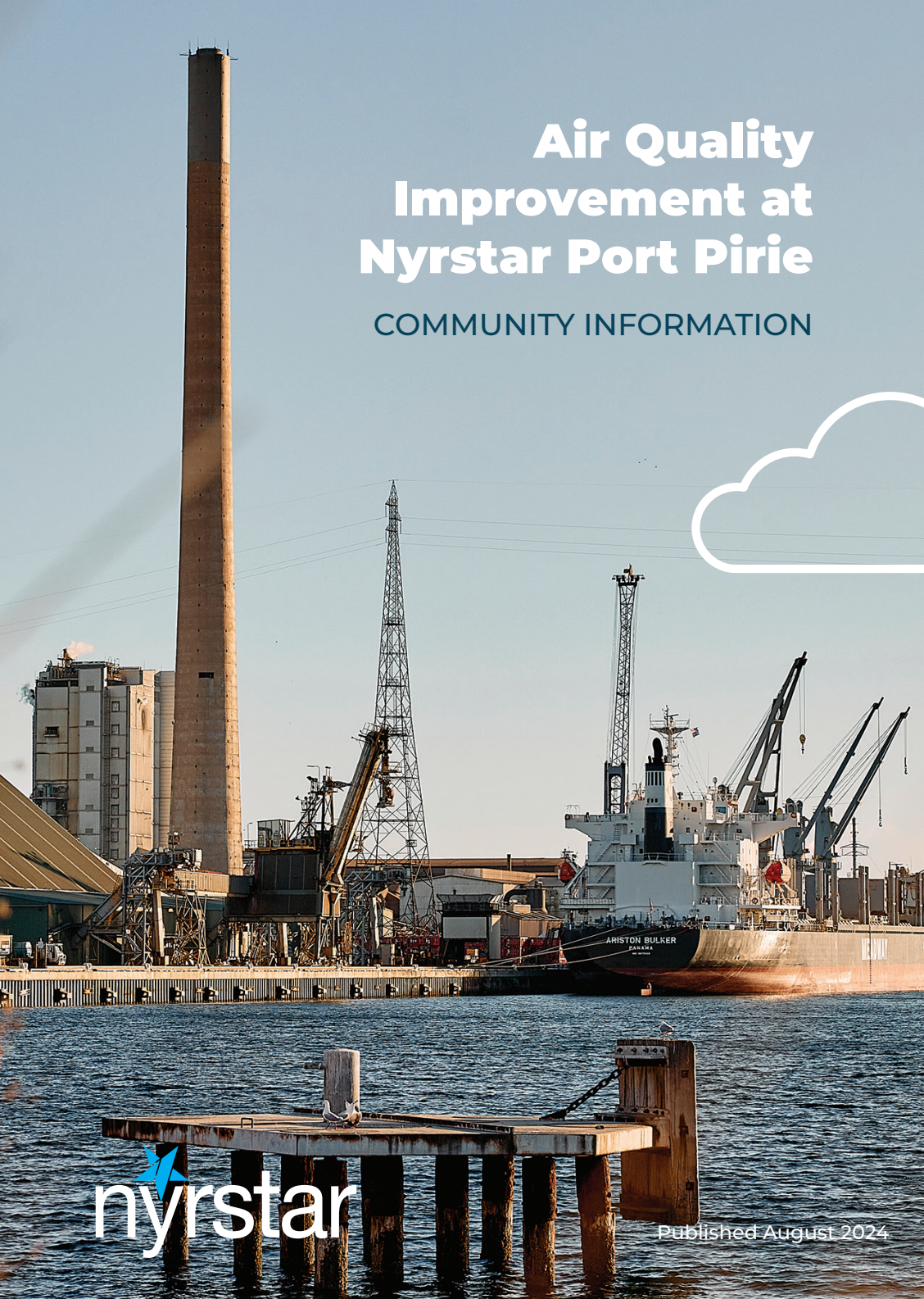
Air Quality Improvement at Nyrstar Port Pirie

COMMUNITY INFORMATION



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Our Story

Nyrstar is a global multi-metals processing company that produces and refines critical and strategic minerals and metals essential for everyday life around the world, and for a low carbon future.

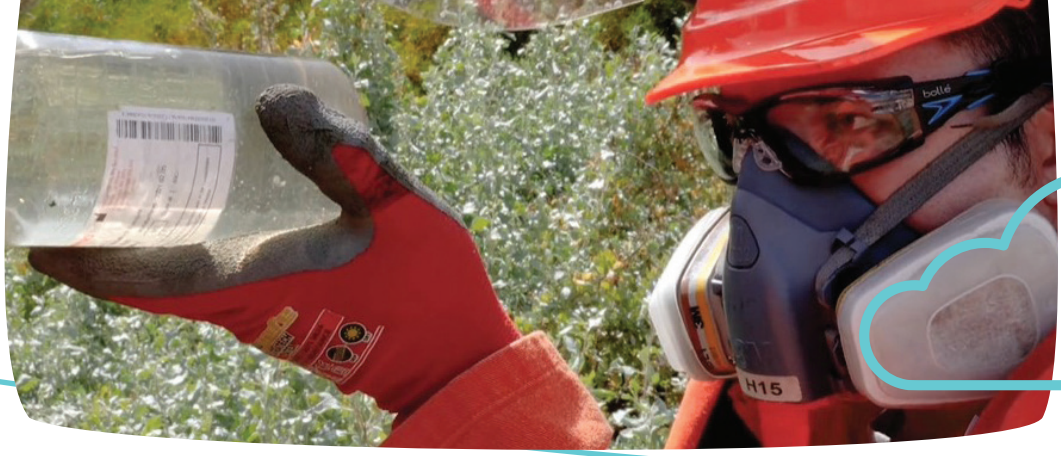
For 135 years, our Port Pirie site has employed generations of proud, hard-working people to create metals that go into important applications such as mobile phones, wind farms, batteries, hospital equipment and defence applications such as radar technology and night vision goggles.

To ensure we continue to extract greater value from Australia's minerals in the generations ahead, we are focussed on improving the performance of our business. One area of critical importance to us is improving air quality at our site.

Over recent years there have been improvements implemented that have lowered lead-in-air concentrations measured in the community, however there is further work ahead to sustain these improvements and further improve.

We are pleased to share this progress update on projects and initiatives aimed at bringing further improvements to air quality in the Port Pirie community.

We are licenced to operate by the South Australian Environment Protection Authority and we are pleased to share with you the progress of our Environment Improvement Program.



Our approach to improving air quality at Nyrstar Port Pirie

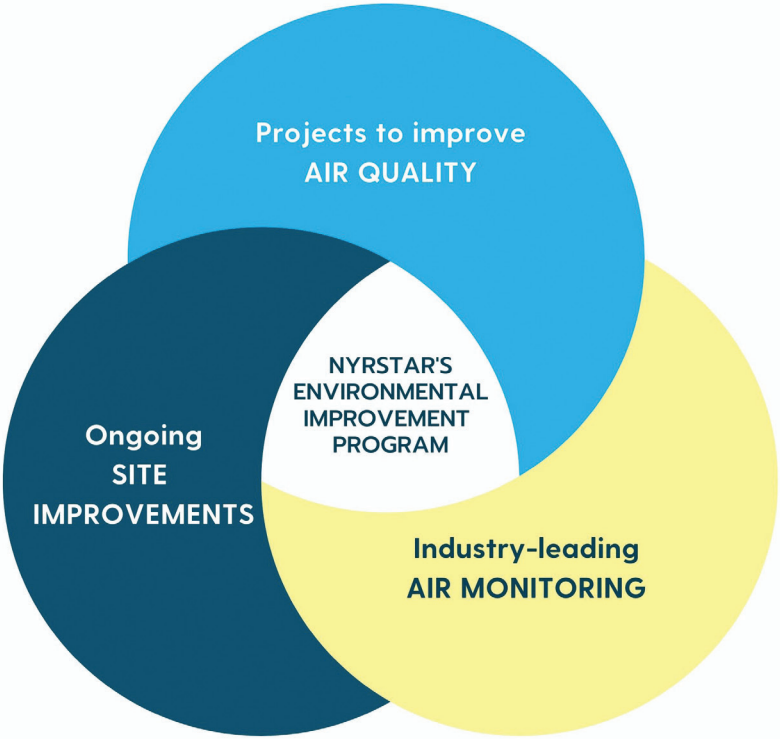


Photo top: Inspecting the filter from one of the site's air monitoring EBAM (Environmental Beta-Attenuation Mass Monitor) stations.

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Our Environmental Improvement Program Projects

The key focus of our Environmental Improvement Program is:

- ✓ Ensuring our on-site operations are sustainable for the long-term, and;
- ✓ Investing in projects that deliver improved air quality in the Port Pirie community (including lead-in-air and SO_2 levels) and improved effluent quality, groundwater management and waste management at our site.

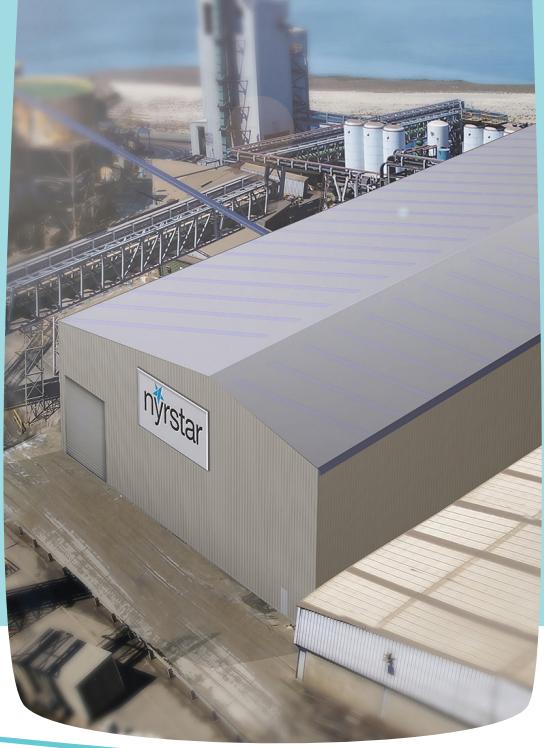
Photo below: Environment team employees checking air quality at the west/south/east EBAM station at the Nyrstar site.

PROJECT STATUS KEY

Completed | In Progress

PROJECT NAME	STATUS	PROJECT DETAILS
Product Recycling Facility		This facility is in the final stages of construction, and upon completion,will store and mix materials in our production processes in an enclosed setting under negative air pressure.
Upgrade Groundwater Monitoring and Management Program		Site-wide bore sampling is complete and will continue at regular intervals to determine baseline emissions and aid in identifying and prioritizing water quality enhancement initiatives.
Demolition of Redundant Plant and Equipment		Demolition works of the old power plant has been completed, with further works to continue in other areas in 2025.
By-pass Duct Repairs during Primary Smelter Shutdown		The bypass duct will be replaced with high corrosion-resistant duplex steel and equipped with a heating system to prevent weak acid formation.
Implementation of LiDAR Technology		Following a trial during 2023, Nyrstar purchased this technology for use on-site at its operations. Read more about the technology in the feature section in this booklet.
Updated TARP Protocols		TARPS updates were made to enhance response to cumulative emissions impacting lead-in-air within 24 hours.
New High-Capacity Water Cart and Fog Cannons		The new unit has been deployed and has the ability to more effectively suppress dust on road surfaces during dry conditions.
Four-day Environmental Shut – Slag Fumer		The shutdown focused on upgrading the fugitive/dust capture system by installing new bags and preparing for new mechanical shaker gear to reduce baghouse differential pressure and enhance gas flow.
Main Site Baghouse Repairs and Re-bagging of Several Chambers		Several chambers were re-bagged and internal repairs were completed to improve baghouse performance.
Renewal of Covers for PGP Stockpile		The covering of the PGP stockpiles is now complete. Ongoing inspections and maintenance are conducted to ensure optimal dust containment of PGP lead bearing material in the Pit.
Installation of Acid Plant Pre-Heater Replacement		A mechanically compromised pre-heater in our Acid Plant was causing SO_2 levels on-site and in the community to be elevated. Read about its replacement in a feature section in this booklet.

Photo: Nyrstar Environment team members, Reyad and Carolina at the site Dental Clinic TEOM Air Quality Dust Monitoring Station.



Product Recycling Facility Project

This important project is nearing completion and once operational, it will allow materials used in our production processes to be stored and mixed in an enclosed facility.

In addition, the facility will be located nearby to existing processing plants, which will significantly reduce the handling and transport of these materials in the open air, with the aim of lowering lead-in-air concentrations moving from site to the Port Pirie community.
The final stages of construction on this facility is currently being worked upon, with completion expected later in 2024. This project is co-funded with the South Australian Government. Included in the scope of works as part of this project were the relocation of essential site services, as well as demolition of redundant plant assets, including the site's original Powerplant which was responsible for the power supply to Port Pirie in the early 1900s!

Photos top: The project in construction phase, and concept drawing of the finished project.

Acid Plant Pre-Heater Replacement

Improving air quality at our site is about more than lowering lead-in-air concentrations, it extends to by-products involved in other parts of our processes, such as sulphur dioxide.

Sulphur Dioxide comes from our Acid Plant, which produces sulphuric acid that is of critical importance to Australian fertilizer manufacturing and mining.

In 2023, significant maintenance inspection was carried out on this plant to identify a mechanical issue causing this plant to not operate as designed and resulting in elevated SO_2 in the air.

A replacement Air Pre-Heater was sourced and shipped from Canada to Adelaide, and craned onto an oversized truck for delivery to our site by road. Quite the operation!

Once on-site, a maintenance shutdown was carried out in the Acid Plant, with its installation being a key piece of work.

Some quick numbers about this pre-heater, when considering its external insulation, are that it weighs 55,600 kilograms (nearly 56 tonnes) and stands 18.7 metres tall.

The replacement pre-heater has been operational for a few months now, and we are pleased to report improved performance.

Photo: The Acid Plant Pre-Heater coming onto the Nyrstar site.

Alkaline Battery Recycling Initiative

Two years ago, we became the first company in Australia to receive accreditation from the nation's Battery Stewardship Council to return the zinc and copper in used alkaline batteries to domestic and international commodity markets.

We are soon to reach a milestone of 1,000 tonnes of alkaline batteries processed at our operations, which equates to around 43 million batteries that we have stopped from potentially entering landfill.

Visit the Battery Stewardship Council's B-cycle website: https://bcycle.com.au/ for more information and battery recycling collection points local to you.

Photos Above: Batteries in the Blast Furnace process.

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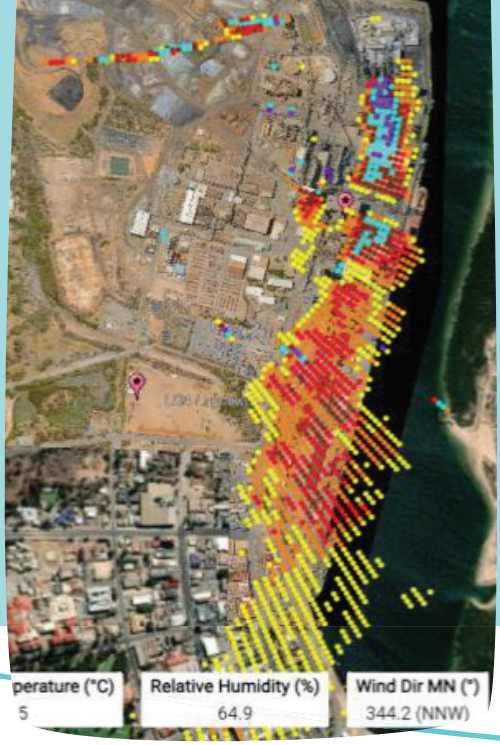


Light Detection & Ranging (LiDAR) Technology Trial

In 2023, we trialled the use of infrared technology to improve dust detection and measurement at our operations and its movement into the community.

This two-phase trial included a monitoring unit placed within the community, and then within our operations, to assess its compatibility with our existing environmental monitoring suite.

We were pleased with the results of the trial, and have since purchased the technology as a permanent fixture at our operations.

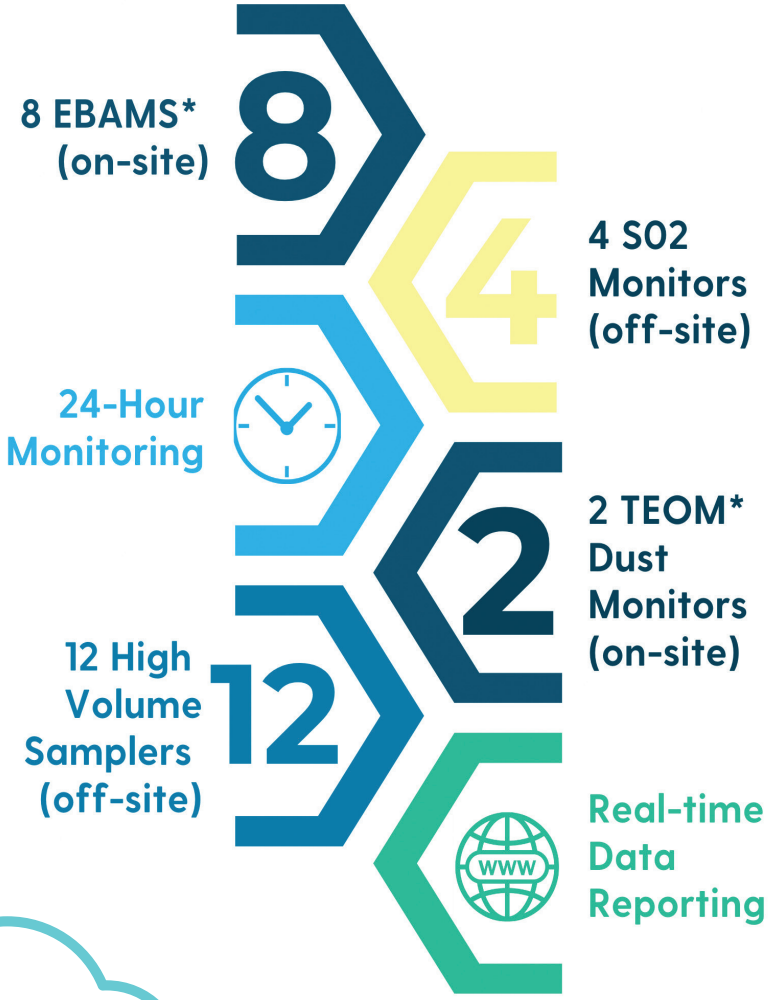
The device features a monitoring dashboard viewable by plant control rooms across our site, ensuring greater visibility of, and response time to adverse dust events should they occur.

Photo top left: LiDAR monitoring dashboard.
Photo top right: LiDAR equipment being set up at the back of the Nyrstar site.

Monitoring Air Quality in the Community

Nyrstar operates an online Environment Monitoring Portal that allows the Port Pirie community to track air quality in real-time.

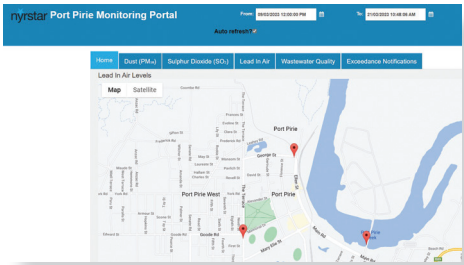
We have a variety of air quality monitors stationed out in the community to measure and monitor dust levels and wind direction and speed.



Real-time Data Monitoring

In-line with our EPA licence to operate, the Port Pirie community can track lead, SO_2 and dust levels in the air, in real-time, through Nyrstar's online monitoring portal.

The data for the four monitoring sites located in the community at Ellen Street, Port Pirie West, Oliver Street and the Boat Ramp can be accessed via **www.nyrstarportpirie.com.au** or directly via the QR code below.



* EBAM: Environmental Beta-Attenuation Mass Monitor
* TEOM: Tapered Element Oscillating Microbalance

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To provide feedback:

Community Phone Number: (08) 8638 1500

Email: PortPirie.Environment@nyrstar.com

Other key contacts:

TLAP: 0428 925 029 or email enquiry@tlap.com.au

Environmental Health Centre: (08) 8638 4100