

Overview of the Australian sugar milling industry

Sugar - a plant-based natural source of energy and fuel

Sugar Mills and Milling



Sugar milling is one of the nation's largest agricultural and rural industries, earning over \$1.7 billion in annual export earnings and generating over 1,200 GWh of electricity.

Twenty four (24) sugar mills process locally grown sugarcane to produce raw sugar, 85% of which is exported and 15% is refined at one of four (4) Australian refineries for sale onto the domestic market.

Most (95%) Australian sugar is grown and produced in Queensland with the balance from northern New South Wales.

While raw sugar, molasses and co-generated electricity are the primary focus, the industry is continually looking for opportunities to diversify e.g. bioethanol.

The industry invests heavily in research through the industry-owned company, [Sugar Research Australia \(SRA\)](#). The industry investment (approx. \$24 million per year) attracts over \$6 million each year from the Federal Government as part of the Government's commitment to rural research and development corporations.

Industry Snapshot - 2018

- ◇ 382,500 hectares harvested
- ◇ 4,305 growers
- ◇ 24 mills, owned by 8 separate milling companies
- ◇ 32.5 million tonnes sugarcane crushed
- ◇ 4.7 million tonnes of raw sugar produced
- ◇ 3.8 million tonnes raw sugar exported
- ◇ Total industry gross value add was A\$4 billion

Natural Cane Sugar

The sugarcane harvest generally occurs from June until December. Sugarcane is perishable and needs to be transported and processed as quickly as possible after cutting.

The mills shred and crush the plant stalks to separate the juice from the fibre (bagasse). The juice is then filtered and heated, to remove water and any impurities. It is then heated again and cooled to form raw sugar crystals which are dried and stored in bulk bins ready for shipping overseas or to a domestic refinery.



The milling process involves a variety of large, heavy-duty machines and boilers, all of which must be repaired and maintained during the non-crushing season.

Milling companies invest between \$300 - 400 million annually, using permanent employees and skilled, local and regional tradespeople, to ensure the mills and their extensive railways and transport infrastructure are ready for each crushing season.



At the refinery, food grade sugar is produced using a melting & cleaning/clarifying process. UV light is used to sterilise the sugar syrup and centrifuges remove the molasses to produce the right colour in the final product.

Energy Production & Efficiency

Sugar mills are self-sufficient in energy, burning the fibrous cane by-product bagasse, (a renewable fuel) to generate electricity and steam for factory operations.

More than half of the total electricity generated is exported to the electricity grid.

The use of renewable bagasse to generate 'green' energy reduces the nation's greenhouse gas emissions each year by over 1.5 million tonnes of carbon dioxide equivalent and provides power to approximately 170,000 homes (around 500 GWh).

Some mills have made significant investment in co-generation to increase the use of bagasse for generating electricity. In the past 5 years more than \$500m has been invested by mills to significantly increase their capacity to export electricity in Queensland and New South Wales.



Industry products

- ◇ Raw sugar (refined into white, brown, golden syrup)
- ◇ Molasses (used for cattle feed)
- ◇ Bagasse (used to generate steam and electricity)
- ◇ Mill mud (organic soil conditioner spread on land)
- ◇ Mulch (for landscaping)

Nothing is wasted

Cane & Sugar Transport



Cane railways are used to transport freshly harvested cane to the sugar mill for rapid processing (maximum time to avoid spoilage is 24 hours).

Cane railways operate along a 1,530 km coastal strip from Childers in the south to Mossman in the north.

The entire cane railway track network and rolling stock is privately owned, operated and maintained by sugar mill owners.

During the season (June to December), sugarcane is moved by the trains 24 hours a day & often, seven days a week.



The cane railway network keeps the equivalent of 25,000 or so heavy trucks off the region's roads each year.

After processing, raw sugar is transported to bulk sugar terminals for storage. The six industry-owned terminals are situated at the ports of Cairns, Mourilyan, Lucinda, Townsville, Mackay and Bundaberg.

Approximately 2.4 million tonnes of raw sugar (around half the average annual production) can be stored in readiness to export, enabling sales to match market requirements. Together, the terminals handle in excess of 4 million tonnes of bulk sugar exports every year.

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About ASMC

Established in 1987, the Australian Sugar Milling Council represents Australia's raw sugar manufacturers and exporters. Our aim is to be a leading voice for change to create opportunities for a more profitable and sustainable sugar industry.

KEY FOCUS AREAS



Trade
policy



Social
licence



Advocacy



Revitalisation



Research
strategy