In 2010, O-I released the results of a global study on the complete life cycle of glass containers from extraction of raw materials to reuse. O-I's life cycle assessment, which measures the carbon emissions generated by each phase in the life of a glass container, is the foundation of the company's ambitious sustainability program.

"Our recent life cycle assessment showed that glass already has a smaller carbon footprint than other packaging materials. But, we see room for additional improvement in the carbon footprint of glass and our company as the world's leading manufacturer of glass packaging," said O-I Chief Executive Officer Al Stroucken.

With 2007 as a baseline, by 2017 O-I intends to:

- cut its global energy consumption by 50 per cent
- reduce carbon dioxide-equivalent emissions by 65 per cent
- nearly double its use of recycled glass so that a global average of 60 per cent of each O-I container is recycled material, and
- totally eliminate workplace accidents.

Recycling is the big opportunity. O-I's life cycle assessment revealed that using recycled glass directly reduces the amount of energy required to process raw materials. Every 10 per cent of recycled glass used in production cuts carbon emissions by five per cent and saves three per cent in energy use. Currently, the average recycled content in O-I bottles is almost 40 per cent.

One product development highlight for O-I is the Lean+Green® lightweight wine bottle – a premium bottle that weighs up to 30 per cent less than traditional wine bottles. Lean+Green® debuted in Australia in 2009, has won eight national awards and has been adopted by more than 75 Australian wine brands.

In addition to less glass, lightweight bottles provide strong environmental benefits. These include:

- a 20 per cent reduction in energy use to produce the same number of bottles
- a saving of more than 11,130 tonnes of CO₂ per annum
- an average 12 per cent drop in water use per container
- overall water savings of 4,720 kilolitres – the equivalent of 6.3 Olympic swimming pools a year.

O-I would say this is worth every drop.

Your next step

To find out how your business can join the Sustainability Advantage Program, contact the team:

Email sustainbus@environment.nsw.gov.au

Call 02 8837 6000

Visit environment.nsw.gov.au/-/sustainbus/sustainabilityadvantage.htm