



# Sustainable Development Report 2022

RioTinto | BELL BAY ALUMINIUM



## About Bell Bay Aluminium

The first aluminium smelter in the southern hemisphere began operation in 1955 at Bell Bay in northern Tasmania.

The beginnings of this important Tasmanian industry go back as early as 1927. The Minerals and Power Concessions syndicate of London selected Bell Bay

as the most suitable site in Australia to establish an aluminium factory, thanks to the anticipated availability of cheap hydro power and a nearby location for a deep-water port. However, it wasn't until 1945, with the formation of the Australian Aluminium Production Commission under the *Australian Aluminium*

*Industry Agreement Act 1944*, that the idea was placed on a firm footing.

The Bell Bay smelter, known as Bell Bay Aluminium, operates as part of Rio Tinto's Pacific Operations group and is a wholly owned subsidiary of Rio Tinto.

## Sustainable development

With a commitment to continuous improvement, Bell Bay Aluminium integrates sustainable development into all aspects of our business, which is reinforced by our policies on health, safety, environment, communities, diversity and inclusion, transparency and business integrity. We use a range of tools, procedures and

management systems to ensure our operations are appropriately managed to maximise our contribution to sustainable development.

Our Sustainable Development Report 2022 outlines key aspects of our business, people, health, safety, environment and community performance. The report

is produced to help the Tasmanian community understand more about our operations, impacts and key improvement initiatives during 2022.

The Sustainable Development Report 2022 is also available online at [www.bellbayaluminium.com.au](http://www.bellbayaluminium.com.au)





We work and meet here at Bell Bay in kinimathatakinta/George Town.  
We acknowledge palawa/Tasmanian Aboriginals as the original owners of lutrawita/Tasmania and recognise their continuing connection to land, sea, waterways, sky and culture. We pay respects to Elders past and present.

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## *Aluminium is essential for the global transition to a low-carbon economy, and we are excited about the contribution our smelter can make towards this transition and to northern Tasmania's future.*

There is no doubt that the past three years have been challenging: and 2022 has been one of our toughest. With the Tasmanian border opening in late 2021, the risk of COVID-19 spreading in the community presented significant impacts for our employees throughout the first six months of 2022. At the same time, we experienced stability issues within the smelting process, which created a perfect storm for workflow consistency. However, we have a skilled and motivated team who dug deep to work together throughout the year to recover our process and return our operation to stability.

In February 2022, we welcomed Rio Tinto CEO, Jakob Stausholm, on his first visit to Tasmania and to Bell Bay Aluminium. Jakob met with the then Tasmanian Premier, Peter Gutwein, on site to formalise the partnership between Rio Tinto, Bell Bay Aluminium and the Tasmanian Government. Together, we will work to help secure a strong and vibrant future for Bell Bay—a community we have been a part of for nearly 70 years.

Through the new partnership, we are actively working with the Tasmanian Government on a shared vision for the future: one that drives economic, employment and environmental outcomes for George Town, the Tamar Valley region and Tasmania.

It would be remiss of us not to mention our partnership with the George Town Council and the Australian Government to establish the George Town Mountain Bike Trail network. Even Jakob, who rides a bike where he can, joined employees on the Mount George trails, which opened in October 2021. The Tippogoree Hills trail network and Lauriston Park trail head opened to the public in late October.

We are thrilled about the development of the trail network and what it can do for the region. Mountain biking is growing in popularity both as a pastime enjoyed by locals and our employees, and as a reason for tourists to visit George Town as a holiday destination. By facilitating access to land owned by the

smelter for more than half the trail network, we are investing in our local community to improve the liveability of the region and attract more visitation. This will create local jobs, as well as help to grow the local George Town and Tamar Valley economies. This is a great example of where an industry like ours and tourism can work hand-in-hand.

On 24 January 2022, Peter Zoon achieved 50 years of service—our first employee to reach this milestone. What an achievement: Peter started at the smelter on 24 January 1972 as a young apprentice and retired from his career as a seasoned and well-respected leader who excelled in maintenance. With true dedication and passion, Peter made a significant impact on so many people over his 50-year career. Peter was a valued and integral part of our Asset Management team, and we thank Peter for the substantial contribution he made to Bell Bay Aluminium and Rio Tinto.

We said goodbye to many of our long-serving employees who well-deservedly chose to retire in 2022. We would like to acknowledge these amazing people with a special thanks for their contribution over many years. We trust we have remembered everyone: Peter Zoon, Kelvin Morrison, Graham Wright, Peter Tuthill, Michael Dodge, Tony Von Stieglitz, Tony Coogan, David Hammersley, Peter Rainbow, Raymond Jones, George Moolenschot, Chris Murray, Andrew Jones, Shane Coleman, Raymond Ashendown and Peter Morley.

In late 2022, we announced Richard Curtis as General Manager. Richard joins us from Tasmania's Liberty Bell Bay smelter where he held the role of General Manager. Richard has more than 30 years' experience across smelting, mining and heavy industry in Tasmania and Australia, and has established himself as a well-regarded business leader within the state.

Richard's appointment followed the departure of our previous General Manager, Shona Markham, who left in February 2022 to head Rio Tinto's Weipa operations. Shona made an incredible impact on site, guiding the Bell Bay Aluminium team through what was a challenging time for many as we responded to the pandemic. Operationally, Shona always showed her commitment to building a safe and stable operation, with an unwavering commitment to people at its core. Shona passionately advocated for—and achieved—new investment for our operation and built strong relationships with key community, industry and government stakeholders, which together signify the important role Bell Bay Aluminium plays in the state.

From March to December 2022, Mark Gerrard acted in the role of General Manager. We would like to thank Mark for his leadership and commitment to Bell Bay Aluminium

in this role, particularly in leading our team through periods of significant process instability and navigating the challenges of COVID-19.

We are confident in our long-term strategy for continuing our business for future generations. Aluminium is essential for the global transition to a low-carbon economy and we are excited about the contribution our smelter can make towards this transition and to northern Tasmania's future.

### **Bell Bay Aluminium Management Team**

**Richard Curtis**  
**Ian Coad**  
**Cailey Thompson**  
**Nathan Harrower**  
**Nathan Phillips**  
**Leigh Darcy**  
**Lou Clark**  
**Mark Warren**  
**Josephine Duke**  
**Diana Vargas**  
**Marianne Hoareau**







## Business performance

The majority of metal produced at Bell Bay Aluminium is cast to customer requirements to be used in the transport, construction, packaging and electrical industries. In 2022, we produced 183,994 tonnes of aluminium and exported more than 85% to international markets.





## 2022 performance indicators

Saleable metal produced <b>183,994 tonnes</b>	* Government taxes and charges paid <b>\$6.65 million</b>
Hot metal production <b>184,890 tonnes</b>	Goods and services purchased from National suppliers <b>\$36.7 million</b>
Capital investment <b>\$41.72 million</b>	Goods and services purchased from Tasmanian suppliers <b>\$203 million</b>
Total salaries paid <b>\$67.71 million</b>	Number of Tasmanian suppliers <b>302</b>

\* Includes payroll tax, FBT rates and land tax.





Jakob Stausholm and Peter Gutwein

## Tasmania and Rio Tinto partner for sustainable future at Bell Bay

In February 2022, the Tasmanian Government, Bell Bay Aluminium and Rio Tinto signed a new partnership committing to working together to ensure a strong and sustainable future economy for George Town, the Tamar Valley region and Tasmania.

The partnership, formalised in a Memorandum of Understanding, aims to drive economic

growth and job opportunities in the state and support the Tasmanian Government's target of doubling renewable electricity generation by 2040.

We jointly agreed to investigate how Bell Bay Aluminium's manufacturing capability and electricity demand can help develop new industries and increase renewable energy supply in the region. Rio Tinto also committed

to explore how it could further decarbonise Bell Bay Aluminium and secure our competitiveness through future investment.

The Memorandum of Understanding was signed at Bell Bay by the then Tasmanian Premier, Peter Gutwein, and Rio Tinto CEO, Jakob Stausholm. The smelter has been an important part of the George Town community and the Tasmanian economy for nearly 70 years and wants to see a positive and sustainable future beyond 2025 for its employees, contractors and supplier partners.



## Best paper awarded for Next Generation

In 2022, Bell Bay Aluminium presented a paper on our Next Generation furnace project at the International Committee for Study of Bauxite, Alumina & Aluminium conference. The project involves implementing a new refractory design (known as Next Generation) for our carbon baking furnace.

Historically during the carbon bake furnace rebuilding process, existing insulation has had remedial repairs. Over the past 30+ years, these repairs have become labour-intensive and costs have increased. The Carbon Bake Furnace Rebuild team developed a product and method to replace the tub wall insulation during sectional replacements that can be installed during Next Generation conversions.

At the conference, many questions were asked by the audience after the presentation. The paper received the Best Paper Award in the Carbon field.

This award recognises the innovation and courage shown by the team for the deployment of this technology, with the support of our Brisbane head office and Rio Tinto's Research and Development Centre in Voreppe, France.



## Vigie project set to improve stability in potlines

Bell Bay Aluminium was the first Rio Tinto smelter in Pacific Operations to introduce a new process monitoring tool called 'Vigie' to monitor our three potlines. Vigie helps to automate the monitoring process, which enables rapid detection and resolution of process variations, and to automate event detection by leveraging advanced data and analytics.

Smartphones were provided to process controllers in potlines, to connect site-based teams with Bell Bay Aluminium's Support team, based in the Brisbane operations centre. The Support team provides 24/7 monitoring and technical support, and works closely with site-based potlines teams to facilitate best-practice sharing between sites and standardisation, where appropriate.

This partnership has seen great collaboration to troubleshoot and plan work, and has established a central and digital data history for the smelter's cells: a big step towards reducing tap outs, improving pot life and operational stability.

This is a huge milestone for Bell Bay Aluminium. We are proud to be leading the way in this deployment in Pacific Operations.



A full-page photograph of a male worker in profile, facing left. He is wearing a yellow safety suit with reflective stripes, a yellow hard hat with a headlamp, and safety glasses. His name tag on the suit reads "BELL BAY ALUMINIUM" and "Jab Chilcott". He is working on a control panel with various switches and a digital display showing "77.4". A teal wavy graphic separates the top and bottom sections of the page.

## People

In 2022, Bell Bay Aluminium employed 499 talented people and engaged 34 full-time equivalent contractors on site. Recognising that our employees are key to our future success, we have increased our focus on diversity and inclusion.





## 2022 performance indicators

Number of employees (FTE)* <b>499</b>	Total apprentices* <b>13</b>
Percentage of female employees* <b>18%</b>	Total contractors (FTE)** <b>34</b>
New graduates* <b>5</b>	Staff turnover*** <b>11.39%</b>

\*As at end of 2022

\*\*Contractors who reported as full-time equivalent on any given day, as at end of 2022

\*\*\*Rolling 12-month turnover rate



## Ant Reeve becomes our first RioExpert

Ant Reeve, Carbon Specialist in Contractor Management, became Bell Bay Aluminium's first RioExpert. Ant has been recognised for his work with our Carbon Bake Furnace Rebuild team and is now regarded across Rio Tinto globally as an expert in this field.

RioExperts are technical specialists who have been recognised as experts through the RioExcel programme. The title recognises employee's knowledge, skills and contributions, while guiding and creating career development opportunities. RioExperts are industry leaders selected by an independent panel of experts and senior leaders, and play key roles in sharing their technical expertise to solve challenges and innovate for the future.





## A bright future for our apprentices and graduates

*Mark Gerrard, Marianne Hoareau, John Nesbit, Jake Chilcott, Luke Fonseca, Dylan Zeeman, and Teresa Lemaire*



In March, Bell Bay Aluminium celebrated our recently graduated trade apprentices, Beau Tuthill and Bradley Duck, and our Graduate Program graduates, Siebe van Oorschot, Yash Naik and Zixuan Wang. Our 2021 Apprentice of the Year was awarded to Bradley Duck. We look forward to supporting Beau, Brad, Siebe, Yash and Zixuan in their careers.

Our apprentices were also recognised at the George Town Chamber of Commerce 2022 Business Excellence Awards, which recognise the amazing diversity of business within the George Town municipality. A huge congratulations to Dylan Zeeman and Jake Chilcott, who were named joint winners of the Apprentice/Trainee of the Year Award.

In 2022, we also welcomed our first school-based apprentices to the team, who join us on site once a week while continuing to complete their senior secondary education.

## Finalists at the Tasmanian Women in Resources & Manufacturing Awards

Process Operator and Relief Crew Leader, Erin O'Connor, and Process Operator, Jayna Aitken, were recognised as finalists for Outstanding Tradeswoman/Operator/Technician in the 2022 Tasmanian Minerals, Manufacturing & Energy Council's Women in Resources & Manufacturing Awards.

Erin joined Bell Bay Aluminium in 2020 and after only 12 months was promoted to Relief Crew Leader. Erin brings a personalised approach to her leadership style with a positive outlook.

Jayna joined Bell Bay Aluminium in 2019 at the age of 19 and has relished in the opportunities to develop new skills and establish her career path. A Relief Crew Leader for over 12 months, Jayna has learnt that you need a mix of qualities to be a leader. At the Launceston awards presentation ceremony in May, Jayna received a high commendation in her category.

Potlines Superintendent, Josh Clark, was named a finalist for the Inclusion and Diversity Champion Award—and went on to win. This award recognises an individual of any sex or gender identity for excellence

in the encouragement, promotion and advocacy for the attraction, retention, inclusion and promotion of women within their company and/or the Australian resources sector.

Joining Bell Bay Aluminium six years ago, Josh recognised the opportunity to lead change and create equity in the workplace. He has been a strong advocate for females in leadership positions, ongoing development opportunities, and has advocated for improved maternity support for employees. Following his award win, Josh represented Tasmania at the National Awards in Canberra.



*Josh Clark, Jayna Aitken, and Erin O'Connor*





## Zixuan Wang presents at One Young World Summit

Bell Bay Aluminium's Business Improvement Specialist, Zixuan Wang, was selected in the team representing Rio Tinto at the 2022 One Young World Summit in Manchester. As part of Rio Tinto's Graduate Program, graduates are placed in small teams to develop an innovation pitch. The top four graduate teams pitch their idea to Rio Tinto Executive Committee members, with the winning team selected to go to the summit.

The One Young World Summit hosts over 2,000 of the brightest young leaders from all countries and sectors who are working to accelerate social impact. Zixuan was teamed up with Nat O'Neill, Process Control Engineer (New Zealand Aluminium Smelter) and Buyankhishig Munkhbaatar, Electrical Engineer (Oyu Tolgoi, Mongolia) and delivered a workshop at the summit on affordable and clean energy focusing on decarbonisation. Their pitch, called 'Lightning in a bottle', focused on harnessing the static electricity found in storm clouds.





Mark Gerrard and Josh Ashdown

## Celebrating employees’ milestone service

In November, we hosted our annual service awards celebration at the Tailrace Centre in Launceston. Acting General Manager, Mark Gerrard welcomed more than 200 people to the event. Current employees receiving service milestone recognition were joined by past employees who had achieved 25+ years of service.

10 Years	15 Years	20 Years	25 Years	
Luke Sawford	Daniel Van Der Vlist	Jerome O'Connor	Robert Taylor	Josh Ashdown
Hewitt Scott	Amanda Zeeman	Greg Calvert	Christopher Down	
Lisa Locke	Phillip Groening	Maxine Woods	David Woodfield	
Adian Stevens	Shayne Clark	Alana Phegan	Craig Burrows	
Leigh James	Gary Andjelkovic	Freeman Belinda	Michael Pitsch	
Jason Walsh	Jason Sherrin	Shuker Simon	Michael Bishop	
Joe Donohue	Carla Sternek		Mark Gerrard	
Aileen Chuo	Johnny Thomson			
Nikita Morley	Rodney Porter			
Sam Lethborg	Andrew Kendall			
Nathan Harrower	Sowden Adam			
Michael Lawrence	Neil Coverdale			
30 Years	35 Years	40 Years	45 Years	50 Years
Michael Suitor	Jeff Weeding	Tony Von Stieglitz	Geoff Baker	Peter Zoon (retired Jan)
Greg Owers	Craig Booth	Tony Coogan		
Ben Buckney	Stephen Broad	Michael Dodge (retired Feb)		
Julian Ludbey	Andrew Jones	Phillip Richardson		
Eric Collins	David Spinks	Peter Tuthill (retired Jan)		
	Darren Brown	Graham Wright		
	David Marshall	Gary Joslin		
	Andrew Joslin	Lyndon Warren		
	Ian Coad	Peter Millar		
	Warren Seen	Robert Wells		
		John Collins		





## A fond farewell after 50 years

On 24 January 2022, Peter Zoon achieved 50 years of service—our first employee to reach this milestone—before celebrating his retirement. Times have certainly changed since Peter started at the smelter as an apprentice in January 1972, a time when houses sold on average for \$27k and the average wage was \$11k. Peter started as a young apprentice and retired a seasoned and well-respected leader in his field.

We were delighted to host Peter and his wife Maureen in May to celebrate and acknowledge Peter's significant contribution over the past 50 years, and to wish him a happy and well-earned retirement.







## Leading the way with inclusion and diversity

In 2022, Bell Bay Aluminium established our Inclusion and Diversity Roadmap, designed to capture and showcase the various initiatives that ensure Bell Bay Aluminium is a workplace where:

- People can be their true selves at work and have a sense of belonging within our team
- We empower our team with opportunities to learn and grow with useful and trusted information on inclusion, equity and diversity
- We have teams that are representative of the community in which we live.

The program consists of four key components:

1. Engage and design: Focusing on initiatives that bring people together to build solutions and enhance collaboration, to promote diversity in thought during design phases
2. Equity in our processes: Ensuring we have the systems and symbols to help embed equity and diversity in our everyday activities
3. Build awareness and capability: Providing education to ensure all team members and leaders come along on the journey while providing clarity on behavioural expectations

4. Implement initiatives: Undertaking key activities that support practically advancing equity, inclusion and diversity at ground level.

Not only does the roadmap capture initiatives that enhance the experience for current employees, it also considers how we attract and onboard potential employees and guides the interactions we have with our community partners.

The roadmap illustrates our progress and supports storytelling of where we've come from, while holding us to account on continuous improvement. It also provides a platform for others to contribute, share feedback and express their own thoughts and ideas.



## Cultural awareness training makes 'life changing' impact

As one of our Diversity and Inclusion Roadmap initiatives in 2022, we hosted cultural awareness training for our organisational leaders and partnered with the George Town Council to host community workshops. The sessions were facilitated by the Tasmanian Aboriginal Centre.

Feedback received from both Bell Bay Aluminium leaders and community members was extremely positive, with one community member reporting that it was 'life changing.'





## Health & safety

Our highest priority is the health and safety of our employees, contractors, suppliers and visitors to our site. Improving our safety performance is a constant focus to ensure everyone goes home safely to their family after each shift.





# 2022 performance indicators

Number of recordable injuries  
(work-related injuries to  
employees or contractors)\*

2

All injury frequency rate

0.33

\*1 x broken arm  
1 x foot injury

## What is an all injury frequency rate?

The all injury frequency rate (AIFR) converts the number of recordable injuries into a number that enables comparison of our safety performance against previous years, as well as with other Rio Tinto operations around the world.

Rio Tinto defines a recordable injury as any work-related injury that either:

- Needs treatment by a doctor, over and above general first aid
- Prevents a person from performing all the duties of their role on their next given shift, or
- Prevents a person from returning to site on their next rostered shift.





## Hosting Tasmanian Minerals Emergency Response Competition

The 34th annual Tasmanian Minerals Emergency Response Competition (TMERC) was held at Bell Bay Aluminium on 22 October 2022. Emergency Response teams from mine and smelter sites across the state competed in a range of events involving both theory and simulated emergency situations.

The event engages site-based Emergency Response teams in

friendly rivalry, allowing sites to test their skills, learn from industry experts and build a community in which to learn, share and support each other. The event includes team challenges in rope rescue, fire, search and rescue, first aid, skills and theory. This is the second time we have had the honour of hosting the competition, the last time being in 2016.

Each year, our Emergency Response team members nominate to be considered for our competition team, which is put together based on experience, passion and those who go above and beyond. With the competition providing a major learning opportunity, our team was excited to participate, improve on skills from last year and learn something new. Congratulations to

the Bell Bay Aluminium 2022 team:

- Geoff Skeggs – Team Manager
- Craig Burrows – Captain
- Kylie Sherriff – Vice-Captain
- Robert Leersen – Member
- Robert Taylor – Member
- Tim Jacobs – Member
- Ben Lette – Member
- Josh Van Arkel – Reserve

Each year, an additional TMERC team—known as the Mutual Aid team—is selected to compete, made up of team members from each competing site. The Mutual Aid team faces the additional challenge of working with strangers to achieve a safe outcome in the challenges. For the first time, the Mutual Aid team comprised of all women: Bell Bay Aluminium were

excited to have Kelindi Hanson and Kristy Wilkinson represent us.

Congratulations to the overall winner of the competition, the TMERC Mutual Aid Team. The Bell Bay Aluminium team were also strong competitors, winning the Surface Search and Rescue category and placing third overall.





## Health and hygiene performance 2022

We are committed to ensuring a safe and healthy work environment for our employees, contractors and visitors. Our on-site Occupational Health Centre provides a range of health and hygiene services—including health promotion, health surveillance and injury management, workplace monitoring and site support—to reduce worker exposure to process health hazards.

Throughout 2022, the Hygiene team continued to support employees across the site to understand sources of potentially hazardous exposures and to work with leaders to identify opportunities for improvement. In addition to routine monitoring programs, the Hygiene team built dashboards to make exposure data visible, enabling leaders to review exposures and identify tasks and areas for improvement.

In 2022, Bell Bay Aluminium recorded two lost time illness/injuries (LTIs) identified as a result of acute events causing musculoskeletal trauma while employees were undertaking normal tasks as part of their role.

Compliance to health surveillance focused on spirometry, audiometry, periodical medicals and personal protective equipment fits. This resulted in compliance of greater than 95% for the site. We conducted 544 spirometry and 440 audiometric individual assessments. Free on-site flu vaccinations and flu vaccination vouchers were provided to 170 employees.

Healthy Business Program returned after a two-year recess due to COVID-19, with 140 employees signed up to its HealthCI program, which provides health summary tracking, coaching and

personalised support. Healthy Business Program also supported our on-site Health team to deliver hydration education and injury management support to employees.

Our Peer Support program continued to evolve with the release of the Bell Bay Aluminium Peer Support App, which provides direct contact with Peer Support team members. Healthy Business Program also conducted psychosocial tool assessments that can identify and refer employees to appropriate services. In association with our Employee Assistance Program partner BSS, we trialled a face-to-face Employee Assistance Program on site for six weeks, which showed promising engagement and will be reviewed in 2023.

## Technology supports our HSESC transformation

We are proud of our safety culture: but we know there is opportunity to simplify and improve the way we work. The Health, Safety, Environment, Security and Communities (HSESC) transformation will help us to do this by giving us better access to trusted data, enabling informed decisions, and reducing risk and harm.

Bell Bay Aluminium has been one of four pilot sites across Rio Tinto to trial a newly designed and built technology, Enablon, to allow us to perform all our HSESC tasks in a single location. In March 2022, Bell Bay Aluminium was the first Rio Tinto site to go live with Enablon. Our team members have embraced the transformation needs and

have worked on getting the most out of the integrated system.

The Enablon App has also been a huge hit for operational team members. 'First and foremost, easy access. I've got it right here, ready to go in my pocket', says Bell Bay Aluminium Crew Leader, Chris Carr.







## Environment

Bell Bay Aluminium works according to environmental management practices designed to mitigate the emissions, waste and resource use of our operations. We are dedicated to protecting our natural resources and being responsible stewards of local and global environments.





2022 performance indicators		
	Target	Actual
Non-compliance with environmental permit conditions	0	3
Number of community complaints	0	2
Total reported greenhouse gas emissions (CO2-e/tAl)	3.78	4.57
Total on-site greenhouse gas emissions (tonnes CO2-e per tonne aluminium produced)	1.9	2.04
Scope 2 greenhouse gas emissions using default emissions factor for state electricity grid (tonnes Co2-e per tonne aluminium produced)	1.84	2.53
Direct greenhouse gas emissions by source:		
From process emissions		85%
From natural gas		7%
From other fuels and sources		8%
Total energy use (gigajoules)		13 856 990.81
Energy efficiency (gigajoules per tonne of aluminium produced)	74.56	75.37
Total fluoride emissions (kilograms of fluoride per tonne of aluminium produced)	0.84	1.09
Waste to landfill (tonnes per month)	13	28.6
Fresh water usage (kilolitres per tonne of aluminium produced)	0.74	0.85
Maintain accreditation to the Aluminium Stewardship Initiative to drive continuous improvement in environmental and social aspects of the aluminium production chain	Maintain accreditation	Maintained accreditation



## Greenhouse gas emissions

Bell Bay Aluminium's greenhouse gas emissions are calculated using an agreed methodology approved by the Intergovernmental Panel on Climate Change. The methodology calculates the tonnes of carbon dioxide equivalents (CO<sub>2</sub>-e) produced by the smelter from the consumption of fuels (diesel, natural gas and petrol) and carbon anodes, electrical energy use and the generation of perfluorocarbon gases. Bell Bay Aluminium has two measures of greenhouse gas emissions: 'on-site' and 'total'.

On-site emissions include sources that we have direct influence over, such as fuel use, rate of carbon consumption and perfluorocarbon gases generation. Total emissions include all on-site sources plus electrical energy use.

The site achieved an on-site greenhouse gas efficiency of 2.04tCO<sub>2</sub>-e/tAl in 2022, which was slightly higher than in 2021 (1.95tCO<sub>2</sub>-e/tAl). This result was largely attributed to process excursions in February to April, which drove higher perfluorocarbon gases emissions as a result of increased anode effects in potrooms. In addition, Net Carbon Ratio fluctuated throughout the year due to higher cell start-ups and anode consumption at various times.

Bell Bay Aluminium achieved a total greenhouse gas efficiency of 4.57tCO<sub>2</sub>-e/tAl in 2022, compared with 4.43tCO<sub>2</sub>-e/tAl in 2021. This is attributed to a slight increase in the emission factor of Bell Bay Aluminium's electricity consumption in the greenhouse gas calculation methodology. There was no major change to electricity consumption throughout 2022.

## Fluoride emissions

Our reported total fluoride emission efficiency in 2022 was 1.09 kgF/tAl, which is above our internal target of 0.83kgF/tAl but lower than the Environmental Protection Notice limit (1.2). The result was impacted by reduction lines process instability and cell sealing standards.

## Noise emission monitoring

We engaged a consultant to conduct noise emission monitoring, in compliance with EPN 7047/2 clause N2, with the noise monitoring survey completed in November 2022. The same nine noise measurement locations previously used in the Bell Bay area and its surrounds were chosen to be measured for environmental noise. Monitoring results were found to be consistent with the previous annual measurements.

## Energy

In 2022, Bell Bay Aluminium's total energy efficiency was 75.37 GJ/tAl, which was higher than the result from 2021 (73.79 GJ/tAl).

## Water

Bell Bay Aluminium consumed 171,150 kL of water in 2022, an efficiency of 0.85 kL/tAl, which was slightly higher than 2021 (0.84 kL/tAl). The increase in water use can be attributed to the flushing of cooling tanks and ponds, and process issues.

## Waste strategy

Bell Bay Aluminium continues to manage its waste in a manner that avoids, as much as practicable, disposal of waste to landfill.

The strategy aims to reduce generation and take advantage of reuse, recycling and energy recovery opportunities.

## Landfill waste

A total of 343 tonnes of general waste was sent to landfill during 2022, which was far greater than the 165 tonnes of waste sent to landfill in 2021. Following the departure of a tenant from a facility on land owned by the smelter, Bell Bay Aluminium took responsibility for the clean-up of 565 tonnes of waste which was left on site. This was a major contributor to our increased waste to landfill in 2022.

## Recycled waste

We continued our extensive waste recycling program during 2022 for non-hazardous waste items including cardboard, paper, commingled waste and scrap metal.

Throughout 2022, Bell Bay Aluminium continued to progress several initiatives and studies to further progress with waste stockpile disposal pathways.

## Spent Cell Lining

Bell Bay Aluminium continued the long-standing solution to manage ongoing spent cell lining generation by crushing it on site and transporting it to the Cement Australia kiln in Railton to be used as an alternative fuel.

## Magnetically Separated Bath

Magnetic separated bath is anode cover material (alumina and bath) with high iron levels produced from the Bath Plant. The iron needs to be removed from the bath stream to ensure that metal quality requirements are met. We recognise that this material contains valuable materials, in particular the cryolite and alumina contained within, therefore, we continue to investigate avenues to have this material reused or sold to a third-party company.

## Non-conformances and action management

During 2022, Bell Bay Aluminium recorded three notifiable events under condition A3 clause 1.2 of its Environment Protection Notice EPN 7047/2.

Two incidents involved ammonia concentration exceedances at the authorised release point into the Tamar River mixing zone.

Key actions that were identified to prevent reoccurrence include:

- Installing a failure alarm on encapsulation pumps
- Developing and implementing a surface water management procedure that details sampling requirements, actions for water movement and release conditions
- Developing and implementing a strategy to sample all compliance analytes pre water treatment, post water treatment and post settlement.

The third incident was identified in December 2022 that the ambient SO<sub>2</sub> data logger was not functioning correctly and no data had been recorded since the device was returned to service in June 2022. Since the return to service date, monthly maintenance and data download was not conducted according to procedure. Following the initial notification to the Environment Protection Authority, Bell Bay Aluminium employees retrieved data direct from the SO<sub>2</sub> monitor. All data has been recovered from the device and will be used for reporting requirements.

Key actions that were identified to prevent reoccurrence include:

- Reinstating the automated data feed between monitoring equipment and control system
- Implementing automated alarms and health checks for monitoring data and compliance triggers
- Implementing a prioritisation system for scheduled laboratory works to ensure compliance activities are completed when required
- Revising system support from the original equipment manufacturer and confirming if the current solution is fit for purpose or if a replacement pathway is required
- Confirming ownership of all monitoring equipment currently installed to meet permit conditions.

Bell Bay Aluminium received two community complaints in 2022. At the start of April 2022, a complaint was received from a neighbouring business that alumina dust had settled on multiple vehicles parked at their workshop. Towards the end of April 2022, this same business informed us a repeat incident had occurred. In response to the complaints, we installed a dust monitor at a location between the neighbouring business and Bell Bay Aluminium to determine the source of the dust emissions. Further investigations and studies are currently underway to identify the best pathway to minimise dust generation during the ship unloading process. The proposed pathway once identified will receive significant capital investment into our assets.

## The journey towards decarbonisation continues

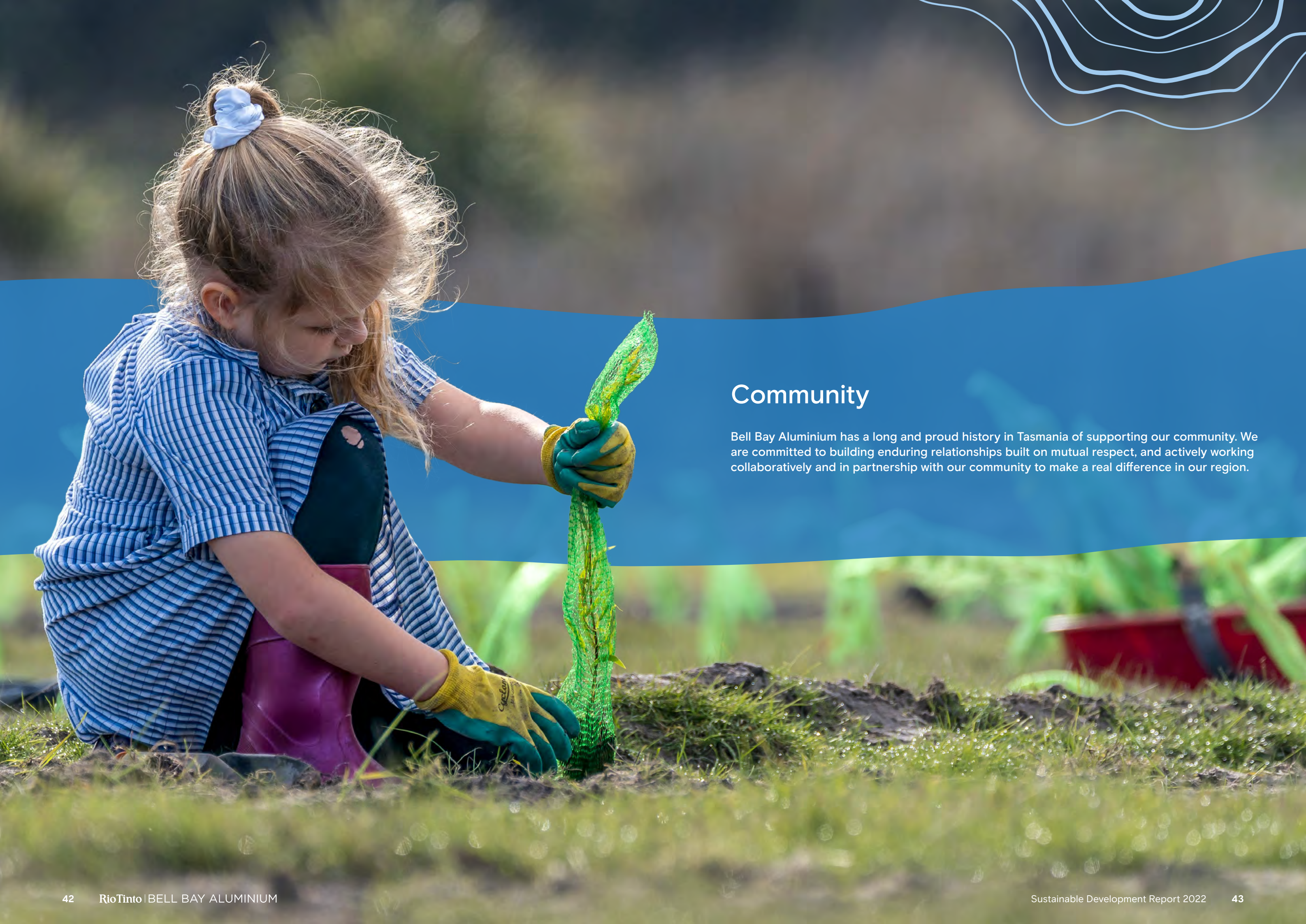
Bell Bay Aluminium has its part to play in the journey towards Rio Tinto's climate commitment of reducing carbon dioxide emissions over time. In December 2022, we held a decarbonisation workshop to review Bell Bay Aluminium's current roadmap, set our targets through to 2050 net zero and identify actions to get us there. The workshop had representation from all departments, with support from the Climate Change team in our Brisbane head office..

To achieve the reduction in emissions, we have a phased plan leading to 2050, noting that some of these initiatives are subject to long-term power arrangements in Tasmania:

- Short term: For the next three years, we are focused on emissions-reducing projects including our fire control upgrade and refractory design changes in the carbon baking furnace, as well as implementing operating best practices to minimise anode effects, carbon and fuel consumption.
- Medium term: From 2025 to 2030, we will commence work towards transitioning to renewable fuels and electric vehicles.
- Long term: Post-2030, we plan to transition to inert anodes (Elysis) when commercially available, convert remaining fuels to renewable-like hydrogen and capture remaining carbon emissions through new technology.

Decarbonisation is a way of making our business better for all that work here and for our customers, who expect our products to be produced with a low carbon footprint.





## Community

Bell Bay Aluminium has a long and proud history in Tasmania of supporting our community. We are committed to building enduring relationships built on mutual respect, and actively working collaboratively and in partnership with our community to make a real difference in our region.





## New mountain bike trails opened

The George Town Mountain Bike Trail Network has captured the growing market of mountain bike trail enthusiasts both living in, and visiting, Tasmania. The network involves approximately 80 kilometres of trail, covering a broad range of experiences suited to the full range

of rider abilities. More than half of the total trail network is located on buffer land owned by the smelter.

In December 2022, a further 21 trails to complement the Mount George trails were opened at the lower Tippogoree Hills trails. This network

includes a trail head at Lauriston Park on the East Tamar Highway.

We continue to work closely with the George Town Council and other stakeholders on the evolution of the trail network and associated facilities.

## Bell Bay Advanced Manufacturing Zone Ltd supports local business

The Bell Bay Advanced Manufacturing Zone Ltd (BBAMZ) is an industry-based economic development group working in collaboration with the Tasmanian Government and community to support growth, investment and business diversification in George Town and the Tamar Valley region. The aim of BBAMZ is to lift the profile of the Bell Bay zone locally, nationally and internationally, as well as build a sense of community pride in the region.

Bell Bay Aluminium is a founding member of BBAMZ. Established in 2015 as an informal working group and currently in its second year of operation as a company, BBAMZ has grown into an organisation of 52 business members, employing eight staff in BBAMZ and the Northern Employment and Business Hub.

There are two very distinct arms of the BBAMZ business:

- Economic development: Heavily concentrating on hydrogen development for Tasmania at Bell Bay through a dedicated Hydrogen Cluster Manager, funded by the Tasmanian Government.
- Workforce development: Delivering jobs for local people through the Northern Employment and Business Hub by providing a place-based, personalised service to support local employers to diversify and identify the right staff for their business.

One of the primary reasons BBAMZ was established was to progress business diversification in the Bell Bay area. When BBAMZ was created, several existing small and medium were reliant on Bell Bay Aluminium or Liberty Bell Bay for 100% of their work.

In 2022, a survey of eight small and medium founding businesses demonstrated that reliance has been significantly reduced, with businesses at 65% or below. Combined full-time equivalent employee count in those businesses has also grown from 247.5 in 2018 to 348 in 2022. In 2021, these same eight businesses employed 27 apprentices and one trainee; in 2022, they employed 41 apprentices and four trainees.

These results demonstrate the strength and resilience of BBAMZ member businesses and what can be achieved when working collaboratively.

## George Town Future Impact Group delivers

Bell Bay Aluminium has been a member of the George Town Future Impact Group (GTFIG) since it was established in 2016.

The GTFIG works in partnership with community, local business and industry, and the George Town Council. Working together as a community through consultation and co-designed solutions, GTFIG's vision is to build a future where the municipality is a lively, viable community, desirable to live and work in, of which everyone is proud.

While hampered by the impact of COVID-19 restrictions in 2021 and 2022, GTFIG has commenced the delivery of several funded programs focused on education, training and employment opportunities, digital learning opportunities, youth leadership development and CBD revitalization.

Project managed by the GTFIG and supported by the Council, 'Make George Town Yours' is a CBD revitalisation project, to which Bell Bay Aluminium has contributed \$50,000. This project will see several CBD revitalization projects delivered in 2023, including parklets and street art.



## Shining a light on local job opportunities

Beacon Foundation and Bell Bay Aluminium have teamed up to inspire students and create a job-ready generation of Tasmanians. A new \$100,000 three-year partnership between the two organisations is set to help students in Years 9 to 12 become aware of opportunities for operational, trades, engineering, technical and leadership careers within the advanced manufacturing sector.

In 2022, students from Port Dalrymple School and Scottsdale High School visited the smelter

to participate in Beacon Growth Industry Preparation Programs, which included a site tour, conversations with Bell Bay Aluminium mentors, an overview of our operation and the industry, as well as practical job preparation. These same students also participated in a full day work-readiness 'Polish' program at their schools, with Bell Bay Aluminium mentors attending.

The sessions combine Beacon Foundation's professional facilitators with the experience

of Bell Bay Aluminium mentors to help young people understand what jobs are available in their community and how to find a job they enjoy and a career they will love. This partnership makes it easier for local students to access people in operational, trades and professional careers at Bell Bay Aluminium and ensures we play a role in preparing Tasmania's young people for the future.



## Supporting women in art

As a proud long-term supporter of the Women's Art Prize Tasmania, Bell Bay Aluminium was delighted to announce and present the 2022 \$3,000 Bell Bay Aluminium People's Choice Award to Gabbee Stolp for her work, Self Portrait as a Smooth Handfish, 2022.

Just as we recognise and celebrate the contributions and achievements of women in the Tasmanian resources sector, we also acknowledge the importance of Tasmanian women artists. We are honoured to contribute to the promotion of the talent, quality and diversity of women's creative practice through this highly respected and nationally recognised platform.



## Tree planting and story time for local students

In partnership with George Town Library, Bell Bay Aluminium combined its 2022 annual tree-planting day with National Simultaneous Storytime. This year's story, Family Tree, was shared with over 85 local students from Port Dalrymple, South George Town Primary and Star of the Sea Catholic College. The story

was read to students by Federal Member for Bass, Bridget Archer, Mayor of George Town, Greg Keiser, and Bell Bay Aluminium's Superintendent for Environment and Analytical, Brad Warner.

We taught our little helpers about the importance of tree planting and showed them how to plant the

trees. They were incredible, planting over 2,000 native trees in Bell Bay. Working with the Library, we were delighted to provide each child with a Family Tree book to take home. The Rotary Club of George Town did a great job of looking after the BBQ.







# A Sense of Place for primary school kids

In September 2022, we joined South George Town Primary at the opening of their project, 'A Sense of Place'. The project celebrates the school's vision of including the philosophies and practices of the palawa people

of lutrawitta (Tasmania) in the education of their students from Kindergarten to Year 6.

Key features include a Bush Tucker Garden with indigenous edible plants and significant artworks

displayed on the exterior of their gym, which were worked on by students. Through collaboration, sponsorship and partnership, we are delighted to be able to support this wonderful program in our local community.



# Racing for the F1 in Schools™ STEM challenge title

In October 2022, Bell Bay Aluminium hosted the Tasmanian Final of the F1 in Schools™ STEM challenge, which is managed in Australia by the Re-Engineering Australia Foundation and supported by the smelter. The challenge sees teams of students from Years 6 to 12 collaborating in and out of school time to design, manufacture and race miniature compressed air-powered F1 cars.

The racing was fast and the talent displayed by students in their project management, portfolio designs, engineering design and manufacturing, verbal presentations and project marketing was impressive. Using the same technology as real F1 teams and vehicle manufacturers, the cars are capable of speeds exceeding 80 kilometres per hour and can cover the track in less than 1.5 seconds.

Students hone their skills in areas such as leadership, team building, project management, public speaking, marketing and collaboration. This exciting program continues to provide Tasmanian students with a unique opportunity to build valuable skills in a supportive and safe environment.

The skills and knowledge learned through this program may lead to future ambitions for these students. It will help build their interest in STEM, build employability skills and career self-efficacy, and we are proud to have the opportunity to support those students involved.

Teams were assessed against set criteria by an independent and experienced panel of judges from Bell Bay Aluminium and TasNetworks. Winning teams will compete in the National Final in 2023. Tasmanian schools have a strong history of success in the program at a national and international level.



# An orchestral treat for George Town primary students

In September 2022, Bell Bay Aluminium celebrated its 10th year of partnership with the Tasmanian Symphony Orchestra (TSO). The partnership enables primary school students in George Town, who would not normally be able to, access live performances of the TSO.

A 15-piece mini TSO engaged with students from Port Dalrymple School, South George Town Primary School and Star of the Sea Catholic College. We were delighted to provide this amazing music and educational experience, which aimed to engage students and inspire continued participation in instrumental music programs as they progress through school.

Titled ‘Patsch It!’, the hour-long concerts featured upbeat classics specially selected to appeal to children—among them popular works by Rossini, Strauss and Mozart—together with songs specially written for school children and made available to schools online as part of the TSO’s education resources.

The audience didn’t just sit and listen to the music when the TSO came to town, they also took part: singing along and performing on-the-spot body percussion (‘patsch’ is a body-percussion word to describe patting your thighs with your hands). The 15-piece orchestra was conducted by

Gary Wain and included one of every orchestral instrument: violin, viola, cello, double bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, bass trombone, tuba and percussion.

The songs form part of the TSO’s online education resource, Uke Box, which means that the school children and their teachers learn the songs ahead of the concert and come fully prepped on the day. Bell Bay Aluminium’s support of the TSO provides transport to and from the concerts in George Town, as well as financial support for the TSO’s education resources.



# Grants awarded to benefit local communities



In 2022, Bell Bay Aluminium awarded \$36,940 in community grants to support a wide range of community projects and initiatives across Tasmania. Community groups and not-for-profit organisations were able to apply for up to \$3,000 under our annual grant program.

There were many worthy projects submitted for consideration, with over 50 applications received. Bell Bay Aluminium was delighted to be able to support 14 organisations with funding for projects and initiatives that represent the diverse needs of local communities across Tasmania.

Building connections makes communities stronger and happier. There’s no one better for this task than organisations made up of community members who understand and work with, and within, their communities. Grant applications were assessed by a panel of employees.

2022 Bell Bay Aluminium community grant recipients include:

- George Town Basketball Association – George Town Basketball unisex uniforms
- Toosey Community – Automated external defibrillator
- Port Dalrymple School – Drink bottles for Kindergarten to Year 6 students
- Devonport Little Athletics Centre – Upgrade of athletics equipment
- Newstead Athletics Inc – Track and field equipment
- Studentworks Launceston – Safety equipment and uniforms
- Tasmanian Junior Beekeepers Incorporated – Compostable toilet
- Jordan River Service Incorporated – Community Lunch Program
- Devonport Surf Life Saving Club Inc. – Motor for inflatable rescue boat
- RSPCA Tasmania – Safe Beds Program
- George Town Community Bowls Club Inc. – Shade structure
- The St Helens Neighbourhood House Association – St Helens Community Garden
- Kentish Regional Clinic Inc. – CORES suicide prevention training and self-care and mental wellbeing workshops
- Low Head Community Garden – Yarning circle



# Community support and investment

As well as buying locally where possible, Bell Bay Aluminium contributed to the Tasmanian community by providing financial and in-kind support for initiatives that demonstrate a strong commitment to sustainable development principles, including:

- Educational excellence, particularly in the fields of science, technology, engineering and maths
- Building community capacity
- Health and wellbeing
- Arts and cultural diversity.

**In 2022, we proudly supported:**

- George Town Mountain Bike Trail Network
- Tas Gravity Enduro Series in George Town
- Mountain bike skills sessions through Rideo
- Bell Bay Advanced Manufacturing Zone Ltd

- George Town Future Impact Group
- Tasmanian Minerals, Manufacturing & Energy Council Women in Resources & Manufacturing Awards and annual conference
- Beacon Foundation
- Governor’s Environmental Scholarship through the University of Tasmania Foundation
- Access scholarships through University of Tasmania
- Systems Engineering Prize through University of Tasmania School of Engineering
- F1 in Schools™ STEM challenge through Re-Engineering Australia
- Annual tree planting day at George Town with students from local schools and the Rotary Club of George Town
- National Simultaneous Storytime through the George Town Library

- The kanamaluka Aboriginal Cultural Education and Experience Trail through George Town Council
- Co-hosting with George Town Council community cultural awareness training run by the Tasmanian Aboriginal Centre
- Tasmanian Symphony Orchestra
- Women’s Art Prize Tasmania
- Port Dalrymple School Breakfast Club
- South George Town Primary School A Sense of Place project
- Drink bottles donation to Ravenswood Heights Primary School
- Drink bottles donation to Port Dalrymple Primary School
- Kings Meadows High Career on Wheels Expo

- End of year school prizes for Star of the Sea Catholic School, St Finn Barr’s Catholic School, Invermay Primary School, South George Town Primary School, Port Dalrymple School, Lilydale District School, and East Tamar Primary School
- George Town Cricket Club
- Drink bottles donation to Trevallyn Cricket Club
- Tamar Discovery Day through NRM North
- George Town Basketball Association Inc
- Newstead Athletics Inc
- Devonport Surf Life Saving Club Inc
- RSPCA Tasmania
- George Town Bowls Club Inc

- St Helens Neighbourhood House Association
- Kentish Regional Clinic Inc
- Low Head Community Garden
- Launceston Students Workshop Inc
- Toosey Aged & Community Care
- Devonport Little Athletics Centre
- Tasmanian Junior Beekeepers Inc
- Jordan River Service Inc
- George Town Chamber of Commerce Business Excellence Awards
- Launceston Chamber of Commerce Business Awards
- Employee participation in health and wellbeing initiatives, such as Sally’s Ride and Launceston Aquatic membership.

With landholdings of approximately 2,000 hectares, Bell Bay Aluminium is a significant private landowner in the George Town Municipality. While less than 10% of the landholding is required for our operation, a large proportion of the landholding provides an environmental buffer zone.

The remainder of the land and associated facilities are used by a range of community groups under lease at a minimal rent, including:

- George Town Golf Club
- George Town & Districts Black Powder & Pistol Club
- Launceston Junior Motorcycle Club

Bell Bay Aluminium owned Lauriston Park is now home to the Tippgoree Hills trail head for the George Town Mountain Bike Trails and is maintained by the smelter as a recreational area for community use.





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