



# NAWMA MAXIMISES GLASS RECOVERY

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**In 2020, the NAWMA Material Recovery Facility (MRF) was expanded to include a new glass recovery plant. The plant recovers approximately 10,000 – 11,000 tonnes of glass fines per annum that would otherwise be sent to landfill. The recovery of glass fines also helps to reduce the need for natural resources and raw materials from the environment.**

Some glass bottles are broken in collection trucks and at the MRF. The MRF sorters use special protective gloves so they are unable to pick up small pieces of glass. NAWMA has come up with an innovative way to recover this material. A series of conveyors, screens, magnets and air classifiers capture pieces of glass less than the size of a tennis ball. These are sent to downstream processors who can then use the material to recycle back into glass and as a sand substitute in roads and footpaths.





# NAWMA MINIMISES GLASS WASTE

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# POWERING THE MRF

**The NAWMA Material Recovery Facility (MRF) processes around 53,000 tonnes of household recyclables collected from the kerbside each year.** This is a large operation requiring 50 staff to work 18 hours over two shifts/day. A lot of specialised equipment is also used. To offset some of the electricity use and associated greenhouse gas emissions, we have installed a 100kW Solarcare solar system on the MRF roof which is combined with a 250kVAR power factor correction system (to enhance and improve the efficiency of the motorised equipment).

Our aim is to generate more than 140,000 kWh of electricity and reduce our carbon footprint by around 73 tonnes of CO<sub>2</sub>e each year. We're also looking forward to the ongoing financial savings – predicted to be approximately \$1.9 million over the next twenty-five years.

## Environmental benefits of installation after first three months



**CO<sub>2</sub> Emission Saved**  
15,902.61 kg



**Equivalent Trees Planted**  
53.14





# INNOVATIVE BALEFILL MANAGEMENT

**Each year around 86,000 tonnes of household and commercial waste is baled at NAWMA's Edinburgh North Waste Processing Facility. The bales, which each weigh around 1.5 tonnes, are then transported to the Uleybury Balefill and Renewable Energy Park, also owned and operated by NAWMA.**

In 2019 this best-practice balefill operation was awarded a national excellence award for its innovation and adherence to protecting the surrounding environment. For at least 30 years after closure of the site, NAWMA will continue to monitor and/or manage:

- Landfill gas
- Surface water
- Leachate
- Ground water
- Revegetated areas

In an Australia-first, a combined solar/landfill gas renewable energy facility has also been developed at the site. Operational since October 2017, the facility pumps more than 11,000 MWh/year into the local power grid – enough to supply the power needs of around 1,900 homes.



**11,000 MWh/year**  
to local power grid

**Powers**  
1,900 homes





# MAX-AI AQC TECHNOLOGY HEADING OUR WAY

**In February 2019, NAWMA secured \$1.5 million through Green Industries SA's Infrastructure Investment grants to implement a series of exciting new projects. One of these is the purchase of a paper and plastic detecting Max-Ai AQC (Autonomous Quality Control) robot.**

Using artificially intelligent robotic sorting will help NAWMA identify and recover more recyclables on the MRF sort lines. Importantly, the robot won't replace any MRF staff, it will work

alongside them, enhancing the recovery of reusable material in readiness for secondary reprocessing. The robot is scheduled to be operational in February 2020.

Through deep learning technology, the Max-Ai<sup>®</sup> robot employs both multi-layered neural networks and a vision system to see and identify objects similarly to the way a person does. It has the capability to pick 60 units per minute.





# SOLAR AND POWER FACTOR CORRECTION SYSTEM ROOF INSTALLATION

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## ENVIRONMENTAL BENEFITS OF INSTALLATION AFTER FIRST THREE MONTHS



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