NorthStar
IMPACT FUNDS

2023 Impact Report

NorthStar
IMPACT FUNDS

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A message from our Founder

Dear investor,

Thank you for taking the time to read this report and for your support in helping us pioneer impact investing in listed equities. As we publish our 7th impact report, it's a great time to reflect not only on our growth, but on the growth of the impact investing sector in general.

While we remain the only Australian equities impact fund certified by the Responsible Investment Association of Australasia (RIAA), there has undoubtedly been growth in the popularity of impact investing.

In the 12 months to 30 June 2023, our funds under management (FUM) increased from $19.0 million to $78.2 million, enabling greater investment in positive impact companies. With more FUM, we are able to participate more in cornerstone processes for capital raisings, meaning that we can influence the size, pricing, and success of companies accessing growth equity. In addition, we have been able to become more meaningful shareholders with up to just under 5% ownership stakes, which can provide us with better access to management.

A highlight of FY23 was the announcement of NorthStar's appointment as a specialist external equities manager by UniSuper, a major Australian Superannuation Fund. We believe that this reflects greater interest from major asset owners to gain access to impact strategies.

We also increased our engagement on impact projects, looking to accelerate, scale and extend the positive impact of our portfolio companies. A key impact project for this year focused on the waste management sector, which we will continue to work on into 2024. We're constantly seeking opportunities to collaborate, activate and engage with our portfolio companies and investors.

There were more opportunities for the NorthStar team to present on the topic of impact investing over the year, including giving the keynote address at Bloomberg's Sustainable Finance Forum and participating in panel discussions at the Impact Investment Summit and RIAA's Annual Conference.

I am excited to share this report with you as it highlights the amazing achievements of our portfolio companies to deliver meaningful contribution to environmental and social challenges.

Yours truly,

Kerry Series
Founder and Chief Investment Officer
NorthStar Impact Funds

Kerry Series
FOUNDER AND
CHIEF INVESTMENT OFFICER
NorthStar Impact Funds

Introduction

As impact investors, we invest in companies where their core business contributes solutions to social and environmental problems, and we aim to help them accelerate, scale, and extend their positive impact. We believe there is an urgent need to shift capital to these companies and to support their missions. We also believe that for-profit companies play an important role in providing these solutions, that complements the role of Government, social enterprises, and philanthropy. Collaboration between these groups is key to achieving better outcomes for people and planet. Our impact report highlights the real-world positive impact that our portfolio companies have achieved.

Our Impact in 2023

At the end of the 2023 financial year, the NorthStar Impact Australian Equities Fund (the "Fund") was invested in 50 Australian companies and eight international companies. Over the year, we provided new capital to seven companies, namely Beamtree, Botanix, Cleanaway, Close The Loop, De Mem, Neoen, and The Environmental Group.

Of the 58 portfolio companies, 17 were focused on delivering environmental solutions, contributing to renewable energy development and generation, decarbonisation, and the development of a circular economy. There were 41 social impact companies, contributing to better outcomes across healthcare, housing, childcare, and education.

Assessing impact in our impact report

Impact measurement is key to impact investing as it provides the evidence that the impact thesis for the investment was sound and that positive outcomes are being achieved. It also enables us to communicate to investors the social and environmental returns that are being achieved with their capital. It also provides a unique basis for engagement with our portfolio companies.

This last point is worth reflecting on. As impact investors, we want to understand the outcomes achieved by our companies from their core business. In most, if not all, cases, these outcomes reflect the purpose of the business and may demonstrate their competitive positioning and advantage. For example, in our engagement with the childcare real estate investment trusts (REITs) we invest in, we want to understand the quality of their centres. The National Quality Standard scores, which include the physical environment, are part of our assessment. Ideally their portfolios would "meet" or "exceed" the standard. While other factors in the assessment are influenced by their tenants - the childcare operators - the scores do reflect on the REITs' reputations for being good owners of quality centres. In our engagement this year, it was evident that this had not been an area of focus for other investors. Therefore, our engagement and focus on these scores for impact measurement purposes provided us with additional insights.

This is an example of how we try to work with our portfolio companies throughout the year to improve their ability to measure and report on impact. Further to the example above, one of the childcare REITs intends to include an impact report in their annual report next year, alongside their ESG report. We would love to see the evolution of ESG reporting to include impact reporting.

The data we provide in this report has been collated by us using publicly available information, often in collaboration with the portfolio companies themselves. Where impact outputs are stated, they have been sourced from public information provided by the respective companies and relate to their total

company impact, rather than NorthStar's attributable share of those impacts. We have largely focused on company outputs as a proxy for its impact. If the company's purpose and core business activities are providing positive impact solutions, then we believe outputs are a good proxy for impact. For example, if a quality affordable housing company increases the number of housing units developed, then the impact on affordable housing supply will be positive and measurable.

Given company revenues are often linked to output sales, revenues can potentially be used as a proxy or guide for impact where data is unavailable. In June 2023 the Global Impact Investing Network (GIIN) published a paper supporting this, stating that "*agriculture investments reveal the link between company revenue growth and positive impact results for farmers*".[1]

Evolving assessment of impact

Measuring impact is a complex, challenging, and costly exercise. There are useful guides for investors on the measurement and reporting of impact. These include GIIN's paper on *Guidance for pursuing impact in listed equities*, and the creation of the Impact Management Project (IMP) and their framework of (i) Theories of Change (ii) ABC (*A*void harm, *B*enefit stakeholders, *C*ontribute to solutions) and (iii) the 5 dimensions of impact (*what* the intended outcome is, *who* experiences it, *how much* of the outcome is experienced, the *contribution* of the business to that outcome, and the *risk* that the impact doesn't happen as planned).[2,3]

We apply the Logic Model or Theory of Change to each portfolio company, which shows the link between Inputs, Outputs, Outcomes, and Impact.[4] This approach has been adopted by other impact investors and it is helpful for listed equities as there is good public disclosure of Inputs and Outputs. This provides us with a good starting point for our engagement with companies.

We believe impact investment measurement can be improved through:

- Increased focus from investors on what a company does, alongside the focus on how a company operates (which has been the main outcome of ESG reporting).
- More regulation aimed at both reducing greenwashing and impact-washing and providing incentives for investment in positive impact companies.
- Greater collaboration and sharing of impact data and experiences by investors and companies.

Outlook for Impact

We expect impact investing to continue to grow in 2024 and become an increasingly important part of the general investing landscape. The GIIN estimated global impact investing assets under management (AUM) of US$1.164 trillion in 2022.[5] Given the Sustainable Development Goals (SDG) funding gap of US$4.2 trillion per annum to 2030, and rising awareness of the effects of the climate crisis, this figure should grow significantly over the coming years.[6]

Thematically, addressing the climate crisis will continue to be a central investment theme for impact investors in 2024 and we need to see an acceleration in funding for the energy transition. The Australian Government recently committed to tripling renewable energy generation by 2030.[7] This bodes well for our investment in Genex Power, a developer and operator of renewable energy generation and storage infrastructure. In 2024, Genex is expected to complete their 250MW pumped hydro storage project in Queensland.

The healthcare sector is still facing challenges caused by the Covid-19 pandemic and increased investment is required to ensure greater affordability and accessibility of services. We are excited about the development of new medicines for the treatment of both rare, complex conditions and more widespread diseases.
The development of more accurate diagnostics and more effective therapies for cancer by radiopharma companies such as Clarity Pharmaceuticals marks very significant progress. In 2024, we will receive more clinical trial data from Clarity showing the efficacy of their prostate cancer treatment.

In Australia, we would like to see more concrete action by the Government to support quality providers in areas such as childcare, education, and vocational training. There is also a critical role for Government to ensure that private sector investment is incentivised to develop a circular economy, including meeting our National Waste Targets by 2030, which will require up to $10 billion of capital.[8]

While we recognise that real-world impact can depend on the rules set by Government through legislation, policy and regulation, impact investors have an important role to play in allocating capital, encouraging system-wide collaboration, and in advocating for supportive policies.

NorthStar Impact's approach to impact investing

Our Philosophy

At NorthStar Impact we believe that social and environmental outcomes should be incorporated into investment decisions to ensure a healthy, well-functioning economy, society and planet. Impact investing helps to facilitate this, by investing only in companies or assets that actively tackle social and environmental challenges.

Impact investing is a relatively nascent approach to investing and is therefore often misunderstood. Common misunderstandings include that impact investors are not interested in financial returns. This is not the case - we expect "good" companies in this space to perform better, due to long-term social and environmental mega-trends. In particular, there is increasing demand as people want to work for, engage with, and invest in companies that positively contribute. In his book, "Purpose Incorporated", John Wood describes profit for purpose as a competitive advantage due to these mega-trends.[9]

Impact investing also differs significantly from ESG investing. Impact investors focus on businesses that are core contributors to solving environmental and social issues, such as healthcare, regenerative agriculture, renewable energy and affordable housing, while ESG mainly assesses environmental and social risks in a company's operations. We describe impact investing as focused on "what" a company does and ESG investing as concerned with "how" a company operates.

Impact investing in listed equities

Listed equities are a major segment of the capital markets (over US$100 trillion globally) and therefore a key part of the solution to advancing global systems change.[10] Investors can have impact in listed equities by directing capital to companies whose purpose is to benefit society and/or the environment, and through active engagement on improving and growing their impact.

NorthStar Impact's Founder, Kerry Series, has pioneered impact investing in listed equities in Australia and established the proprietary impact screening process that continues to distinguish our work. We take an "impact first" approach to investing, because we believe that profitable growth will enable the scaling of impact outcomes.

Three Pillars of Impact Investing

NorthStar Impact applies three core pillars of impact investing:

1. **Intentional Positive Impact** –the company's intent to achieve positive social and environmental outcomes from their business activities
2. **Active Contribution/Additionality** – the creation of additional outcomes beyond those achieved without our investment
3. **Impact Measurement** – measuring and reporting on key impact metrics achieved by investee companies.

Intentional Positive Impact

NorthStar Impact uses a proprietary impact screening process to ensure we invest only in positive impact companies. Our impact screen defines environmental and social problems in line with the UN SDGs and their targets, grouping investment opportunities into impact focus areas:

Environment
- Land & resource management and circular economy
- Renewable energy

Healthcare
- Healthy living
- Healthcare services
- Medical devices
- Pharmaceuticals

Community
- Affordable housing
- Childcare (care & support)
- Inclusion (financial & other)

Education
- Education

Active Contribution

One of the three pillars that differentiate impact investing from other forms of responsible investing is "contribution" or additionality. We believe our role as impact investors is not only to help shift resources towards impactful solutions, but to help to accelerate, scale and extend the positive impact of these companies and their solutions.

We know solving complex issues takes time, so we aim to be long-term investors in portfolio companies. Ideally, we provide new growth capital by investing at the time of the IPO or by participating in new rounds of capital raising, such as placements and rights issues. For the portfolio at 30 June 2023, we had provided new capital to 50% of our ASX-listed companies.

Then we seek to engage with our portfolio companies to identify where we can help them to accelerate, scale, or extend their impact. This may result in Impact Projects where we try to connect them with organisations in our network or where we can develop advocacy papers based on their input. We also work with our companies on impact measurement with the aim of encouraging them to make key metrics publicly available so that all investors can incorporate them in their research and analysis.

Examples of our **Impact Projects** include:

- Working with industry experts and portfolio companies to identify and address industry and policy hurdles.
- Connecting portfolio companies to our broader network to help to accelerate their growth.
- Identifying and creating opportunities to extend a company's goods and services into underserved communities.
- Supporting portfolio companies with reporting impact metrics.
- Developing capital solutions for portfolio companies to help scale their impact.

Current Impact Projects include an Education Coaching Program to extend the tutoring services of Kip McGrath to underserved communities; our waste-to-energy advocacy project; and network connections aimed at scaling renewables and funding affordable and social housing.

Case Study – Waste management impact project

Our team identified under-investment in the waste sector as a key issue, given the sector's role in helping to abate emissions. Waste, via direct landfill emissions, only accounts for 3% of Australia's 487.1 million tonnes of CO_2e emissions but, by applying good resource recovery and recycling processes to our waste streams, we could abate up to 10% of Australia's total emissions, mainly through recovering the embodied energy of materials.

We held a series of meetings with industry experts and investee companies, Cleanaway (ASX: CWY), Close the Loop (ASX: CLG) and The Environmental Group (ASX: EGL).

It soon became clear that there is an urgent need to accelerate the approvals and completion of waste-to-energy (WTE) facilities in Australia to reduce the reliance on landfill, increase renewable energy sources, and improve Australia's resource management. The two main causes of underinvestment impacting the economic viability of WTE projects are:

1. **Planning & Approvals:** resistance by local councils re the location of WTE plants in their area.
2. **Landfill levies:** the landfill (or waste) levy is too low to incentivise the switch from landfill to an alternative treatment of waste. Increased national uniform waste levies are required to avoid State landfill levy arbitrage and to incentivise alternatives.

NorthStar produced a paper with the following concluding recommendations:

- Increase and equalise the national landfill levy at the rate required to ensure the cost of waste disposal via WTE is equal to, or lower than, the landfill alternative.
- Recycle the landfill levy monies into subsidies to incentivise the development of WTE facilities.
- Encourage blended finance options for the development of WTE facilities.
- Amend the 2022 EPA amendment policy that banned thermal WTE across the Greater Sydney Area.
- Reassess the approvals process at the State/Local level to activate WTE locations and projects in each State.

Impact Measurement

Measuring and reporting impact outcomes is key to achieving impact goals. We make a preliminary assessment of a company's impact based on publicly available information and then engage with them to seek more detail. We advocate for improvements in impact measurement and reporting by our portfolio companies. An example of this can be seen in water recycling company De.mem (ASX: DEM) who, following our engagement on the topic, began to report on the amount of water that goes through their treatment systems.

Our intent is to have companies not only measure their outputs, but also their outcomes and impact. We hope that, in time, this will be seen as more important than ESG reporting and could form the basis for economic policy to incentivise investment into companies that deliver positive social and environmental outcomes, alongside their financial returns.

Understanding our impact report

Mega Focus Area Infographic

We have four mega focus areas which form the core sections of this report: Environment, Community, Healthcare and Education. To introduce each, there is an infographic demonstrating key facts about the problems that sit within each area, key impact metrics from our portfolio companies, and information about NorthStar's work in the space.

Theory of Change Framework

Each of our Impact Focus Areas has a Theory of Change which articulates the following:

1. The environmental or social problem
2. Relevant data and information
3. Key impact opportunities, as identified by NorthStar
4. NorthStar's impact strategy
5. Our positive impact investments
6. Relevant United Nations Sustainable Development Goals and Targets

Impact Profiles

For each Impact Focus Area, we profile a portfolio company with the following information:

- **Company name and purpose**
- **NorthStar's impact thesis:** Building on the Theory of Change, this touches on how the company is contributing to positive change
- **Intentionality:** The mission of the company and the relevant UN SDG targets
- **Additionality:** Our aims when investing in and engaging with companies
- **Impact Measurement:** Input, output, outcome, impact
- **Case Study**

Impact Measurement: How we're measuring impact

We measure the impact of our portfolio companies using the Logic Model:

INPUT: Resources used by the business through its operations

OUTPUT: Products or services delivered by the business

OUTCOMES: Immediate effects or changes as a result of the outputs

IMPACT: Long-term, broader effects on the environment or community.

Given the challenges in measuring Outcomes and Impact, we are often required to make estimates based on data provided by our companies. We will provide the assumptions used in making these estimates to ensure that the basis of our impact metrics is clear.

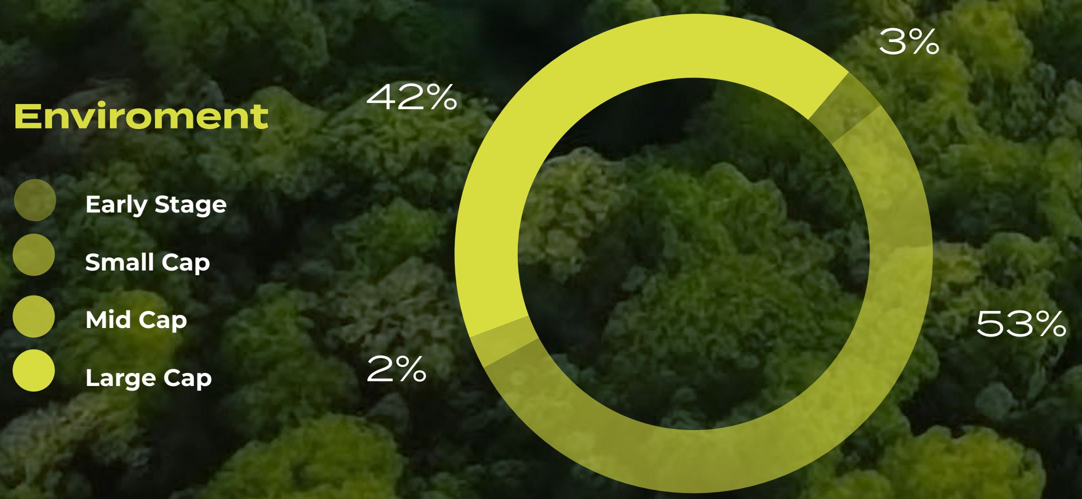
ENVIRONMENT

27.5%

of NorthStar's portfolio

19 portfolio companies

Working across:
Renewable Energy, Land & Resource Management, Circular Economy



$4 billion investment

in renewable energy assets and infrastructure (6 companies)

24,923 GWh

of renewable energy generated and supplied (4 companies)

20.7 million

tonnes of CO_2-e avoided (7 companies)

1,149,000 tonnes of waste recycled (2 companies)

40,000,000

litres of PFAS contaminated liquids treated

* Impact outputs relate to total company impact of some or all of ten selected companies and not NorthStar's attributable share of those impacts. Full impact data can be found in the appendix.

NorthStar Theory of Change: Renewables

3.3 billion people currently live in areas which leave them highly vulnerable to climate change impacts, such as droughts, floods, heat waves, extreme weather events and the rise in sea levels.[11] There are also rising risks that indirect impacts such as famine and conflict over climate-impacted resources, such as energy, water and food, will see large numbers of people displaced and harmed over the coming decades.

It is now widely recognised that holding global warming to the Paris Agreement target of 1.5°C is unlikely, and that even keeping temperatures to below 2°C will be very challenging. According to the UNEP Emissions Gap Report (2021), total global emissions will need to fall to approximately 18 gigatonnes of equivalent CO_2 per year by 2030 (a decline of 45%), on a pathway to net zero emissions by 2050, to have a reasonable chance of limiting global heating to 1.5°C. As emission levels continue to rise, current projections are for between 3-4°C of warming.[12]

While governments and the private sector globally are deploying capital towards decarbonisation, it falls short of that required for a 2°C target. Bloomberg NEF estimates that between 2022-2030 US$59 billion per year needs to be invested, increasing to US$87 billion per year between 2031-2040. It estimates "net zero" as a US$196 trillion investment opportunity.[13]

Australian context

The new Government introduced the Climate Change Act 2022, legislating a carbon reduction target up from 26-28% to 43% by 2030.[14] The challenge in Australia is the rate of deployment of renewable energy, rather than the economics. The CSIRO's latest assessment of the cost of generation technologies shows renewables remain the cheapest new build, even with integration costs for transmission and storage.[15]

Australia's decarbonisation plan is summarised in this diagram.[16] The key challenges facing the deployment of renewable energy infrastructure are the approval processes and ensuring sufficient, reliable grid interconnections. In addition, there is a need for more skilled labour to support this infrastructure development.

Driving down technology cost

- Unlocking growth of priority technologies by **driving down costs:**
  - **Clean hydrogen**
  - **Ultra lo-cost solar**
  - **Energy storage**
  - **Low emissions steel and aluminum**
  - **Carbon capture and storage**
  - **Soil carbon**
- **Emerging technologies,** such as livestock fees to reduce methane emissions

Enabling deployment at scale

- **Incentivising businesses** to adopt low emissions technologies

  Building **voluntary carbon markets**
- Helping consumers with **information, knowledge sharing** and **certification**
- **Building essential infrastructure** such as Snowy 2.0, EV charging networks and expanded electricity transmission networks
- Planning to **ensure the right infrastructure is in place** as sectors decarbonise
- **Aligning efforts with the states and territories** through bilateral support agreement and energy market reforms

Enabling deployment at scale

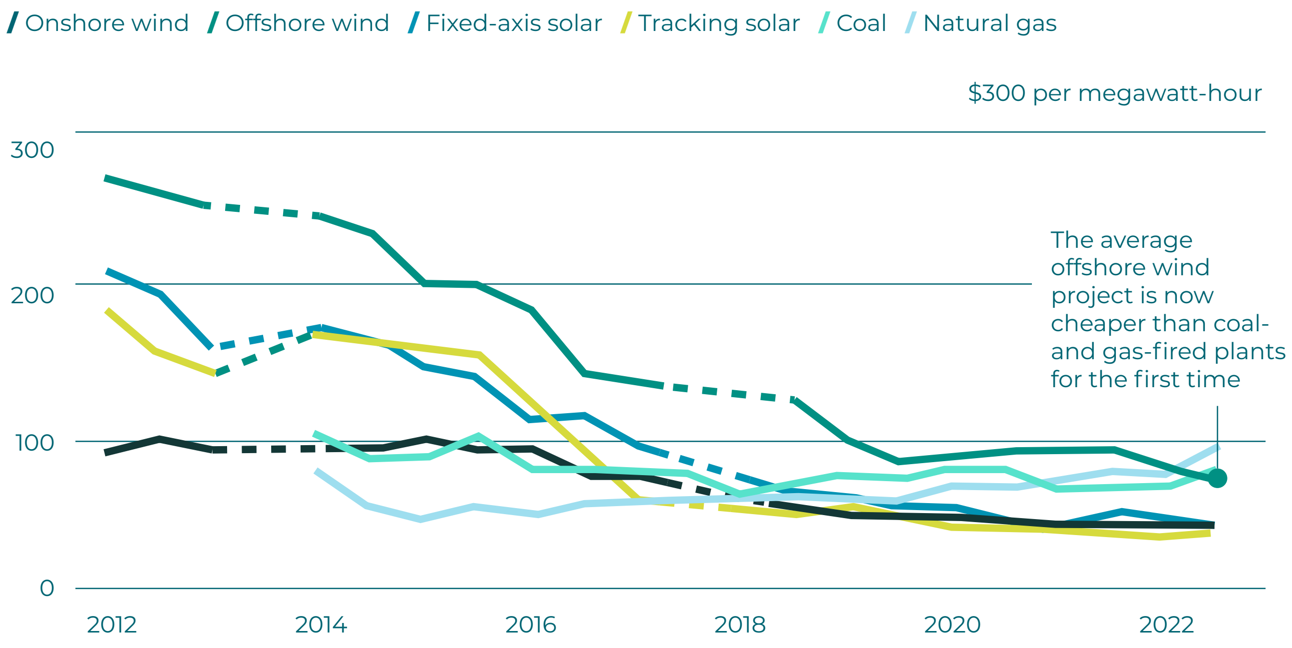
- **Expanding markets for minerals & metals** that will be needed in low emissions economies, such as **cooper, nickel and lithium**
- Building a clean **hydrogen export industry** and shaping global certification standards
- **Exporting low emissions fuels,** including LNG and uranium
- Realising opportunities for **low emissions manufacturing and clean energy equipment and services**
- **Growing our agricultural sector and communities**
- Building our workforce by investing in **skills and training**
- Continuing to **invest in our regional communities**

Fostering global collaboration

- **Building international partnerships** to accelerate innovation and drive investment
- Engaging through **multilateral technology initiatives**
- Establishing a high integrity **Indo-Pacific Carbon Offset Scheme**

Renewables Undercut Fossils Fuels

The levelized cost of electricity from wind and solar has fallen dramatically over the past decade



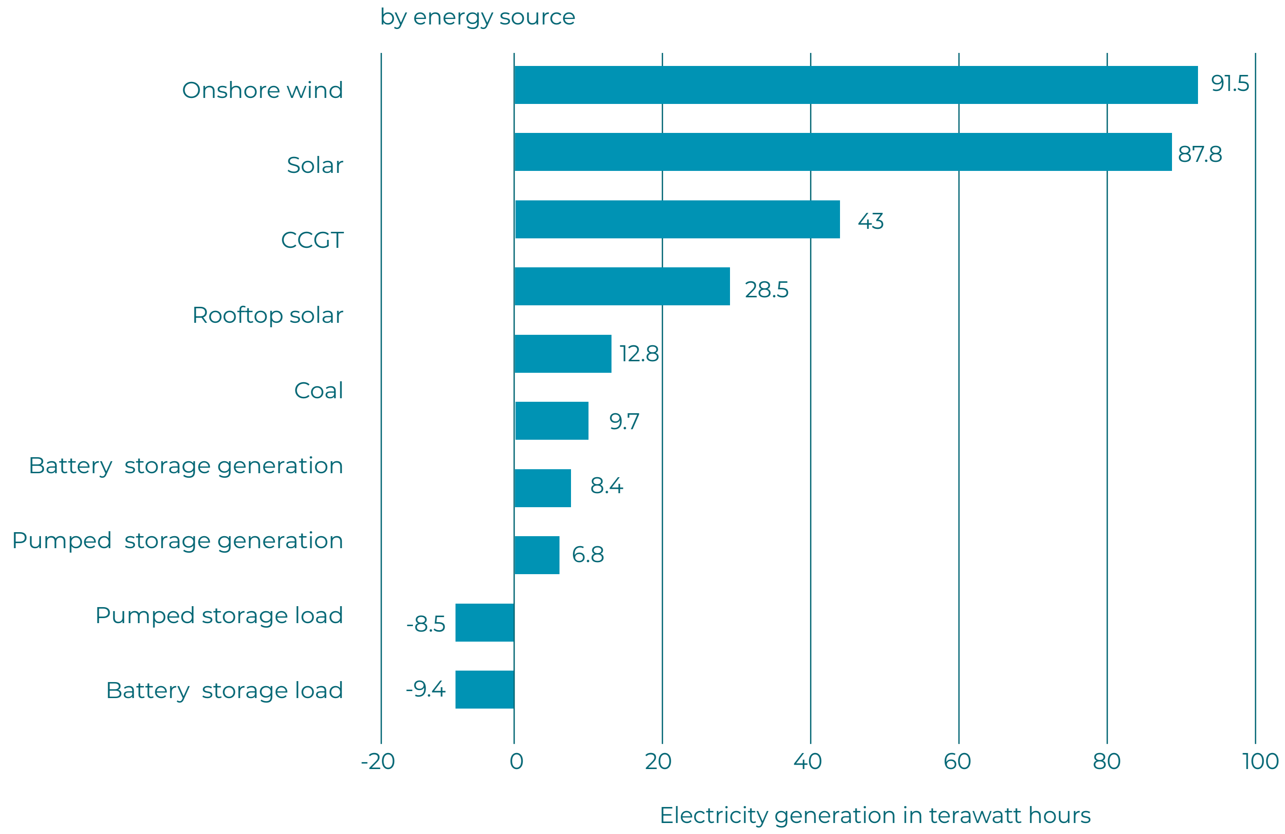
Source: BloombergNEF
Note: Chart shows the global benchmark levelized cost of electricity for various generation technologies in real 2021 US dollars. Natural gas refers to combined-cycle gas turbines (CCGTs). Dashed lines reflect gap in data. For the full list of assumptions made, dee BNEF's 2H 2022 LCOE Updated

Key impact opportunities:

- Ensuring all Australians have access to clean energy sources via distributed energy systems.
- Enabling battery storage proliferation to ensure reliability, capture and distribution of renewable energy.
- Supporting pumped hydropower as a source of reliable and clean energy.
- Developing green hydrogen to decarbonise hard to abate sectors.

The forecasted electricity generation in Australia in 2050, identifies the opportunities in renewables:[17]

Forecasted electricity generation in Australia in 2050



Distributed energy systems

Distributed energy is the key solution to rapid decarbonisation. Australia already has the highest rooftop solar penetration rates in the world with over 25% of households generating power from their roof. Rooftop solar PV generation is the largest energy generator in Australia, with 17GW of total capacity. This represents more than three million installations.[18] Distributed energy is a key component to achieving Australia's decarbonisation targets, however only 180,000 households currently have storage.[19] Distributed energy is a significant opportunity with relatively fewer hurdles to an accelerated roll-out.

Enabling battery storage proliferation

Batteries are an energy storage technology that use chemicals to absorb and release energy on demand. They are a key pillar to supporting Australia's electricity transition. There are 41 battery projects under construction (or due to start construction soon) in Australia, which will deliver around 7167.5 MW of new energy storage capacity.[18] A new report from the CSIRO, supported by ARENA funding, says between 10 to 14 times more storage could be needed in the coming decades to support the National Electricity Market (NEM).[19] By 2030, the report says, the NEM will need around six times more power storage than in 2024.

Pumped hydropower

Pumped hydropower remains a significant potential contributor to Australia's decarbonisation future. Pumped hydropower has been around for almost a century and the advantages include the low operating cost and long-service life (80-100 years) with minimal maintenance costs. Dubbed "green battery" or "natural battery", it is one of the most viable means of storing energy at large scale. In 2022, 6% of Australia's electricity generation came from pumped hydro.[20]

Green hydrogen

Green hydrogen will be required as a solution for hard-to-abate sectors including steel manufacturing, aviation and other heavy industries. However, given the technology and cost limitations of hydrogen versus solar and wind for other applications, it should only be prioritised for hard-to-abate sectors.

Our impact strategy

NorthStar's strategy is to invest in companies across the renewable energy eco-system; in battery and other storage; and energy-efficiency technology and systems to reduce the reliance on fossil fuel energy and thereby avoid CO_2 emissions. We invest with the aim of supporting:

- Electricity infrastructure to ensure universal access to affordable, reliable and modern energy services.
- Renewable energy supply to increase renewables share of total energy output.
- Renewable energy access – networks and grids, micro grids, and community-based energy systems.
- Renewable energy efficiency –systems and technologies that increase output.
- Renewable energy storage – batteries and pumped hydro.
- Critical supply chain components of these sectors - inverters (solar panel energy conversion from DC to AC) & thin film photovoltaic modules.
- Funding of renewables investment.

Our positive impact investments

- Umweltbank (UBK.DE) – Germany's "green" bank.
- Mercury (ASX: MCY), Meridian (ASX:MEZ) – Reduction in CO_2e through renewable energy generation.
- Genex (ASX:GNX) – Increased renewable energy generation and storage through solar, wind, pumped hydro and batteries.
- Neoen (FP: NEOEN) – Increased renewable energy generation and storage through solar, wind and batteries.
- Enphase (ENPH.US) - Technology and devices (inverters) to support renewable energy production & distribution.
- First Solar (FSLR.US) – Technology and products (thin film photovoltaic modules) to support renewable energy production & distribution.

This NorthStar Theory of Change addresses UN SDG 7 "Affordable and Clean Energy" with a focus on Targets:

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

7.3 By 2030, double the global rate of improvement in energy efficiency.

Mercury (ASX: MCY)

Mercury New Zealand generates electricity from 100% renewable sources – hydro, geothermal and wind. Mercury is committed to investing in a more sustainable future, with its 100% renewable generation complemented by moves to convert its vehicle fleet to electric or plug-in hybrid.

KARĀPIRO

Since 1947

188km downstream of Lake Taupō, the Karāpiro Lake is the home of NZ Rowing.

MARAETAI I AND II

Since 1952 and 1970

Combined they offer the largest output from any lake on the Waikato River.

ŌHAKURI

Since 1961

Lake Ōhakuri covers 12 sq km and is the largest lake on the Waikato River.

Impact Thesis

"Energy in New Zealand 2023" shows renewable electricity generation increased to 87% of the total, but energy consumed from renewable sources accounted for only 30% of final consumption in 2022.[21]

Mercury's Climate Action Plan, published earlier this year, highlights the need for 5,400 gigawatt hours of future renewable energy capacity to support New Zealand's transition from fossil fuels to renewable energy.

Intentionality

Mercury is committed to a more sustainable future, with 100% renewable energy generation.

Contributes to UN SDG Targets: 7.1 and 7.2

Benefits: People and planet

Additionality

Through our investment in this company, we aim to:

- Scale the impact of the company, particularly relating to carbon abatement.
- Identify and determine opportunities to extend hydro capabilities to underserved communities.
- Advocate for hydro power as a critical contributor to the energy transition.

Impact Measurement

INPUT:

$296 million capital ($177 million growth capex, $119 million stay-in-business capex) investment, including focus on creating and developing new capacity/flexibility opportunities and exploring solar.

OUTPUT:

5,209 GWh hydro generation, 2,358 GWh geo generation, 1,471 GWh wind generation, 20 community and commercial partnerships, 20 power stations (9 hydro, 5 geothermal, 6 wind).

OUTCOME:

Renewable energy power reduces CO_2 emissions from electricity generation.

IMPACT:

33 million tonnes of coal-equivalent CO_2 abatement

(1kg of coal = 1KWh, 3.67kg of CO_2 to 1Kg of coal)

Case Study

Mercury has announced an ambitious plan to develop seven large-scale renewable energy projects in New Zealand over the next seven years. This strategic move aligns with the New Zealand Government's goal of achieving net-zero emissions by 2050, requiring a significant investment in renewable generation, estimated at around $30 billion.

The projects will encompass a variety of renewable sources, including wind, solar, and grid-scale batteries. The first project, Harapaki wind farm in Hawke's Bay, is set to become operational in the coming year, capable of powering up to 70,000 homes.

Mercury also plans to complete the construction of a grid-scale battery and solar farm at Ruakaka in Northland in 2024. They have secured a second battery site near Palmerston North, further expanding their renewable portfolio. Additionally, plans for a new wind farm at Mount Munro in the Wairarapa are in progress.

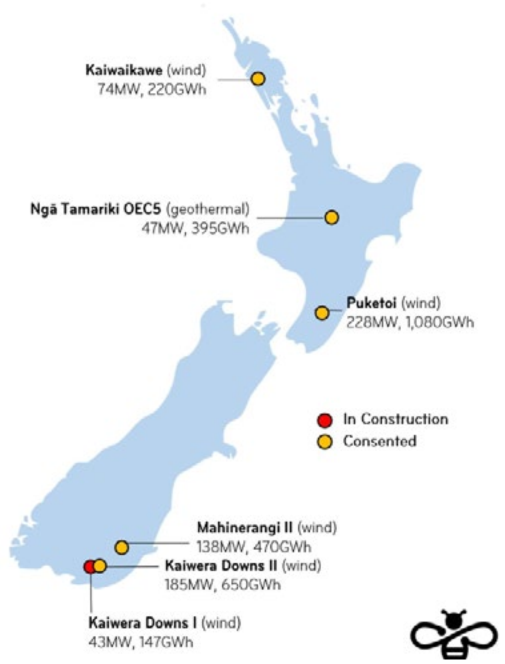
Hydro

Mercury also has nine hydro plants along the Waikato River that together produce ~10% of New Zealand's electricity. The benefit of hydro generation is the flexibility to meet changing levels of electricity demand.

Hydro electricity is created by utilizing water that flows down river into the sea. A dam across the river holds back water and forms a reservoir. The water then flows through a large pipe at high pressure. The base of the pipe has a turbine, and the water causes the turbine to spin quickly powering a generator. The result is an electrical charge that is transmitted to the grid to generate power for homes and businesses. The water that created the electricity flows back into the river to create more energy.

The Mercury hydro system is the largest peaker plant in the North Island of New Zealand.

PROJECTS UNDER CONSTRUCTION OR CONSENTED



Data and case study sourced from the 2023 Mercury Annual Report and the Mercury 2023 Climate Transition Action Plan.

NorthStar Theory of Change: Land and Resource Management and Circular Economy

The waste sector produces around 13 million tonnes of carbon emissions each year, equivalent to 2% of Australia's total greenhouse gas emissions. During the financial year 2020–21, Australia generated an estimated 75.8 million tonnes of waste, equivalent to 2.95 tonnes per capita.[22]

Waste management is key to achieving a circular economy, making it a critical part of addressing our global environmental challenge. The Ellen Macarthur Foundation summarises it well:

"The circular economy tackles climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources.

"With circular design, we can prevent the creation of waste and pollution right at the start."[23]

Waste in Australia

Australia, with a history of landfill due to our large extractive industries and open spaces, lags behind many developed countries in the level of recycling and the uptake of waste-to-energy solutions, with around 38.5 million tonnes of waste recycled and 20.5 million tonnes of waste sent to landfill.[24]

In the financial year 2020-21 the three largest sources of waste were building and demolition (25.2 million tonnes), organics (14.4 million tonnes), and ash from commercial and industrial activity electricity generation (12 million tonnes). These were followed by 7.4 million tonnes of hazardous waste (mainly contaminated soil), 5.8m tonnes of paper and cardboard, 5.7 million tonnes of metals, and 2.6 million tonnes of plastics.

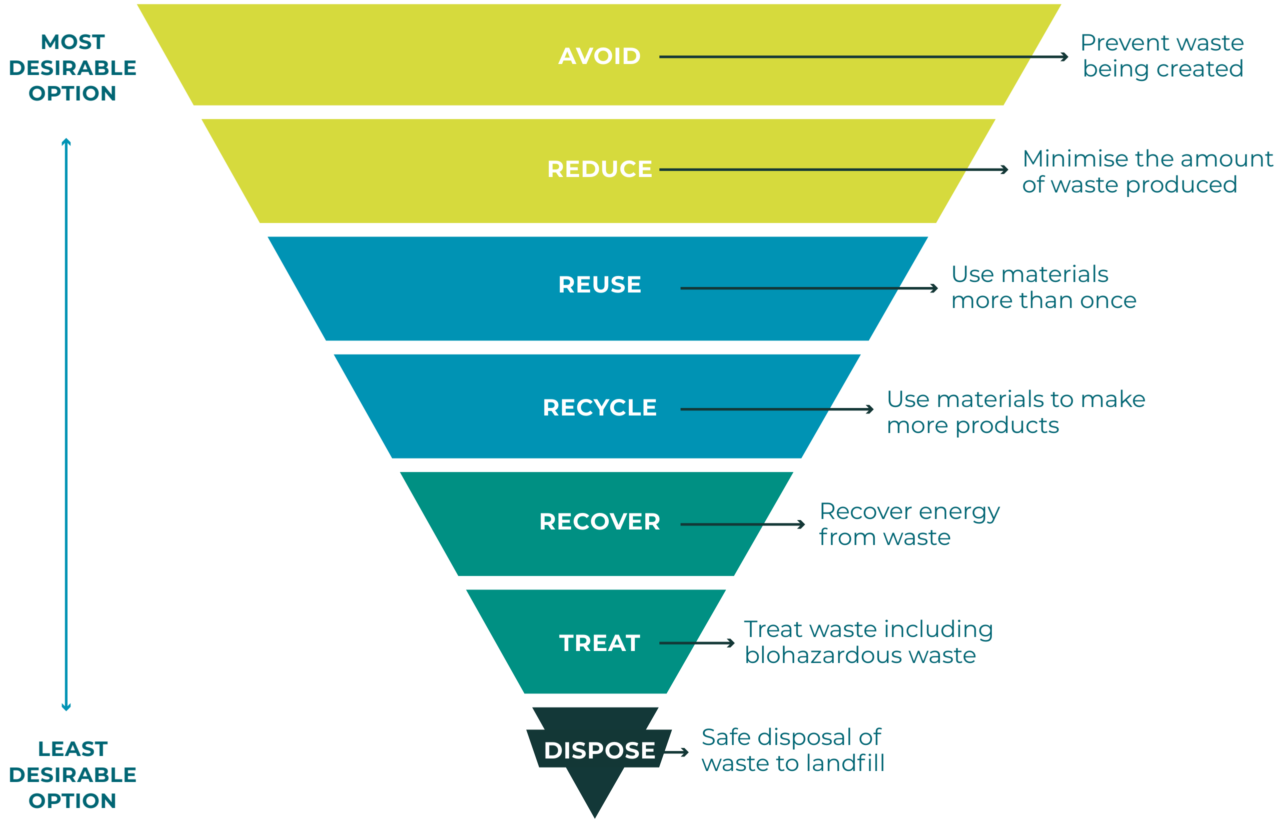
In 2019, the Australian Government set out a series of targets in a "National Waste Policy Action Plan" to guide action and investment efforts. Targets include:

- Banning the export of waste plastic, paper, glass and tyres, commencing in the second half of 2020.
- Reducing the total waste generated in Australia by 10% per person by 2030.
- Achieving an 80% average recovery rate from all waste streams by 2030.
- Significantly increasing the use of recycled content by governments and industry.
- Phasing out problematic and unnecessary plastics by 2025.
- Halving the amount of organic waste sent to landfill by 2030.[25]

There have been a range of developments supporting circularity outcomes:

- The Commonwealth export ban on glass and plastic
- Federal and NSW government recycling manufacturing grants
- Federal extended producer responsibility (EPR) schemes
- Continued roll-out of Container Deposit Schemes (CDS)
- Australia signed the New Plastics Economy Global Commitment in November 2022.[26]

Despite these developments, there was a 3% increase in waste per person in 2020-21, when compared to 2016-2017. Our resource recovery rate also showed no improvement in this time, remaining at 63%, with the recycling rate at 60%. The recycling of plastics sat at 13%, with the remainder being sent to landfills.[27] Key contributing factors include a lack of investment in collection and sorting infrastructure; variance in landfill and other levies across States, and a lack of alternative options for hard-to-abate waste.



Key impact opportunities

Waste hierarchies, also known as waste solutions pyramids – this one taken from Waste Management & Resource Recovery Association Australia – preference actions that optimise for circularity.[28]

Key impact opportunities include:

- Increasing recycling, repurposing, reuse rates
- Improving collecting and sorting infrastructure
- Expanding waste-to-energy (WTE) projects for hard-to-abate waste
- Ensuring product circularity requirements of products imported into Australia
- Improving manufacturing and design to ensure resource circularity.

Increase recycling, repurposing, reuse rates

During the financial year 2020-21, Australia produced an estimated 75.8 million tonnes of waste, equivalent to 2.95 tonnes per capita. Approximately 60% of this waste is recycled or re-used.[29] A 5% efficiency increase in the use of materials across the Australian economy could benefit GDP by as much as $24 billion.[30]

For the first time in Australia, we now have every State government in the country signed up to an 80% (landfill) diversion target by 2030. By increasing the average recovery rate, circularity increases which results in a reduction in demand for virgin materials. Despite the efforts made to support the circular economy in Australia, additional investment is required to meet the National Target Goals.

Improve collecting and sorting infrastructure

By separating different types of waste materials, recycling facilities can more easily and efficiently process and recycle these materials, reducing the amount of waste that ends up in landfill. Every community has different guidelines to waste sorting, so it's important that they are appropriately communicated within communities. Utilising separate bins for different types of waste improves waste sorting outcomes. Collecting waste properly should reduce the amount of chemicals and hazardous toxins that enter the soil and water streams. It improves circularity when specific items such as e-waste are collected to be repurposed.

Expand waste-to-energy (WTE) projects in Australia for hard-to-abate waste

The NSW Waste and Sustainable Materials Strategy 2041 states that at our current rates of generation and recycling, the putrescible landfills for Greater Sydney which accept household waste are likely to reach capacity within the next 15 years, and the non-putrescible landfills which accept inert commercial and construction waste will reach capacity within this decade.[31] As such, there is a need for an alternative to landfill for hard-to-abate waste. Waste-to-energy projects are required to ensure that Australia does not embark on creating new landfill sites for waste that cannot be recycled or repurposed.

Ensure product circularity requirements of products imported into Australia

Products designed with long-term regenerative value can create circularity, rather than a linear product outcome. This would result in less virgin material requirements in production and less waste and landfill requirements at the end of a product's life. Introducing circularity requirements would ensure products are recycled, reused and repurposed.

Improve Manufacturing and Design

Design decisions determine which materials are used, from where they are sourced, the colour agents required, which machinery is used, and how a product is packaged, shipped, and delivered. Today, the production of goods and food contribute to 45% of global greenhouse gas emissions.[32] We have never produced more clothes nor worn them less: every second, the equivalent of a rubbish truckload of clothes is burnt or buried in landfill.[33] Designing for circularity can support the reduction of raw materials required, increasing their sustainability, ensure natural colour agents are used, enable the use of recycled materials in production and packaging, and target shipping and delivery closer to the source of production.

Our impact strategy

We believe capital should be directed to companies that have a purpose of increasing circularity through the collection, capture, reuse and repurpose of materials. Our impact strategy is to invest in companies whose purpose is to invest and scale circular economy solutions with the aim of:

- Increasing waste recovery and circularity through better collection and sorting infrastructure.
- Encouraging e-waste drop off points and circular systems to increase content that is reused and repurposed.
- Encourage alternatives to landfill for hard-to-abate waste to increase circularity outcomes.

Our positive impact investments

- Cleanaway (ASX: CWY) - provides waste management services, including collection, sorting, and recycling services. Cleanaway serves industrial, hospitality, mining, retail, and government sectors in Australia.
- Close the Loop (ASX: CLG) - provides recycling, repurposing, and re-use services. Close The Loop has operations across Australia, Europe, South Africa, and the United States.
- The Environmental Group (ASX: EGL) - has the Australian distribution rights for Turmec, a leader in the design and manufacture of market-leading facilities for the recycling industry.

This NorthStar Theory of Change addresses UN SDGs 9 “Industry, Innovation and Infrastructure”, 11 “Sustainable Cities and Communities” and 12 “Responsible Consumption and Production”, with a focus on Targets:

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.4 by 2030 upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, all countries taking action in accordance with their respective capabilities

11 SUSTAINABLE CITIES AND COMMUNITIES

11.6 by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.5 by 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse

Environmental Group (ASX: EGL)

The Environmental Group (EGL) is committed to the protection of the environment by improving air quality, reducing carbon emissions, enhancing waste to energy production, and lifting water quality. It comprises of four business units: Total Air Pollution Control, Baltec IES, EGL Water, and Tomlinson Energy Service.

Impact Thesis

The waste sector produces around 13 million tonnes of greenhouse gas emissions each year, equivalent to 2% of Australia's total emissions.[34] From an emissions reduction perspective, the benefits of applying good resource recovery and recycling processes to our waste streams could reduce landfill emissions by as much as 60% based on current forecasts and abate up to 10% of Australia's 480m tonnes of total emissions.[35]

Intentionality

EGL has solutions that maximise recyclability and recovery through enhanced collecting and sorting processes, provide alternatives to landfill including waste-to-energy for hard-to-abate waste, and methane capture to reduce the negative environmental impact of waste disposal.

Contributes to UN SDG Targets: 7.2, 9.4, 12.5

Benefits: People and planet

Additionality

Through our investment in this company, we aim to:

- Identify the challenges preventing a more rapid rollout of WTE facilities in Australia and advocate for the acceleration of a solution for hard-to-abate waste.
- Scale PFAS regulatory testing, monitoring and removal.
- Improve Australia's waste collection and sorting to increase circularity outcomes and extend those outcomes to all communities in Australia.

Impact Measurement

INPUT:

$3.4 million invested in acquisitions; $360,000 invested in plant & equipment; $292,000 invested in software and technology; R&D spend of $2.8 million

OUTPUT:

Noise reduction: 35 silencers attenuating noise constantly at 30-40 DBA reduction each when turbine operating either base load 24/4 7 or peaking load 10 hours per day

Waste: 400,000 tonnes of waste sorted

Air: 127 units installed with total capacity to process 1,650,000 cubic meters of dust and particulate matter per hour

Power Sector: projects contributed to treatment of 3,000,000 m^3/h of polluted gases

Mining Sector: Treated 100,000 m^3/h of polluted gases

Water: Treated 40,000,000 litres of PFAS contaminated liquids

OUTCOME:

Waste & Air solutions supporting carbon abatement outcomes, health outcomes, and cleaner living environments.

IMPACT:

384,000 tonnes of waste diverted from landfill

Prevented 56 tonnes per hour of Particulate Matter from being released to the environment

Abated:

- 2,400 kilograms per hour of sulphur dioxide (SO2)
- 2,800 kilograms per hour of sulphuric acid (H_2SO_4)
- 30 kilograms per hour of hydrogen fluoride (HF)

EGL The Environmental Group Limited

Case Study

Total Air Pollution Control (TAPC), a subsidiary of Environmental Group (EGL), has secured a contract with the Yangibana Rare Earths Project in Western Australia, which aims to produce 194,000 tonnes of Mixed Rare Earth Carbonate (MERC) starting in 2025.

TAPC's emission control system is designed to treat off-gases generated by the project's rotary kiln, ensuring compliance with stringent air emission limits. The system uses gas scrubbers and multiple gas conditioning and treatments to reduce contaminants.

TAPC's system utilises caustic treatment to eliminate harmful gases like sulphur dioxide and includes a dual alkali plant to recover caustic soda, in turn reducing operational costs.

Data and case study sourced from the 2023 Environmental Group Annual Report and from engagement with the company

Close The Loop (ASX: CLG)

Close the Loop (CLG) is a sustainability solutions provider that helps companies recover and reuse resources that would otherwise go to landfill. The company has a variety of services, including product take-back programs, recycling and remanufacturing, and circular economy consulting. They create innovative products and packaging that include recyclable and made-from recycled content. Their global operational network has locations across Australia, Europe, South Africa, and the US, covering products such as print consumables, eyewear, cosmetics, and phone cases. Their TonerPlas product reuses printer toner cartridges as an asphalt additive for roadbuilding.

Impact Thesis

Reusing, recycling, and repurposing end-of-life and returned consumer goods is key to meeting Australia's national waste policy goals. In Australia alone, more than 300,000 tonnes of soft plastic are deposited into landfills every year. Globally recycling rates for print and consumables (ink and toner cartridges) are still minor relative to units sold.[36] It is estimated that nearly 70% of empty printer cartridges are discarded and 350 million printer cartridges are put into landfills each year.[37] The casing of a cartridge has a slow decomposing rate, estimated between 450-1000 years.[38]

Intentionality

Close the Loop aims to be a globally preferred premier sustainability solutions provider, providing more secure recovery models for consumer take-back programs specialising in complex waste streams.

Contributes to UN SDG Targets:

12.1, 12.2, 12.5, 12.6

Benefits: Planet

Additionality

Through our investment in this company, we aim to:

- Identify and engage on scaling cartridge recovery and recyclability as a blueprint for circularity solutions.
- Engage in advocacy for policy and regulation that supports the economic viability of the circular economy.
- Engage on extending CLG's impact into other product lines.
- Engage with management to measure and report impact metrics.

Impact Measurement

INPUT:

$86 million investment in acquisitions, property and equipment

OUTPUT:

260,000 collection points worldwide

Collects and recycles millions of inkjet cartridges every year

TonerPlas production

OUTCOME:

Less reliance on virgin materials and reduction in landfill waste

IMPACT:

For every million cartridges recycled, 6-8 million pounds of waste is kept out of landfill

Note: The average laser printer cartridge can be remanufactured 3-4 times, which is estimated to keep 2 pounds of waste out of landfills.[39]

Case Study

Close the Loop Group (CLG) was the largest user of the post-consumer soft plastics collected through the RedCycle program and claim to be the only company that has been able to process 100% of the material received from RedCycle. CLG takes large volumes of this post-consumer material to use as a main ingredient in its asphalt improvement product - TonerPlas.

TonerPlas improves the longevity of roads and has been used in resurfacing projects across Australia including the Monash and M80 freeway upgrades in Victoria.

Soft plastic recycling is difficult because of the layers in the plastic that are hard to separate. Despite progress in technology and a move toward simpler packaging, there are concerns about how well recycling efforts work and where the remaining waste goes. TonerPlas stands out as a promising solution for recycling complex soft plastic, offering a potentially higher output than other methods.

While chemical recycling is recognised as potential solution for the recycling of soft plastic waste, CLG notes that widespread use won't happen until around 2030, with challenges like quality, cost, yield, and environmental impact – factors which highlight the importance of mechanical recycling methods like TonerPlas in dealing with soft plastic waste.[40]

Close the Loop

Data and case study sourced from the 2023 Close the Loop Annual Report and Close the Loop Management.

Opportunity: No New Landfills

Waste-to-Energy (WTE) presents a significant opportunity to generate electricity from waste and provides a crucial alternative to landfills for hard-to-abate waste, thereby enabling a future with no new landfills. With WTE facilities taking around seven years to complete, investment must be supported today to meet our National Waste Plan targets.

NorthStar advocates for better regulation and economic incentives to encourage greater investment in greenfield waste-to-energy facilities. We believe there is an urgent need and a real opportunity to accelerate this investment, providing financial, social and environmental returns.

The problem with landfills

Landfills contribute to the generation of climate-warming gases, predominantly methane, a greenhouse gas estimated to be 84 times more potent in its warming effect than carbon dioxide.[41] With an estimated 880 million tonnes of waste in landfill, this results in an estimated 44 million tonnes of methane generated over a 20-year period.[42]

The International Solid Waste Association report suggests that if no action is taken, landfill sites will account for approximately 10% of greenhouse gas emissions by 2025.[43]

As well as their impact on climate, landfills pose various environmental hazards. They can contaminate surrounding soil and water with heavy metals such as lead and mercury. The leachate, a liquid produced by landfills, which can contain high levels of ammonia, can lead to eutrophication, a process whereby the environment is enriched with excessive nutrients and leads to oxygen-deprived zones, harmful to plant and animal life. Other pollutants include litter, dust, excess rodents and unexpected landfill fires.

The health implications for residents living near landfill sites are significant. A case study conducted in South Africa found that 78% of participants living closer to the landfill site indicated a contamination of their air quality, evident from bad odours. Landfills also generate trace toxic elements that are linked to health risks, such as dioxin and polycyclic aromatic hydrocarbons (PAHs). The study also found an increased risk of congenital malformations in children born to families that lived in the vicinity of hazardous waste landfill sites.[44]

Australia's landfills

"At our current rates of generation and recycling, the putrescible landfills (which accept household waste) servicing Greater Sydney are likely to reach capacity within the next 15 years. The non-putrescible landfills (which accept inert commercial and construction wastes) will reach capacity within this decade. In some regional areas, like Coffs Harbour and Port Macquarie, landfill capacity is also likely to expire this decade."[45]

There are looming capacity constraints for hazardous waste treatment and landfill. The only landfill that can accept contaminated wastes in NSW will reach capacity in 2031 and there are emerging capacity constraints for liquid waste treatment.

The above data comes from the Department of Planning, Industry and Environment's NSW Waste and Sustainable Materials Strategy 2041 report. Despite this, the report makes no mention of waste-to-energy (WTE) facilities, one of the key alternatives to landfills.

Developing new landfill sites is not the answer and WTE provides a much-needed alternative.

The alternative to landfills: Waste to energy facilities

WTE (also called Energy-from-Waste) is the process of generating electricity or heat from the primary treatment of waste. Most WTE production involves the combustion of materials, including municipal solid waste, commercial and industrial waste and biomass. When materials can be recycled, they should be recovered and recycled and where there is no higher resource value, WTE can extract the energy value. Notably, WTE eliminates the generation of methane.

In 2015, the Clean Energy Finance Corporation (CEFC) published a market report titled, "Bioenergy and Energy from Waste". That report identified up to $3.3 billion of potential investment in urban WTE projects and noted that generating electricity from waste resources could be cost-competitive with other new-build energy generation.[46] The CEFC stated that WTE could provide 500MW of reliable baseload electricity generation by 2025, supporting grid strength and reliability.[47]

WTE around the world

WTE is not a new technology. It is used in over 40 countries, with a market estimated to be worth US$40 billion.[48]

Dubai is on track to complete the world's largest WTE project.[49] The project will help meet Dubai Municipality's strategic objective of completely diverting waste from landfills by 2030. The project will process 1.9 million tonnes of waste per annum and convert it into renewable energy, powering 135,000 homes.

Copenhagen aims to be the world's first carbon neutral capital city by 2025 with WTE integral to this plan. The Amager Bakke WTE plant is being used to produce electricity and district heating for homes and companies from waste that cannot be recycled.[50] This plant is evidence of a WTE plant integrated into the community.

In Western Australia, the East Rockingham Waste to Energy project is underway and expected to be in full operation in 2024.[51] The project is a 300,000 tonne-per-annum WTE facility, achieving 96% diversion of residual waste from landfill. The project will generate 28.9MW of electricity per hour delivered to the grid, equivalent to powering 36,000 homes. Two-thirds of the waste for the project will be residual municipal waste from Perth residents, with the remaining residual commercial waste supplied by Veolia.[52] The project employed 300-400 people during the construction phase and will provide 50-60 ongoing jobs during operation.

Conclusion

With looming capacity constraints for landfills in Australia, alternatives to landfill must be supported. NorthStar continues to work with our portfolio companies and sector experts to understand the best options for Government to incentivise more investment into WTE facilities and ensure approval processes are streamlined, to enable a more rapid roll-out of WTE infrastructure.

COMMUNITY

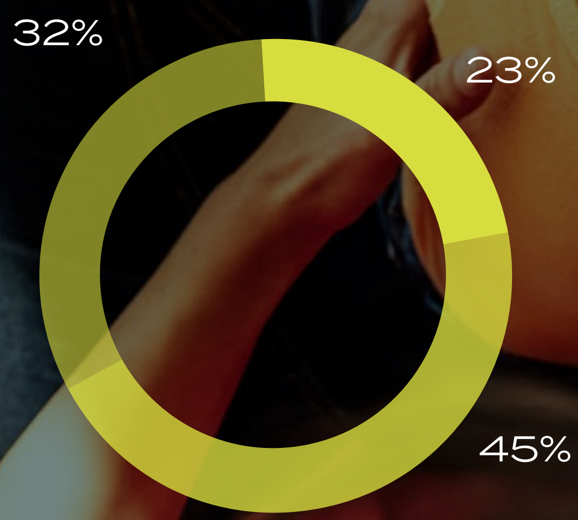
8.4%
of NorthStar's portfolio

10 portfolio companies

Working across:
Affordable and social housing, Childcare, Inclusion

Communities

- Early Stage
- Small Cap
- Mid Cap
- Large Cap



972
new affordable homes
(4 companies)

Over
23,550
people living in affordable housing
(4 companies)

$357.1 million invested in property (including construction, refurbishment, and acquisitions of exiting homes)
(4 companies)

14 new Early Learning Centres (ELCs) Childcare (2 companies)

Over
51,000 childcare places provided
(4 companies)

$59.3 million
invested in improving existing Early Learning Centres (ELCs)
(2 companies)

9.1 million
minutes of translated and captioned material (p/month) (1 companies)

785,000
people with access to financial literacy tools
(1 company)

* Impact outputs relate to total company impact of some or all ten companies and not NorthStar's attributable share of those impacts. Full impact data can be found in the appendix.

NorthStar Theory of Change: Affordable Housing

Access to good quality, affordable housing is fundamental to wellbeing. It can help reduce poverty and enhance equality of opportunity, social inclusion and mobility. Many factors influence the supply, demand and cost of housing across the country, including Australia's growing and ageing population and government policies, especially related to supply of affordable and social housing.

The National Housing Finance and Investment Corporation Act review in 2021 estimated that an additional 30,000 social housing and 15,000 affordable housing dwellings will be needed per annum over the next 20 years, requiring an investment of $290 billion.[53] According to their data, less than 10% of rental stock in Australia is available at rents that the bottom 40% of household renters (by income) can afford.

According to UNSW Professor of Housing Research and Policy, Hal Pawson, Australia's 30-year housing affordability decline has been among the worst in the developed world.[54] Pawson and his colleagues concluded that in Australia over 1 million people have been pushed into poverty by high prices, high rents and shortages of rentable accommodation. The Australia-wide ratio of average disposable household income to median house prices has increased from approximately 3.3 in June 1981, to just over 6 now.

As both experts and communities have observed, house prices have increased substantially over the last decade, particularly in major cities. In Sydney, for example, the median house transfer price increased from around $615,000 in the first quarter of 2013 to around $1.2 million at the start of 2023, the highest average price for any major Australian city.[55]

The rise in interest rates since early 2022 has also sharply pushed up mortgage repayment costs, while the rental vacancy rate is at an all-time low of 1.1%.[56] Around one-third of households in Australia were renting in 2019–20.[57] Over the 12-months to June 2023, median advertised rents increased by 11.5% in capital city areas, with strong increases in Sydney, Melbourne and Perth (13% in each city).[58] These increases significantly impact the 4 million households in Australia that have total income of less than $90,000 per annum.

There is also increasing demand for affordable housing for seniors. It's expected that in the next 25 years, there will be a notable rise in the proportion of older Australians. The proportion of seniors aged 65 and over is expected to increase from 16% in 2020 to up to 23% by 2066, while the proportion of Australians aged 85 and over is set to more than double, rising from 2.1% to 4.4%.[59]

As of 2021, 82% of seniors (born 1947-51) owned their own homes, but this has steadily declined for each successive generation.[60] A recent Association of Superannuation Funds of Australia (ASFA) analysis shows that a couple requires $71,723 a year to fund a comfortable retirement but the age pension is only $ 42,988.[61,62] Funding this shortfall is a key challenge for seniors, as is the affordability of modifications that may be needed to adapt their own residences to changing health and mobility needs.

ABS Data shows around 1 million low-income households (defined as spending more than 30% of gross income on housing costs) were in financial housing stress in 2019-20. More than half (58%) of low-income households in the private rental market were in housing stress, compared with homeowners with a mortgage (37%).[63]

Housing needs across the country range from 208,200 households in highly acute rental stress to 577,400 households under less acute rental pressure.[64]

Key impact opportunities

- Increase supply of new new affordable housing
- Innovative lease and ownership housing models

Increased supply of new affordable housing

In 2023, the Federal Government established the Housing Australia Future Fund, a $10 billion fund, the returns of which will go towards building 30,000 new social and affordable homes over the next five years, as well as maintenance and upgrades. The Greens negotiated a further $1 billion in direct investment in housing, and a guarantee that the minimum annual spend on housing would be $500 million. This comes on top of $2 billion negotiated earlier for social housing.[65]

The Federal Treasurer, Jim Chalmers announced the National Housing Accord in October 2022, with the aim to build one million new homes over five years from 2024. He established the Treasurer's Investor Roundtable to explore collaboration between the big four banks and the largest superannuation and investment funds with a focus on social and affordable housing.

Innovative housing models

Senior collaborative housing

Affordable alternative housing solutions can be made available to support independence, connect seniors to their community, and reduce the need for formal care. Collaborative housing could make buying or renting a home cheaper, providing similar privacy and autonomy to conventional housing. Being part of a supportive community has also been shown to improve physical, emotional and mental health, reducing the risk of social isolation and loneliness.

Innovative lease and ownership housing models are evolving across the market

Public – Private - Partnerships (PPPs) could help to resolve many of the challenges we're seeing in the market. Public and private landholders release land for development, with capital provided by public (e.g. National Housing Finance and Investment Corporation) and private funders, for private developers to develop housing stock.

Our impact strategy

NorthStar's impact strategy is to invest in developers of greenfield and brownfield (redevelopment/refurbishment) affordable housing and developers/operators of senior living accommodation with the aim of:

- Increasing supply of affordable housing supported by both public sector capital funding and private sector capital.
- Increasing housing options for seniors that not only provide an affordable living option but also community, privacy and autonomy.
- Advocating for creative and new ownership structures that support home ownership.

Our positive impact investments

- Aspen Group (ASX: APZ), Eureka Group (ASX: EGH) - Increased supply of affordable housing
- Ingenia Communities Group (ASX: INA), Lifestyle Communities (ASX: LIC) - Increased supply of quality affordable housing for seniors, also aiming to increase wellbeing and health of seniors.

This NorthStar Impact Theory of Change addresses UN SDG 11 "Sustainable Cities and Communities" with a focus on Target:

11 SUSTAINABLE CITIES AND COMMUNITIES

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

Eureka Group (ASX: EGH)

Eureka Group Holdings focuses on providing quality and affordable rental accommodation for independent seniors and disability pensioners within a comfortable community environment.

Impact Thesis

The *Ageing in Place* report from Anglicare Australia emphasises the challenges faced by older renters in comparison to homeowners, when it comes to their ability to age independently. Despite an overwhelming preference (87%) among seniors to stay at home as they age, 72% of older renters say that high costs prevent them from doing so – contrasted with just 15% of homeowners facing this barrier.[66]

Addressing this issue requires the development and refurbishment of quality, affordable rental accommodations for independent seniors and disability pensioners, in community environments.

Intentionality

Eureka Group's vision is for a world where every senior can live well. It is committed to providing quality and affordable rental accommodation for seniors, in safe and well-managed environments.

Contributes to UN SDG Target: 11.1

Benefits: People

Additionality

Through our investment in this company, we aim to:

- Accelerate the development of affordable accommodation for senior residents by engaging with the company on the opportunities and hurdles related to seniors' housing.
- Improve wellness, empathy and care objectives by engaging with the company on issues relating to existing and new support programs.
- Accelerate solar and energy storage in villages and units to reduce the cost of living and increase the share of renewable energy.

Impact Measurement

INPUT:
$32 million of additional property investment

OUTPUT:
2,551 units, 46 villages (28 owned, 5 joint ventures, 13 managed)

OUTCOME:
Better living and affordability for seniors

IMPACT:
>2551 people living in affordable, quality housing with resident satisfaction of greater than 80%

The Brassall Project: Case study

In December 2022, Eureka Group Holdings entered an $11 million building contract in Brassall, South-East Queensland, aimed at expanding and refurbishing the independent rental village. The project involves constructing 51 premium residences with modern amenities tailored for independent seniors, ultimately increasing the village's total dwellings to 106. The development aims to provide quality and affordable rental housing for the ageing population in an area with limited supply.

The development is progressing in four stages, with construction having started in February 2023. In the financial year 2023, the Group spent $3.65 million on the project. The first stage was completed in August 2023 and is already fully leased. Stages Two and Three, comprising of 25 units, are fully pre-leased. Leasing for Stage Four is currently underway. The pre-leased demand demonstrates the need for affordable rental accommodation in the area.

eureka GROUP HOLDINGS

Data sourced from the 2023 Eureka Annual Repot and Eureka management.

NorthStar Theory of Change: Childcare (Care & Support)

Childcare can benefit both children and parents and plays an important role in Australia and globally.[67] It provides a safe environment for children, in which they can benefit from early learning and socialisation, thereby preparing them for school. Access to affordable childcare can also support parents to study, volunteer, train, or work.

Thrive by Five has identified that investing in accessible childcare and early learning systems returns a triple dividend: improving early learning outcomes for children; increasing workforce participation for women; and long-term productivity gains, as a result of a more skilled workforce.[68]

During 2022, an estimated 1.275 million children aged five and under and 655,000 children aged 6 –13 attended a childcare service in Australia. This represented 70% of all 0–5 year old children and 25% of all 6–13 year old children in Australia.[69]

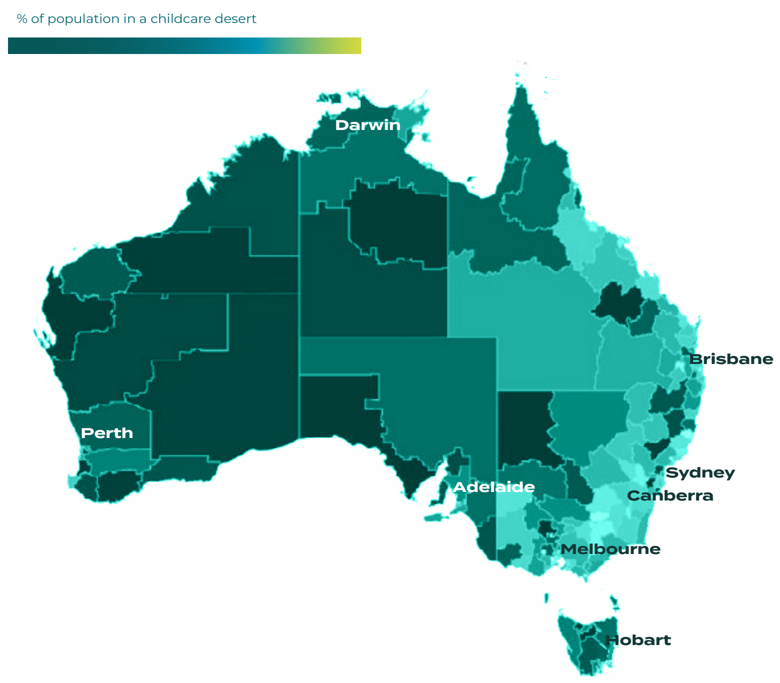
In Australia, there were 17,322 approved childcare services operating in 2023, of which 16,874 were centre-based, and 9,002 (52% of the total) were operated by private for-profit providers.[70]

Key impact opportunities:

- Accessibility
- Affordability
- Quality

Accessibility

As shown in the below chart, research from the Mitchell Institute has found that 35.2% Australians live in a "childcare desert", with a distinct correlation between wealth and childcare availability and cost.[71] Accessibility is worse in more remote areas: 28.8% of people living in the major cities are in a childcare desert, whereas it is 44.6% of people in regional areas and 85.3% in remote Australia.



Source: Mitchell Institute for Education and Health Policy, data republished by The Guardian[72]

Affordability

Childcare in Australia is relatively less affordable than in many other OECD countries. In Australia in 2022, for a couple on average wages with two children (aged two and three years) in centre-based childcare full-time, net childcare costs came to 16% of net household income, compared to the OECD average of 9%. This is partly explained by a lower rate of public subsidy in Australia with Government spending on early childhood education for 0-5 year olds at 0.6% of GDP, compared with the OECD average of 0.8%. Notably, the Nordic countries spend around 1.4% of GDP on average.[73]

It's also estimated that higher workforce participation, by improving affordability for low-income households, would boost GDP by about $11 billion a year at a cost of just $5 billion a year in childcare spending. This is because a typical (according to these studies) Australian woman with pre-teenage children works 2.5 days a week. Women with children currently earn about $2 million less over their lifetime than men with children. These figures are on par with the estimated economic benefit from cutting the company tax rate to 25%.[74]

Quality

There has been evidence that children who participate in high quality early childhood education programs learn better and are more successful in school. Findings from the High/Scope Perry Preschool Project concluded that a high-quality early childhood program for children provided direct and indirect economic benefits to the public of approximately $12.90 per dollar invested.[75]

The Australian Children's Education and Care Quality Authority (ACECQA) assesses centres against the National Quality Framework (NQF). In the Q2 2023 NQF snapshot, 15,765 centres (91%) have a quality rating and 89% of those centres are rated "Meeting" or "Exceeding" the National Quality Standards (NQS). It is encouraging to note that 68% of centres that were rated "Working Towards" managed to improve their rating at their latest reassessment.[76]

There are currently 200,000 childcare workers in Australia versus a demand requirement of a further 30,000. The average annual salary for a childcare worker in Australia ranges from $55,000-$65,000 versus $90,000-$100,000 for a primary school teacher.[77] Retention rates are one of the biggest challenges with an estimated 30% staff turnover.[78]

Staff in early learning centres often have studied early childhood education in university, are qualified teachers, or have a diploma/are TAFE qualified. Whatever their qualifications, it's clear there is a cost, which someone must pay, for the higher staff qualifications and career development necessary to boost retention levels and make this career choice a viable long-term choice for men and women. The CEO of SDN Children's Services said: "Staff need to be valued and have some sense of progression prospects to want to stay at a centre".[79]

Our impact strategy

The increased demand for childcare services provides the opportunity to seek investments in both the development of new centres and ongoing operational management of centres. Our impact strategy is to invest in developers of greenfield childcare centres and the operators of childcare services with the aim of:

- Advocating for the increased supply of new centres and ensuring sufficient supply to meet the increasing demand.
- Ensuring the industry is supported by a high-quality labour force.
- Ensuring our providers are meeting or exceeding the national quality standards at all their centres.
- Engaging the sector on policy settings to ensure accessibility, particularly in underserved areas.
- Advocating for policy that focuses on improving the affordability of childcare.
- Advocating for measurement and reporting of wellbeing and development outcomes.

Our positive impact investments:

- G8 Education (ASX:GEM) – one of Australia's largest providers of early childhood education and care with 430 early learning centres across Australia.
- Mayfield Childcare (ASX:MFD) – an operator of 39 childcare centres across Victoria, Queensland and South Australia.
- Arena REIT (ASX:ARF) – an internally managed real estate trust that develops, owns, and manages social infrastructure properties in childcare and healthcare.
- Charter Hall Social Infrastructure REIT (ASX:CQE) – the largest Australian property trust investing in early learning centres in Australia and New Zealand.

This NorthStar Theory of Change addresses UN SDG 4 "Quality Education" with a focus on Targets:

4 QUALITY EDUCATION

4.2 by 2030 ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.a build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

Arena REIT (ASX: ARF)

Arena REIT provides access to essential community services in three sectors: Early Learning Centres (ELCs), medical centres and disability accommodations. It has a portfolio of 272 social infrastructure properties throughout Australia, of which 263 are ELCs.

Impact Thesis

Childcare centres receive a NQS (National Quality Score) and as stated in the 2023 Arena Sustainability Report, there is a correlation between NQS scores and better community ratings. Physical Environment is one of the seven quality areas assessed in the NQS.[80] It assesses whether the "physical environment is safe, suitable and provides a rich and diverse range of experiences that promote children's learning and development." Dedicated developers and managers of childcare facilities can ensure that new centres are developed with accessibility in mind, are purpose-built and then maintained to high standards, in order to achieve better childcare outcomes.

As a publicly listed company, ARENA has access to capital that can support a steady supply of centres at scale and ensure more childcare facilities are available to meet the growing demand.

Intentionality

Arena's portfolio facilitates access to essential community services with positive social impact. ELC tenants of Arena's social infrastructure properties include Goodstart (24% of centres), Green Leaves (18%), Edge (11%), Affinity (10%) and G8 Education (5%). Collectively they offer 23,476 licensed childcare places. This offer also extends to less served areas, with 26% of Arena's properties classified as Inner Regional, 14% as Outer Regional, and 0.4% as Very Remote.

Contributes to UN SDG Target: 4.2 and 4.a

Benefits: People

Additionality

Through our investment in this company, we aim to:

- Accelerate the development of ELCs in 'childcare deserts' by engaging on the challenges of building remote childcare facilities.
- Accelerate and extend childcare services by addressing the challenges related to labour force supply and quality.
- Advocate for the reporting of NQS scores and other impact metrics by the listed childcare REITs.

Impact Measurement

INPUT:

$38.3 million invested in properties and capital expenditure on a total asset base of $1.57 billion, as at 30 June 2023.

OUTPUT:

263 Early Learning Centres (ELCs), 6 medical centres, and 3 specialist disability accommodations. The operating portfolio, ELC portfolio and healthcare portfolio have an occupancy rate of 99.7%, 99.6% and 100% respectively.

OUTCOME:

Outcome: Early development and socialisation outcomes for children; Childcare availability to allow for parent employment.

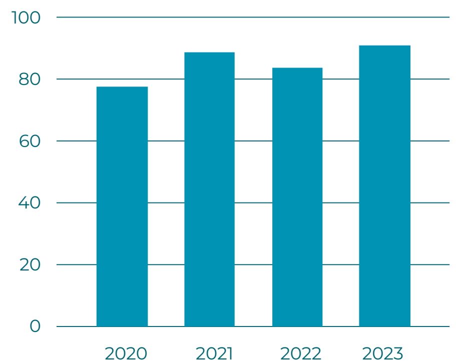
IMPACT:

249 operating ELC properties offer a total of 23,476 licensed places across Australia. This equates to an average of 19,485 children receiving the benefits of childcare per day.

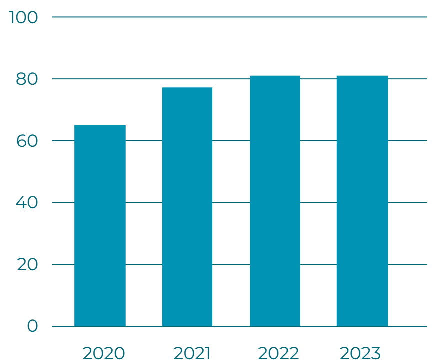
The average rating of the portfolio is "Meeting the standard" of the NQS, which indicates that the centres provide quality education and care in all seven areas of the National Quality Framework areas. High quality scores are correlated with better community outcomes, increasing the social impact of childcare.

Case Study

In early 2023, Arena REIT completed seven Early Learning Centre (ELC) development projects, worth $44.3 million. Its tenant partners see property as a lever to gain competitive advantages when exploring new business opportunities and in this, Arena strives to be an "accommodation partner of choice". In FY23, Arena undertook an annual tenant survey, with the results indicating a positive view of the relationship when compared with other landlords.



Overall view of relationship
(0 Unfavourable, 100 Favourable)



Arena compared with other landlords
(0 Unfavourable, 100 Favourable)

Data sourced from the 2023 Arena REIT Annual Report and 2023 Sustainability Report.

NorthStar Theory of Change: Inclusion

Inclusive societies afford all individuals and groups regardless of age, gender, sexual orientation, ethnicity, race, ability, immigration status, and socioeconomic status access to and full participation in society.

Research suggests that the existence of a diverse labour force and gender equality contribute to greater economic growth.[81] Other studies compiled by the Governance and Social Development Research Centre indicate there is a positive economic impact when individuals with disabilities are included in education and the workforce and are provided with access to healthcare.[82]

Inclusive Australia publishes an annual Social Inclusion Index for Australia.[83] At the end of 2020, the Inclusive Australia Social Inclusion Index was 61 out of 100 which was two points lower than the previous year. Although this year was the equal lowest score that has been recorded, it did not decline by as much as many may have expected given the global COVID-19 pandemic.

Inclusive Australia surveys show everyday discrimination was most common among Aboriginal or Torres Strait Islanders who identify as LGBTIQ+ and young people with a disability. Similarly, experiences of major discrimination were most common among Aboriginal or Torres Strait Islanders who identify as LGBTIQ+ and young people with a disability. Wellbeing was lowest among people on low incomes with a disability.

The challenge is to improve social inclusion, particularly for people experiencing the poorest outcomes. This is a multi-faceted issue and requires tackling the root causes of a lack of social inclusion and discrimination, including barriers formed by socio-economic status, language, disability, and financial insecurity.

Key impact opportunities:

- Financial inclusion
- Disability
- Translation

Financial inclusion

Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way.[84] It includes ensuring access to a transaction account, access to responsible credit and strong financial literacy. The World Bank Group considers financial inclusion a key enabler to reducing extreme poverty and boosting shared prosperity and has identified financial inclusion as an enabler for seven Sustainable Development Goals.

Australians carry some of the highest household debt levels in the world compared to other OECD countries at 211% of net disposable income per household.[85] While a large portion of this is made up of "good" debt from mortgages and other loans that build wealth over time, recent studies have estimated that the average Australian in 2023 carries over $20,000 in personal debt, an 11% increase year on year, fuelled in part by the cost-of-living crisis, inflation, and interest rate increases.[86]

Recent consumer surveys show 30% of Australians now report that they are "extremely stressed" about their financial situation, and an estimated 29% of Australian low-income households are over-indebted.[87] Studies also show evidence of a "poverty premium" applied by lenders, where lower income households are charged more for access to credit and loans compared to higher income households, making debt less accessible and affordable.[88]

The most recent Household, Income and Labour Dynamics (HILDA[89]) study has shown a decrease in financial literacy from 2016 to 2020, and a widening financial literacy gap between the genders, with men markedly outperforming women, as well as Indigenous Australians scoring lower than non-Indigenous Australians.[90]

While many solutions for easing systemic financial inequality need government-funded solutions, improving Australians' financial literacy is a crucial step when it comes to tackling social and financial inequality.

New business models utilising e-commerce data can provide consumers with more agency over their choices, and more flexible, equitable and affordable financing options. Digital platforms can provide resources to educate consumers on their choices to promote responsible, sustainable financial systems and support stronger financial inclusion outcomes for all.

Disability

Compared with people without disability, people with disability generally have:

- lower rates of labour force participation
- higher rates of unemployment
- greater reliance on government pensions or benefits as their main source of income.[91]

Access to information via media sources is a key tool of inclusion and video media is a significant communication channel. By providing captioning and transcription services to allow hearing impaired people to have better access to information (especially in regard to education), participation of the hearing-impaired community increases.

Translation

Providing translation and transcription services allows people with English as a second language to have better access to information, increasing awareness of support services and other opportunities. In Australia, 22.8% of people used a language other than English at home in 2021.[92] Media that is only communicated in English excludes a significant portion of the Australian population. This is particularly evident during crisis situations, such as the Covid-19 pandemic, when local rules and regulations were being altered frequently. Translation services support inclusion outcomes and a recognition of the diverse community living in Australia.

Our impact strategy

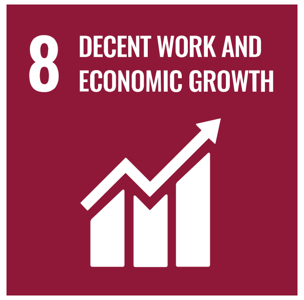
As impact investors, we allocate capital to companies working to improve inclusion to create a more just and equitable world, and to deliver the economic benefits that come from opportunities for shared prosperity. This includes access to information for the hearing impaired and people with language challenges and better access to financial literacy tools and education. Our impact strategy is to invest with the aim of:

- Increasing the number of people that have access to information through transcription and translation services.
- Increasing the number of people accessing financial literacy tools and education, as well as fairer financial products.

Our positive impact investments

- Wisr (ASX: WZR) - a non-bank lender for consumer loans, committed to providing products, apps and services to help Australians make smarter decisions with their money.
- Ai-Media Technologies (ASX: AIM) - the biggest captioning provider in the Australian market, providing live and recorded captioning and translation services combining artificial intelligence and human expertise.

This NorthStar Theory of Change addresses UN SDG 8 "Decent work and economic growth" and UN SDG 10 "Reduced inequalities" with a focus on Targets:



8.10 Strengthen the capacity of domestic financial institutions to encourage and to expand access to banking, insurance and financial services for all

10.2 by 2030 empower and promote the social, economic and political inclusion of all irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

AI Media (ASX: AIM)

AI Media is the leading captioning, transcription and translation provider globally. They offer the only end-to-end captioning solution in market, from encryption of source data to encoding, captioning, transcription and translation. Ai-Media iCap platform is a cloud-based delivery network that connects captions and other live services to any broadcast signal in the world. Their AI-driven captioning and transcribing system has market leading levels of accuracy (98%+) in near real-time.

Impact Thesis

Providing captioning and transcription services allows hearing impaired people better access to information, which is particularly important for education, and supports access to government and support services.

Intentionality

AI Media is working to make the world's content accessible for everyone. It was founded with the belief that everyone deserves access to information.

Contributes to: UN SDG Target: 10.2

Benefits: People

Additionality

Through our investment in this company, we aim to:

- Improve impact reporting methods and communication
- Increase access to captioning, translation and transcription services.

Impact Measurement

INPUT:

$585,505 invested in property and equipment, alongside $367,000 related to acquisitions and $695,000 in intangibles

OUTPUT:

9.1 million minutes per month of translated and captioned material delivered

OUTCOME:

2,885 people can watch captioned video, based on the average rate of television watching per month[93]

IMPACT:

At least 2,885 people included in entertainment, news and other sources of information delivered via video media.

Case Study

In 2022, the Canadian province of Nova Scotia began implementing a plan to ensure accessibility for all its citizens by 2030, with captions likely to play a role.

This initiative "Access by Design 2030" was introduced as part of Nova Scotia's 2017 Accessibility Act, addressing the needs of a population where 30.4% of its residents are reported to live with a disability (notably exceeding the national average of 22%). It is estimated that approximately 58,000 individuals in the province identify as Deaf, Hard of Hearing, deaf-blind, or late deafened, constituting nearly 6% of the population.

The focus of Access by Design 2030 is to prevent and remove barriers that Nova Scotians with disabilities encounter throughout society. By working with members of the disabled community, as well as the public and private sectors, the Nova Scotian government's Accessibility Advisory Board is formulating six standards to help ensure its citizens have equitable access to a range of areas such as buildings, education, employment, information, goods and services and transportation.

Part of the plan is to develop standards to ensure all citizens can receive and share the same information. It has been reported that the Board may consider accessible websites and technologies when formulating the standards, along with traditional accessible formats like braille, American Sign Language, or large print.

Nova Scotia wasn't the first Canadian province to introduce accessibility legislation. In 2005, Ontario passed the Accessibility for Ontarians with Disabilities Act, which aims to make the province barrier-free by 2025. Then in 2019, the Canadian government followed suit by passing the Accessible Canada Act, which aims to make the country barrier-free by 2040. All aim to remove barriers across key aspects of day-to-day life.

AI MEDIA

Data sourced from the 2023 AI Media Annual report, and case study adapted from AI Media's article "Access by Design: The Plan to Build an Accessible Nova Scotia by 2030"[94]

HEALTHCARE

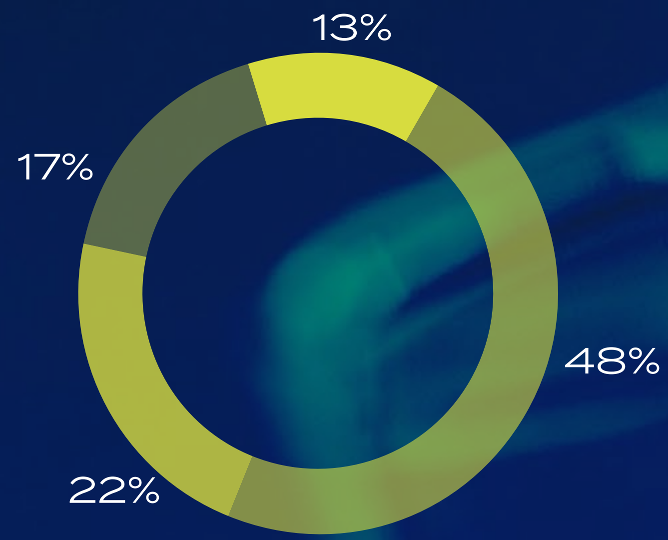
38.7%
of NorthStar's portfolio

23 portfolio companies

Working across:
Healthcare Services, Medical Devices, Pharmaceuticals and Healthy Living

Healthcare

- Early Stage
- Small Cap
- Mid Cap
- Large Cap



$657.8 million
invested in healthcare assets (7 companies)

142.7 million
procedures, episodes and examinations conducted (6 companies)

Over
15,367
patients treated for burns and glaucoma (2 companies)

Over
44,000
cochlear hearing implant recipients (1 portfolio company)

Over
160 million people across → 140 countries benefitted from access to respiratory products (1 company)

17.3 million
women in

41 countries tested for breast cancer using Volpara software, resulting in better images, greater understanding of cancer risk, and detection of 2,600 potential extra breast cancers

34
active clinical trials (2 companies)

99 products
registered with or submitted to regulators (2 companies)

* Impact outputs relate to total company impact of some or all of a selected 20 companies and not NorthStar's attributable share of those impacts. Full impact data can be found in the appendix.

NorthStar Theory of Change: Healthcare - Services

Although Australians have enjoyed an increase in life expectancy over recent decades, the proportion of our lives that we are spending in good health has not materially changed. This means that although we are living longer, we are also sick for longer, which has led to increased pressures on our medical systems.[95] There is greater need for innovation and efficiency in healthcare to meet demand and deliver better patient outcomes.

Costs are rising due to increasing incidence of chronic diseases and an ageing population. In addition, changing customer expectations are driving a need for more personalised, digital, seamless and integrated care experiences. The after-effects of the COVID-19 pandemic on the health of the Australian population are just beginning to be understood, both in the direct impact of 'long COVID' and through broader behavioural shifts in the way we access healthcare.

In 2020-21, total healthcare expenditure (Government and private) in Australia was $220.9 billion ($8,617 per person), ~ 10.7% of GDP.[96] Government spending as a percentage of GDP is expected to rise 50% by 2060 to meet the demands of an ageing population.[97]

Key impact opportunities

- Meeting the demands of changing healthcare needs
- Addressing Accessibility and the socioeconomic healthcare outcomes gap
- Increasing Diagnostic testing, prevention and early intervention

Changing Healthcare Needs

In 2022, Australians lost 5.5 million years of healthy life to illness or premature death.[98] In the two decades to 2022, there was a shift in the profile of how Australians experience illness, with more years of healthy life now lost due to living with illness than to dying prematurely.

Over three quarters of Australians (81.4%) suffered from at least one long-term health condition in 2022, with half (49.9%) of Australians suffering from at least one chronic condition, and approximately 20% suffering from two or more.[99]

Accessibility and the Healthcare Outcomes Gap

The types and number of diseases that Australians live with varies with socioeconomic disadvantage, with the likelihood of a person having two or more chronic conditions increasing from 14% for the most privileged to 24% in the lowest socioeconomic areas.[100] As well as inequities in disease prevalence, there are gaps in health outcomes across socioeconomic groups, as well as between Australia's Indigenous and non-Indigenous population.

Indigenous Australians have a life expectancy 10 years less than non-Indigenous Australians and suffer higher incidences of child mortality, chronic disease, and hospitalisation. Similar trends are evident in the 30% of the Australian population that live outside major cities, who face significantly poorer health outcomes, due to a combination of exhibiting higher risk factors of disease and having poorer access to healthcare facilities.[101]

Diagnostic Testing, Prevention and Early Intervention

As reported in the AIHW study, the average Australian born in 2022 can expect to live 11 years of their life in ill-health. A large portion of Australia's disease burden comes from non-communicable chronic diseases, with 9 out of 10 preventable deaths in Australia linked to chronic disease. Yet our spending on preventative healthcare remains low compared to other OECD nations, standing at less than 2% of overall healthcare spend.[102]

Pathology and diagnostic tests are one method of tackling this challenge. Australia's pathology workforce consists of about 24,000 people who collect, process and report on approximately 500 million pathology tests each year. These tests play a vital role in more than 70% of medical diagnoses and inform many of the clinical decisions related to patient care.[103]

Pathology and diagnostic imaging will play an increasingly important role in our medical landscape as Australia's population ages, with the latest available data showing 92% of people aged 65 and over had at least one pathology service in 2020-21, compared with 74% of people aged 45–64 and 49% of people aged 44 and under.[104]

Our impact strategy

Our strategy is to invest in healthcare companies that have a demonstrable positive impact on improving the health of society and reducing demands on the healthcare system, through improving efficiency and providing better affordability. Within healthcare services, this includes pathology, diagnostic imaging, dental, health care data, and digital healthcare solutions. Through our investment, we aim to:

- Fund the growth of healthcare products, services and facilities that have a positive impact on people's health and wellbeing.
- Improve accessibility of services both physically and digitally.
- Improve equality of access to services among different regional, cultural, and socioeconomic groups.
- Work to reduce financial and physical healthcare costs to Australians through early diagnosis and intervention.
- Improve Australians' overall life and health-spans and increase quality of life through improved access, timeliness, and affordability of services.

Our positive impact investments

- Australian Clinical Labs (ASX:ACL) - the third-largest provider of community pathology services in Australia.
- Beamtree (ASX:BMT) - a health data provider focusing on data collection and analysis to provide clinical decision support and improve quality of patient care.
- Capitol Health (ASX:CAJ) - a provider of diagnostic imaging services to patients across Australia.
- Healius (ASX:HLS) - provides pathology testing and diagnostic imaging services, as well as running medical centres, specialist GPs, as well as dental, IVF clinics and day hospitals.
- Integral Diagnostics (ASX:IDX) - a provider of diagnostic imaging services to patients across Australia and New Zealand.
- Pacific Smiles (ASX:PSQ) - an independent operator of dental clinics and the largest branded Dental Service Organisation in Australia.
- Sonic Healthcare (ASX:SHL) - a global healthcare company specialising in pathology laboratory services, diagnostic imaging and radiology, along with medical centre and general practitioner services.

This NorthStar Theory of Change addresses UN SDG 3 "Good Health and Well-being" with a focus on Targets:

3.3 by 2030 end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.8 achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all.

3b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.

3.d strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction, and management of national and global health risks.

Pacific Smiles (ASX: PSQ)

Pacific Smiles Group operates over 130 dental centres in Australia. It enables dentists to operate a practice without the significant set-up costs usually required to establish a modern and high-quality centre.

Impact Thesis

With an ageing and growing population, there is more prevalence of dental problems requiring treatment. This means that more investment is required in the development of greenfield dental clinics, particularly in underserved areas in Australia.

Oral health including tooth decay, gum health and tooth loss impacts a person's ability to speak, eat and socialise, as well as their overall health. Oral health typically declines over a person's lifetime, as a result of the consumption of sugar, lack of oral hygiene, irregular dental check-ups, all of which are also impacted by access, availability and affordability of dental care services.

Intentionality

Pacific Smiles is positioned as convenient, accessible, quality, affordable dental care services with a focus on preventative and restorative oral health. Their experience helps dentists to grow their dental practices within its centres, enabling the provision of more quality dental services.

Contributes to UN SDG Target: 3.8

Benefits: People

Additionality

Through our investment in this company, we aim to:

- Improve the reporting of impact data related to dental services.
- Encourage investment in underserved areas.
- Facilitate collaboration with not-for-profit organisations and social enterprises to improve accessibility and treatment for underserved communities.

Impact Measurement

INPUT:
$11.1 million invested in new centres, relocations, expansions and refurbishments, as well as technology upgrades and equipment replacement

OUTPUT:
130 dental centres, 900 dentists, 545 dental chairs, 545,000 routine exams, 515,000 cleans, 335,000 filings, 29,000 root canals, 73,000 extractions, 15,000 crowns, 1,000,000 appointments

OUTCOME:
Better dental health for the community

IMPACT:
Impact: An estimated 400,000 - 500,000 people treated in FY23

Case study

Pacific Smiles (PSQ) is the largest branded Dental Service Organisation in Australia. Having commenced in 2003, the network comprises 138 dental clinics and >530 commissioned dental chairs. The group provides a broad range of general, family and specialist dental treatments. Strategically, PSQ targets greenfield expansion opportunities in relatively underserved areas with good patient demographics and private health insurance policy ownership.

Pacific Smiles have renewed their focus areas and growth opportunities for 2023. They plan on expanding new centres to focus on attracting new patients that were impacted by COVID-19, as there is now larger capacity to deliver more services and appointments. By enhancing communication pathways, PSQ believe they can increase dentist engagement with the community and facilitate confident scope of work.

Impact data and case study sourced from the 2023 Pacific Smiles Annual Report.

NorthStar Theory of Change: Healthcare – Medical Devices

Medical devices underpin our healthcare ecosystem, with examples ranging from diagnostic devices including imaging equipment and medical tests to therapeutic devices for the treatment of specific diseases or conditions. There are an estimated two million different kinds of medical devices on the market globally.[105]

In Australia, over 2.5 million patients per year are served with medical technology, consumables and devices, which provides an estimated $3.6 - $4.5 billion annual value to the community. Australia, despite being a small market, ranks highly as a developer of medical devices on the world stage, ranked as the 13th largest globally by total market value.[106]

Key impact opportunities

Investment in the development, commercialisation, and distribution of medical devices to:

- Improve the early detection of diseases and conditions
- Provide better treatment of existing diseases and conditions
- Enable people to enjoy better quality of life
- Reduce costs to the healthcare system and improve efficiency and productivity.

Medical procedures

As the industry has advanced, we have reached a point where all clinical procedures and surgeries in Australia are now reliant on the use of medical devices. Globally, advances in medical technology have been a key factor in the 30% decline in annual mortality seen over the last 20 years, and the 56% reduction in hospital bed days over the last 15 years.[107]

Disability

Medical devices play a key role in allowing people living with disability to improve their daily functioning and increase independence. In Australia, it is estimated that of the 4.4 million Australians (18% of the population) living with disability, over half use assistive devices.[108] Over 1 in 4 Australians with disability rely on a communication aid, such as cochlear implants, hearing aids, or speaking aids, and an estimated 1 in 5 people with disability use devices or equipment to manage their medical conditions.[109]

Chronic disease

In addition to the 18% of Australians living with a disability, a further 22% of the population (5.5 million) live with a long-term health condition that may require the use of assistive medical devices in the daily management of their condition, such as blood pressure monitors or continuous glucose monitors for diabetes.[110] Ensuring equitable access to and funding for medical devices and assistive technologies can support Australians with disabilities and long-term health conditions to live independently, with a higher quality of life. This can be addressed through greater funding for and innovation in the medical technology sector.

Our impact strategy

Our impact strategy is to invest in a range of medical technology and device companies across many diseases and conditions. As impact investors, we allocate capital to medical device companies with the aim of:

- Scaling investment in medical device innovation and development.
- Promoting equality and inclusivity through access to assistive medical devices.
- Encouraging expansion to include underserved communities.
- Facilitating greater awareness and faster adoption of new or innovative medical devices and technologies.

Our positive impact investments

- Avita Medical (ASX:AVH) - a regenerative medicine company leading the development and commercialisation of devices and autologous cellular therapies for skin restoration.
- Cochlear (ASX:COH) – a global leader in implantable hearing solutions to help people with hearing loss.
- Nanosonics (ASX:NAN) - an infection prevention company that has developed and commercialised automated disinfection technology for ultrasound probes.
- Nova Eye (ASX:EYE) - a medical technology company that develops, manufactures and sells a portfolio of ophthalmic treatment technologies and devices for glaucoma and other ophthalmic conditions.
- Paragon Care (ASX:PGC) - a leading provider of medical equipment, devices and consumables to the healthcare markets in Australia, New Zealand and Asia.
- Proteomics (ASX:PIQ) - a medical technology company specialising in the area of proteomics, the industrial scale study of the structure and function of proteins, with applications in predictive diagnostics and bio-analytical services.
- Resmed (ASX:RMD) – a global leader in devices for the treatment of sleep apnoea and COPD.
- SDI (ASX:SDI) – a company focused on the research and development, manufacturing and marketing of specialist dental materials.
- Volpara (ASX:VHT) – an AI-powered health technology software company which specialises in the personalized screening and early detection of breast cancer.

This NorthStar Theory of Change addresses UN SDG 3 “Good Health and Wellbeing” with a focus on Targets:

3.3 by 2030 end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.8 achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all

3b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

3.d strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction, and management of national and global health risks

Avita Medical Ltd (ASX: AVH)

Avita Medical is a commercial-stage regenerative tissue company with an autologous 'spray-on-skin' medical device, RECELL, which targets broad areas of unmet need in burns, chronic wounds, and skin conditions.

Impact thesis

Globally, burn injury is one of the top ten causes of trauma, and is a leading contributor to premature death and years lived in less than full health. Non-fatal burns are also a leading cause of morbidity, resulting in prolonged hospitalisation, disfigurement and disability.[iii] In the United States, approximately 40,000 people annually have burn injuries severe enough to require hospital admission, and it's estimated that 3,300 patients die each year. A lack of available healthy donor skin for patients with large burn injuries is often the central problem impacting time to autografting. The overall cost of treatment with split-thickness skin grafts (STSG) is expensive - for example it would cost approximately $579,000 and 59.4 days in hospital for a patient with a 40% Total Body Surface Area (TBSA) mixed-depth burn injury to recover and return to normal day-to-day activities.

RECELL enables medical professionals to treat wounds and burns using small samples of a patient's cells. It is simple to do, not requiring laboratory facilities, and quick to administer. It was launched in the United States in 2019 after FDA approval in late 2018 and has been approved in Europe (CE mark), Australia (TGA), Canada, and China.

Intentionality

Avita Medical is committed to skin restoration and improving patients' lives through their novel technology platform.

Contributes to UN SDG Target: 3.4 and 3.8

Benefits: People

Additionality

Through our investment in this company, we aim to:

- Identify potential for international expansion outside the "20-25 healthcare systems identified by AVH" to reach underserved communities.

Impact Measurement

INPUT:
US$452,000 invested in property & equipment; US$13.9 million research & development focused on the clinical development of RECELL System

OUTPUT:
15,000+ patients; ~150 burn centres. More than 1,000 patients have been successfully treated with the RECELL System for stable vitiligo outside of the U.S. and, at the time of writing, there were 11 publications demonstrating the benefits of the RECELL System in vitiligo

OUTCOME:
Soft tissue repair and healthy skin regeneration post burns

IMPACT:
56%-60% fewer mean surgical procedures versus the American Burn Association's National Burn Repository; RECELL System for deep partial-thickness burns reduces the total treatment cost by an average of 26% for those with 40% total body surface area burns.

Case Study

Burns treated by RECELL System used 97.5% less donor skin when used alone in second-degree burns, and 32% less donor skin when used with autograft for third-degree burns. Other benefits include less pain, fewer surgical procedures, shorter stays in hospital, faster recovery time, and better pigmentation compared to traditional skin grafts.

Avita treated a woman who suffered burns accounting for ~11% of the total body surface area (TBSA), which is classified as a deep partial-thickness burn injury. A primary treatment used on the patient was unsuccessful. Avita's RECELL Spray-On Skin Cells were then prepared and applied to the injury. On Day 9 after the operation, the patient had "definitive wound closure and no signs of infection or inflammation." With only the use of Avita's RECELL, the injured patient was able to achieve full re-pigmentation.

Impact data and case study sourced from the 2022 Avita 10-K Report and patient outcomes data provided by Avita management, published on the Avita Medical website.

NorthStar Theory of Change: Healthcare – Pharmaceuticals

The pharmaceuticals industry encompasses research and development, manufacturing, packaging, and distribution of drugs and medical treatments to patients. In Australia, there are over 1,200 pharmaceutical and MedTech companies, which make up Australia's medical research ecosystem, along with 55 medical research institutes and 40 research universities.[112]

The medical needs of Australians have been shifting over the decades, with the latest studies showing that more healthy years of life are lost to living with chronic illness and disability than to premature death.[113]

The rate of development of new drugs to address this change in our healthcare needs is rapidly changing the way we treat disease today and how we will treat disease in the future, particularly in the fields of biopharmaceuticals and immunotherapies, and the emerging field of the use of genomics to develop personalised treatments.

The total expenditure on health and medical research in Australia for 2021-22 was estimated at $7.3 billion from both private and government sources supporting novel research and local clinical trials.[114]

For Australians in 2022, cancers were the group of diseases causing the most burden, accounting for 17% of the 5.5 million years of healthy life lost to disease.[115]

Key impact opportunities

- Scaling investment in the development of new pharmaceuticals
- Ensuring affordable access
- Ensuring secure supply

Scaling Investment

Clinical trials offer numerous benefits to patients and to society more broadly. It has been shown clinical trials can lead to better patient outcomes in terms of quality adjusted years of life, both directly through gaining access to new medicines and treatments, and indirectly through closer clinical surveillance and improved patient quality of care.[116] A study from the Australian Clinical Trial Alliance estimated in 2017 that every dollar invested in clinical trials returned $5.80 in health and economic benefits to society.[117]

From 2015 to 2019 (latest available data), Australia has seen steady growth in investment in clinical trials. In 2019, $1.4 billion was spent on clinical trials within Australia, which represents a 6.5% per annum increase in investment against a 2015 baseline. This increase in investment has translated to a proportional increase in the number of new clinical trials undertaken, rising from 1,453 a year in 2015 to 1,877 in 2019.[118] This allowed an estimated 95,000 patients to participate in clinical trials in Australia as of 2019.

While there has been growth in the level of clinical trial investment and participation in Australia over recent years, there is still significant scope for further investment and expansion - on a per-capita basis, the United Kingdom has four times as many patients participating in clinical trials compared to Australia.

Affordable Access

Although renowned for having a robust and effective healthcare system, Australia ranks 17 out of 19 OECD peers in the availability of New Molecular Entities (NMEs) reimbursed. On average, it takes the Australian government 410 days to grant reimbursement for an NME, versus the peer group leader Japan's average of 98 days.[119] This means that while accessibility for medicines approved under the PBS is relatively equal across society, Australians face delays and hurdles in accessing new medicines at affordable prices.

Security of Supply

Australia is reliant on a global supply network to ensure that patients receive the medicines they need, and shortages can occur for a number of reasons from changes in demand, transport and freight disruption, and manufacturing issues.

As of November 2023, the Therapeutic Goods Administration (TGA) listed 451 drugs as "current shortages" with 47 listed as "critical shortages", and while many can be substituted for other dose levels or for generics, there have been reports that patients are being left to absorb the increased cost of alternatives.[120, 121] The Australian Federal Government has introduced new minimum stockholding requirements from July 1 2023 to require manufacturers of 2,900 common medicines to keep four to six months' supply on shore in Australia, however shortages remain.

Our impact strategy

Our impact strategy is to invest in biotech and pharmaceutical companies at all stages of development. Listing on the ASX is a common source of funding for early-stage biotech and pharmaceutical companies. We invest with the aim of:

- Supporting investment in R&D and the development of manufacturing and distribution of pharmaceuticals.
- Providing access to our networks to promote the benefits of portfolio companies' products.
- Engaging the sector on policy settings to ensure accessibility, particularly for lower income patients.
- Encouraging the measurement and reporting of healthcare outcomes.

Our positive impact investments

- Botanix (ASX:BOT) – a dermatology company working on commercialisation of a product to treat hyperhidrosis.
- CSL (ASX:CSL) – a biotechnology company with a portfolio of medicines including treatments for haemophilia, immune deficiencies, and vaccines.
- Clarity Pharmaceuticals (ASX:CU6) – a clinical stage radiopharmaceutical company developing theranostic products to help diagnose and treat prostate cancers.
- Mayne Pharma (ASX:MYX) – a specialty pharmaceutical company focused on commercializing branded and generic pharmaceuticals, and a leader in the spaces of dermatology and women's health.

This NorthStar Theory of Change addresses UN SDG 3 "Good health and wellbeing" with a focus on Targets:

3 GOOD HEALTH AND WELL-BEING

3.3 by 2030 end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.8 achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all

3b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

3.d strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction, and management of national and global health risks

Clarity (ASX: CU6)

Clarity is a clinical stage company developing next-generation radiopharmaceutical products for use in oncology.

Impact Thesis

Cancer is the single largest burden of disease on the Australian population, accounting for 17% of all healthy years of life lost. In 2023 there were 168,000 cancer diagnoses in Australia, and 30% of deaths were cancer-related. Next-generation radiopharmaceutical products have the potential to enable better diagnoses and treatment for a range of cancers.

Intentionality

Clarity's mission is to develop next-generation radiopharmaceutical products that improve treatment outcomes for children and adults with cancer.

Contributes to UN SDG Target: 3.4 and 3.b

Benefits: People

Additionality

Through our investment in this company, we aim to:

- Raise awareness of the next generation of radiopharmaceutical products.
- Provide funding for ongoing research and development.
- Introduce the company to our network, where appropriate.
- Engage regarding impact measurement and reporting.

Impact Measurement

INPUT:
$31.5 million research & development; $46,562 invested in plant & equipment

OUTPUT:
7 active clinical trials and 1 successfully completed; 2 rare paediatric disease designations; 2 orphan drug designations; 5 active FDA investigational new drug applications; 200 diagnostic doses and 34 therapy doses

OUTCOME:
The improvement of treatment outcomes for children and adults with cancer

IMPACT:
Significant reduction in PSA levels for first patient in metastatic prostate cancer trial.

Case study

Metastatic castrate-resistant prostate cancers (mCRPC) are late-stage cancers. Patients with mCRPC have a median life expectancy of less than three years. These are patients for whom several lines of treatment, such as surgery to remove the prostate, hormone therapy to reduce the number of androgens in the body and slow or stop tumour growth, have been unsuccessful.

On 30 November 2023, Clarity announced that the first patient to receive two doses of ^{67}CuSAR-bisPSMA, the first as part of the SECuRE trial, and the second as part of the FDA's expanded access program (EAP) for compassionate use, has shown undetectable levels of PSA. Two of the patient's three tumours showed a complete response to treatment, indicating absence of all detectable cancer, with the third tumour only missing the criteria by 2mm.

The patient had been heavily pre-treated with multiple lines of therapy which had failed, including androgen deprivation therapy, chemotherapy, and a PARP inhibitor.

Dr Luke Nordquist, CEO, Urologic Medical Oncologist and Principal Investigator at the Urology Cancer Center / XCancer Omaha, NE, commented:

"As a clinician, there is nothing more rewarding than delivering the news to your patient that their cancer can no longer be detected, and with very few side effects following treatment, particularly for a patient that was heavily pre-treated with multiple lines of therapy... I believe ^{67}CuSAR-bisPSMA presents a new opportunity for cancer patients to have an effective result with few side effects."

CLARITY PHARMACEUTICALS

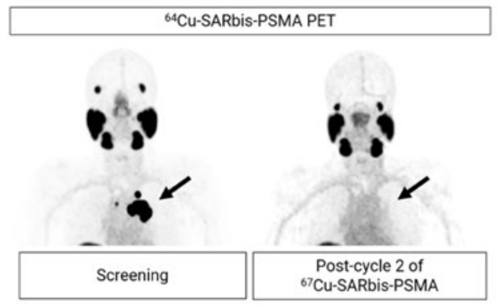


Figure 2. PET images showing uptake of ^{64}Cu-SAR-bisPSMA at screening in a patient with mCRPC (left; SUVmax 140.1. SUV: standardised uptake value). The patient received 2 cycles of ^{67}Cu-SAR-bisPSMA at 8 GBq. Images post-treatment show no ^{64}Cu-SAR-bisPSMA uptake (right).

Impact data and case study sourced from the 2023 Clarity Annual Report, 2023 AGM presentation to shareholders and press releases published on the Clarity Pharmaceuticals website.

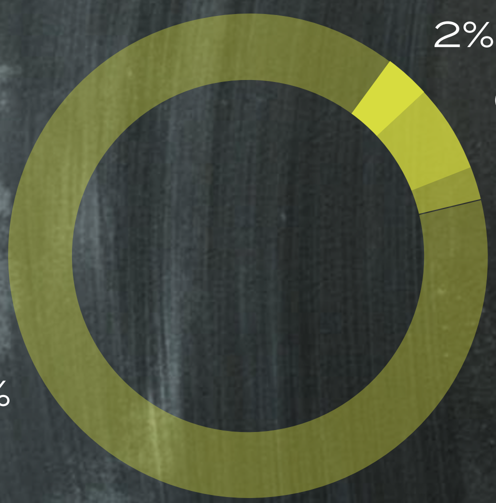
EDUCATION

13.9%
of NorthStar's portfolio

5 portfolio companies

Healthcare

- Early Stage
- Small Cap
- Mid Cap
- Large Cap



$50.9 million
invested in product development, teaching materials, technology, PP&E, and intangible assets

Over
5.5 million
users of educational software

84,600
students placed in courses of higher education globally

Over
200 higher education and vocational training courses offered

Over
40,000
active students benefiting from tutoring, English language, higher education, and vocational training courses

* Impact outputs shown relate to total company impact of all five companies and not NorthStar's attributable share of those impacts. Full impact data can be found in the appendix.

NorthStar Theory of Change: Education

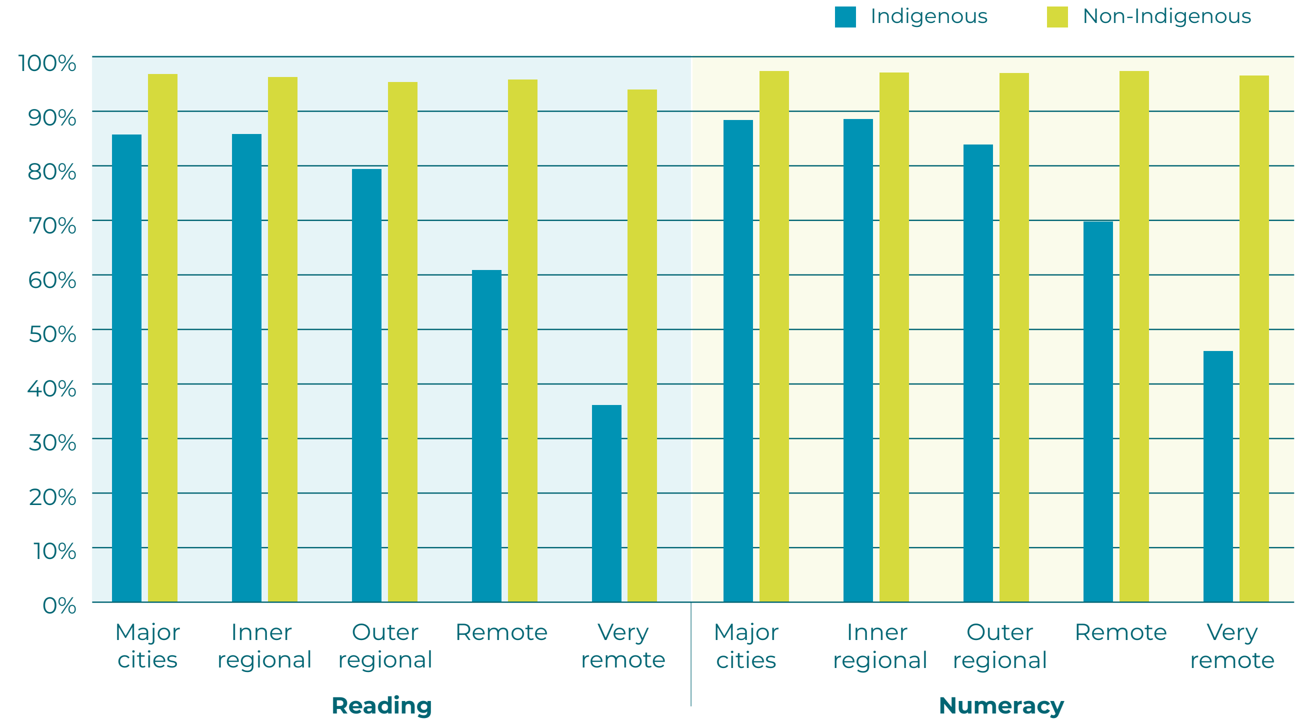
"Education is a human right, a powerful driver of development, and one of the strongest instruments for reducing poverty and improving health, gender equality, peace, and stability. It delivers large, consistent returns in terms of income, and is the most important factor to ensure equity and inclusion."
– World Bank[122]

By directing more capital towards the provision of quality education across all age groups, we contribute to better outcomes for students, communities and society as a whole.

Challenges

According to UNESCO data released in 2023, the number of out-of-school children and youth has risen by 6 million since 2021, to 250 million, and more than half of children and adolescents worldwide (617 million) do not meet minimum proficiency standards in reading and mathematics.[123]

Australia's literacy and numeracy proficiency rates are strong with 95% of year 5 students at or above the minimum standards for reading and 96% for numeracy.[124] However, the rates are slightly lower for students with a language background other than English at 93% for reading and 95% for numeracy and significantly lower for Indigenous students at 77% for reading and 81% for numeracy. These numbers worsen with remoteness to 36% for reading and 46% for numeracy, as can be seen in the chart below:



Source: Australian Institute of Health and Welfare, ACARA 2018.[125]

In addition, Grattan Institute analysis of 2022 National Assessment Program – Literacy and Numeracy (NAPLAN) data shows that a significant gap separates the achievement levels of advantaged and disadvantaged children in Year 3, and that by Year 9 this learning gap becomes a chasm. This data showed the learning gap between disadvantaged and advantaged students in Australia more than doubles in reading and numeracy between Year 3 and Year 9.[126]

The Grattan Institute analysis shows that in reading, students in Year 3 whose parents did not finish school are two-years-and-five-months behind students whose parents have a university degree. By Year 9, this learning gap has grown to more than five years. In numeracy, the learning gap for Year 9 students whose parents did not finish school is four years behind compared to students with university-educated parents.
Once children fall behind, they often struggle to catch up, irrespective of their level of advantage.

Key impact opportunities

- Increase investment in education
- Expand small group tutoring

Investment

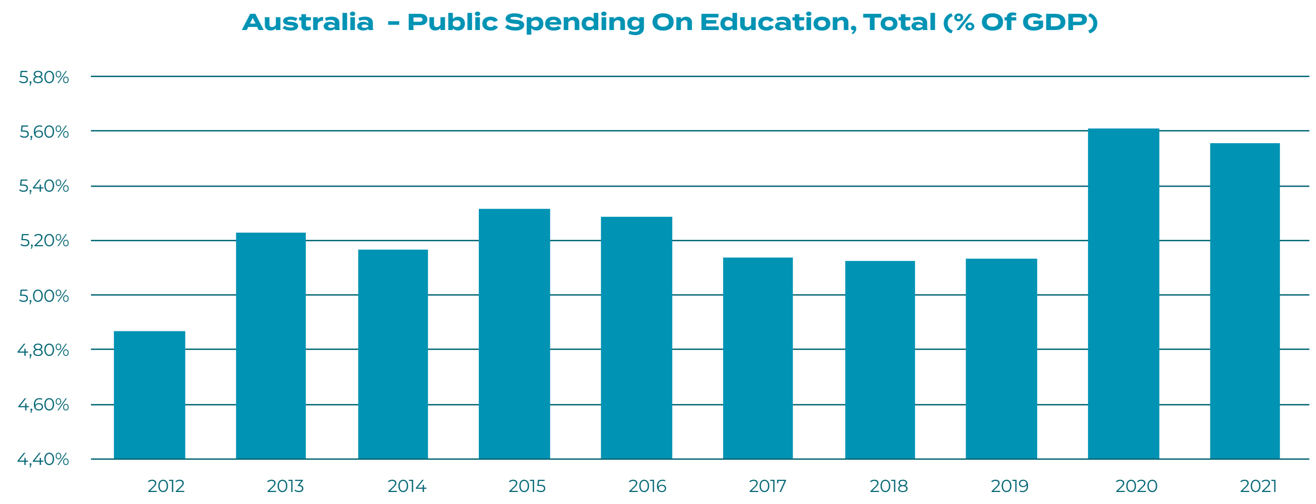
The education sector is a significant part of the Australian economy. Based on 2021 Census data, there are around 6 million Australians undertaking education and training as follows:[127]

Type of education / training	Number of people
Preschool	484,185
Primary school	2,075,224
Secondary school	1,629,624
University / Higher Ed	1,185,450
Vocational education	601,901

The total sector revenue is $144.8 billion across 34,111 businesses employing 805,000 people. The growth rate has been only 0.2% per annum over the past five years, with significant negative impact from the COVID pandemic. Previously, the sector had been growing at around 3% per annum.[128]

There are opportunities to invest across the sector including preschool operators (see Theory of Change: Childcare), providers of services (e.g. tutors) and products (e.g. educational software) for school-age students, to companies offering access to higher education and vocational courses.

Encouragingly, public expenditure on education has risen over the decade to 2021, from 4.9% to 5.5% of GDP as shown in the chart below:



Source: World Bank, TradingEconomics.com.[129]

Small group tutoring

In January 2023, the Grattan Institute published a comprehensive report on the benefits of small group tutoring.[130] Their summary statement is that "high-quality small group tutoring should be embedded in all Australian schools as part of a national drive to close the learning gap between struggling and high-achieving students".

The key findings in the report include:

- Highly focused sessions delivered about three times a week over at least 10 weeks are the most effective learning interventions available.
- Delivered well, these sessions can add, on average, an extra four months of learning over a year.
- Evidence suggests small-group tuition is effective for both literacy and maths, and all grade levels.

If one-in-five students received high-quality small-group tuition in 2023, they would collectively earn an extra $6 billion over their lifetimes – about six times the annual cost of tutoring programs.

A 2020 review of 96 'gold standard' randomised controlled trials in the United States found consistently large, positive results from catch-up tuition on maths and reading across grade levels.[131] A 2017 systematic review examined a range of interventions that aimed to improve educational outcomes for students from low-socioeconomic backgrounds. Of all the interventions examined, one-on-one and small-group tuition were the most effective.[132]

The Grattan Institute report concludes with the recommendation that Governments should better support all schools to embed small-group tuition within a 'response to intervention' model, because there are low achieving students in every school. However, it suggests that Governments should give top priority to schools with larger numbers of disadvantaged students, as this will help to close the learning gap faster.

In Australia, the Smith Family launched a post-covid Catch-Up Learning program delivered online, one-on-one, in the home, and outside of school hours for about 100 disadvantaged students around the country. The evaluation of their first pilot in 2021 showed greater-than-expected gains in both literacy and numeracy. A larger second trial and evaluation of the program in 2022, involving more than 400 students, again showed strong results. It found that 67% made higher-than-expected progress in numeracy, and 53% made higher-than-expected progress in literacy.[133]

Our impact strategy

Our strategy is to invest in companies providing quality education products and services with the aim of:

- Encouraging investment in product development and expansion of geographical coverage.
- Extending the offering of products and services to under-served communities.
- Reducing the number of students in Australia with literacy and numeracy skills below the national minimum standard.

Positive impact investments:

- 3P Learning (ASX:3PL) - Low cost access to online learning in Mathematics and English for children
- Kip McGrath (ASX: KME) - Expanding small group tutoring for school-age students, especially those falling behind their peers
- Idp Education (ASX: IDP) - Providing easier access to higher education and universities
- Academies Australasia (ASX: AKG) and Nexted (ASX: NXD) - Increased supply of vocational training

This NorthStar Theory of Change addresses UN SDG 4 "Quality Education" with a focus on Targets:

4.a build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4.1 by 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.3 by 2030 ensure equal access for all women and men to affordable quality technical, vocational and tertiary education, including university

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

Kip McGrath Education Centre (ASX: KME)

Kip McGrath use their proven methodology to help students aged 6-14 to catch up and keep up in the core areas of reading, writing, and maths. With locations in Australia, UK, US, and South Africa and a purpose-built online tutoring platform, they deliver over 2 million lessons each year.

Impact Thesis

A significant number of children in Australia are below the national minimum for literacy and numeracy. Remedial, small group and one-on-one tutoring has proven to lead to positive learning outcomes.[134] Better learning outcomes can help attain higher levels of education, access to higher education and greater life fulfilment.

Intentionality

Kip McGrath specialises in remedial tutoring for children who have fallen behind.

Contributes to UN SDG Targets:

4.1, and 4.6

Benefits:

People

Additionality

Through our investment in this company, we aim to:

- Create opportunities to extend Kip McGrath's services to underserved communities, through programs such as our Education Coaching Program.
- Identify and address issues impacting educational outcomes.
- Scale educational services to reach more children.

Impact Measurement

INPUT:

$2.9 million invested in technology to expand their offering to customers online. Additional capital was invested in building a sales pipeline to drive growth in the US market and $367,000 invested in property, plant and equipment.

OUTPUT:

Over 2 million lessons were delivered across 505 learning centres, with an average of 80 students per centre.

OUTCOME:

Learning outcomes for students delivered by small group tutoring.

IMPACT:

Equivalent of 4,273 years of academic progress.

Case Study

Tutorfly is Kip McGrath's US tutoring business. It uses an algorithm to match tutors and students, delivering in-person and virtual lessons in maths, English Language Arts (ELA) and literacy support with pre and post assessments and progress monitoring.

Isaac School District #5 engaged Tutorfly with the aim of mitigating learning loss between semesters with high-intensity tutoring. Isacc School District consists of 12 schools with 5,291 students, of which around 80% of families have an income below the poverty level and 92% are Hispanic/Latino, 4% African American and 4% Caucasian.

The implemented program had pre-agreed assessment measures and used centralised software for scheduling and tracking. The program consisted of 2-3 sessions per week with the same tutor in small groups (4:1 or smaller) and was based on a standards-aligned curriculum.

The schools included in the program had performed poorly on the AzMERIT, the standardised Arizona state assessment, with 74% graded as "Minimally Proficient", the lowest performance level, which indicates a minimal understanding and probable need for additional support. The case study included three schools: School A received high-dosage push-in (during school time) tutoring for all students; School B had an unstructured tutoring model and School C had no tutoring.

The key findings were:

- Students who received high-dosage tutoring for ELA were less affected by the summer slide at the beginning of the next semester.
- Students who received high-dosage tutoring demonstrated stronger overall ELA outcomes.
- High-dosage tutoring empowered students to achieve better outcomes at faster rates across a variety of i-Ready ELA subcategories.

Kip McGrath™ EDUCATION CENTRES where students *really* improve

Impact data and case study sourced from Kip McGrath management and public reporting.

APPENDIX

Impact Data

Environment

Enphase

INPUT: US$46.4m invested in capital expenditure and technology R&D as well as net US$16m in acquisitions including, amongst others, GreenCom which provides Internet of Things (IoT) software solutions for customers to connect and manage a wide range of distributed energy devices within the home.

OUTPUT: 14,070mn microinverters shipped worldwide since inception; 5,903 MW of Direct Current, 509MW IQ batteries (scalable capacity of 10.1 kWh and 3.4 kWh, are based on our Ensemble OS™ energy system) via over 1,600 installer partners in 10 countries.

OUTCOME: Increase in electrification and a lower reliance on grid-based energy inputs that have higher carbon emissions attached.

IMPACT: 8mn tCO_2-e avoided (inverters only), 1.275mn kg CO_2 abatement per annum (IQ batteries). 0.3712kg CO_2 per Kwh, in Australia the average annual usage is 5,237 kwh.

Assumption: (509,000 batteries * average of 10.1 and 3.4 kwh)* 0.3712 kg of CO_2 = 1,275mn kg CO_2 abatement per annum.

First Solar

INPUT: $903mn USD invested in assets. The company announced a new 3.5 GW series 7 factory in Alabama, 0.9 GW increase in nameplate capacity at the Ohio factories totally $1.3bn of investment; $270mn to a dedicated to research and development centre. The R&D centre has developed First Solar's advanced thin film photovoltaic (PV) modules, which represent the next generation of solar technologies, providing a competitive, high-performance, lower-carbon alternative to conventional c-Si PV panels.

OUTPUT: 7.9GW produced, 48.3 GW of net bookings, 61.4GW contracted backlog.

OUTCOME: Photovoltaic module production and increased usage driving the increase in non-fossil fuelled based energy sources and reducing carbon emissions and climate warming outcomes.

IMPACT: @ 1 GW = 1mn Kwh, coal fired equivalent = 2.26mn pounds of CO_2; natural gas equivalent 2.44mn pounds of CO_2 abatement

(US Energy Information Administration: 1 kwh coal = 2.26 pounds of CO_2 ; 1kWh of Natural Gas = 0.97 pounds per kWh)

Frontier Energy

INPUT: $3.8m invested in PP&E for work ahead of the development of a 120MW solar plant in WA.

OUTPUT: Completed Definitive Feasibility Study (DFS) for green hydrogen plant comprising 114MW solar and 36MW electrolyser

OUTCOME: Advanced plans for the development of a low cost, early mover green hydrogen plant

IMPACT: $3.8m invested to advance Australia's renewable energy supply requirements

Genex

INPUT: $240.8m invested in PP&E, primarily for the construction of the pumped hydro storage facility.

OUTPUT: 100MW of operating renewable energy assets; 300MW under construction; 2.25GW in pipeline assets; 785 GWh of renewable energy generated.

OUTCOME: increased renewable energy generation in Australia.

IMPACT: 649,905 tonnes of CO_2e avoided.

Mercury

INPUT: NZ$296m capital ($177m growth capex, $119m stay-in-business capex) investment, including focus on creating and developing new capacity/flexibility opportunities and exploring solar.

OUTPUT: 5,209 GWh hydro generation, 2,358 GWh geo generation, 1,471 GWh wind generation, 20 community and commercial partnerships, 20 power stations (9 hydro, 5 geothermal, 6 wind).

OUTCOME:Renewable energy power that does not emit climate warming emissions.

IMPACT: ~6.75mn tonnes of CO_2 equivalent

Meridian

INPUT:NZ$316m investment into property, plant and equipment and software assets.

OUTPUT:9,100GWh of renewable retail energy supplied, 100% renewable energy generation from wind, water and sun (7 hydro stations, 5 wind farms, and 1 grid-scale solar array underway), 363K customer connections, over 125 companies purchased >640GWh of renewable energy certificates, launched energy wellbeing project to support 5,000 households, Forever Forests afforestation programme (1,214 hectares of land with ~ 300,000 trees; and on track to have 700,000 trees planted by FY2024.

OUTCOME: Hydro, wind and solar energy available for retail usage, decreasing the reliance on fossil-fuel based energy sources, resulting in lower CO_2 emissions.

IMPACT: ~6.65mn tonnes of CO_2 equivalent avoided.

Neoen

INPUT: 1.1bn Euro driven by investments in projects including Kaban, Western Downs, Goyder, Victorian Big Battery and Capital Battery in Australia; Mutkalampi and Bjorkliden in Finland, Rio Maior in Portugal, Storbrännkullen in Sweden and solar, wind and storage assets in France.

OUTPUT: 6.6GW of renewable energy capacity in operation and construction, 6.0 TWh electricity generation, 7 corporate PPAs with >530MW of total capacity, average solar availability rate of 86%, average wind availability rate at 97% with load factors for solar and wind of 19.1% and 28.5% respectively.

OUTCOME: Wind, Solar and Storage output that reduces the reliance on fossil-fuel generated energy sources.

IMPACT: ~5.49mn tonnes of CO_2-e avoided.

Note: Dec year-end, FY22 numbers used.

Umweltbank

INPUT: 3.7bn euro of loans granted.

OUTPUT: Funded 400 sustainable projects with over 600m Euro of new lending capital deployed. A further 750mn Euro was invested in sustainable and high-yield projects.

OUTCOME: 35.3% ecological residential real estate, 33,5% solar energy financing and 20.2% in wind power projects, 9.3% in social and commercial real estate and 1.7% in other projects.

IMPACT: In 2022, UmweltBank contributed to avoiding over 1,160,000 tonnes of CO_2 in 2022, financed affordable and ecological homes for over 1,000 people & created 350 care places in schools, daycare centres and nursing facilities. In 2022 the total capacity financed was 325 MW. In 2022, Umweltbank finances PPA PV plants with approximately 86 MW.

In over 25 years, the bank has financed solar and wind projects with an installed capacity of over 3 GW.

Cleanaway

INPUT: $558m invested, including $370m in property, plant and equipment (including landfill assets); $172m business acquisition, and $16m in intangible assets.

The Group is responsible for a total of 17 landfills, of which 8 are open and 9 are closed but still under Cleanaway's management. Those that are open are expected to close between 2025 and 2064. The Group's remediation provisions are based on an average 30-year post-closure period. In addition, Cleanaway has 130 EPA licensed sites, 105 transfer stations, 5 composting centres, 50 resources recovery facilities, and 2 incinerators.

OUTPUT: 765kt of waste recycled, including 431kt paper and cardboard recovered, 20kt plastic recovered, 32kt of steel and aluminium recovered, 193kt containers processed via container deposits schemes, and 108ml used oil recovered; 219Mm3 landfill gas captured, and ~242GWh of renewable energy generated.

OUTCOME: Positive land & resource outcomes and global heating reduction resulting from increased resource recovery, methane capture and renewable energy generated.

IMPACT: Total adjusted gross Scope 1 CO_2e reduced by 114kt to a total of 1,133kl, which represents a 10% reduction.

Close The Loop (ASX: CLG)

INPUT: $70.2m investment in acquisitions, $17.5m invested in property and equipment.

OUTPUT:

- 260,000 collection points worldwide
- Collects and recycles millions of inkjet cartridges every year
- Tonerplas production

OUTCOME: Less reliance on virgin materials, reduction in landfill waste.

IMPACT: For every million cartridges recycled, 6-8m pounds of waste is kept out of landfill

Note: the average laser printer cartridge can be remanufactured 3-4 times, which is estimated to keep 2 pounds of waste out of landfills.

Data sourced from: https://ewingrecycles.org/printer-cartridges/

Environmental Group (ASX: EGL)

INPUT: $360,000 invested in plant & equipment; $292,000 invested in software and technology; R&D spend of $2.8m.

OUTPUT: Noise reduction: 35 silencers attenuating noise constantly at 30-40 DBA reduction each when turbine operating either base load 24/7 or peaking load 10 hours per day.

Waste: 400,000 tonnes of waste sorted.

Air: 127 units installed with total capacity to process 1,650,000 cubic meters of dust and particulate matter per hour.

Power Sector: projects contributed to treatment of 3,000,000 m^3/h of polluted gases.

Mining Sector: Treated 100,000 m^3/h of polluted gases.

Water: Treated 40,000,000 litres of PFAS contaminated liquids.

OUTCOME: Waste & Air solutions supporting carbon abatement outcomes, health outcomes, and cleaner living environments.

IMPACT: 384,000 tonnes of waste diverted from landfill.

Prevented 56 t/h of Particulate Matter from being released to the environment.

Abated:

- 2,400 kg/h of SO_2,
- 2,800 kg/h of H_2SO_4,
- 30 kg/h of HF

Alstom

INPUT: $431mn capital investment including energy efficiency, passenger experience, green traction technologies, cybersecurity and core product range coverage.

OUTPUT: 180+ metro lines equipped with Alstom signalling, 6.3bn euro backlog, 1bn euro orders and 1.5bn euro sales.

OUTCOME: Increase in low carbon train transportation available that increases mobility, reduces carbon emissions and contributes to a safer, healthier communities.

IMPACT: 750bn grams of CO_2 abatement per annum.
10,000 bn freight tonne-km per year, 3000bn passenger/km per year = 13,000bn combined. Est 35% market share = 4.55bn km per year at 4.6g km pass vs 170g per km for average petrol car = 165g difference * 4.55bn per year = 750bn grams of CO_2 abatement per year.

De Mem

INPUT: $1.3mn capital investment including $1mn investment in R&D

OUTPUT: De.mem holds Build, Own, Operate and Operations & Maintenance contracts with 16 water treatment sites in Australia and Singapore, treating wastewater for recycling and discharge and generating potable water for human consumption. Each quarter, the Company treats ~2,200 million litres of water under these service contracts – equivalent to ~220 Olympic sized swimming pools.

OUTCOME: Wastewater treatment, regulatory compliance, water/wastewater treatment with a reduction in chemicals and energy usage.

IMPACT: An estimated average of 25,316Kg of CO_2 abated. Pollutant removal, supply of clean drinking water, water savings, chemical and energy abatement.

- 1cubic meter = 1000 litres. De mem 0.3-1 kwh/cubic metre vs other solutions 2.5-5 kWh/cubic meter. On average it saves 3.1 kwh/cubic meter. 3.1 * 2200mn / 1000 ltrs = 68,200kwh of energy saved (Company data)
- 0.3712kgs CO_2 per Kwh (https://carbonfund.org/calculation-methods/#:~:text=Electricity,0.3712%20kgs%20CO2e%20per%20kWh) 25,316 Kgs of CO_2 abated.

Envirosuite

INPUT: Investment across all products, land to expand and scale all products. $5.8mn used in the product development costs, $2.3mn in equipment leased to customers.

OUTPUT: The Company signed 16 new airports during the year, a total of 20 airports renewed, making the EVA aviation total sites 188 for the full year. EVS Industrial had a total of 238 sites. EVS water had a total of 17 sites.

OUTCOME: operational efficiencies that improve the social license of businesses in relation to noise, vibration, odour, dust, air quality and water management.

IMPACT: Improved air and water quality; reduced noise, odour, dust, and vibration

Halma

No data

Origin Materials

No data

Vmoto

INPUT: $615,000 invested in PP&E.

OUTPUT: Sold 31,275 electric motorbikes and scooters , of which 7% were sold in China and 93% to other global markets

OUTCOME: More people using electric vehicles, reducing the amount of CO_2e from transportation

IMPACT: Reduced CO_2e from transportation

Wide Open Agriculture

INPUT: $1.4m invested in PP&E.

OUTPUT: Over 1,700 locations selling their ethically sourced, regen ag food; first commercial orders for Buntine Protein, a highly functional ingredient that has the potential for large scale farmland regeneration through the use of lupins

OUTCOME: WOA influences over 26,000 hectares of farmland under regeneration and supported more than 60 regenerative farmers and ethical food businesses

IMPACT: Reduced CO_2e from regenerative ag practices

Yadea

INPUT: 647mn rmb invested tangible assets, 17mn rmb in intangible assets & 1bn in research and development expenses to create technological innovation such as TTFAR carbon fibre 2.0 lithium battery and the graphene 3rd generation plus battery.

OUTPUT: 14 million units sold.

OUTCOME: Reduction in kilometres past of fossil-fuel powered transportation

IMPACT: It is estimated 28.4mn tons of CO_2 abated from 2022 unit sales.

Yadea estimates that their products have resulted in 260 billion kilometers of accumulated riding miles, 45 mn tons of reduced CO_2 emissions; 2.25 billion trees equivalent to planting; 9.84mn tons of reduced petroleum consumption.

Community

Aspen Group:

INPUT: $38.3 million of additional property investment

OUTPUT: 148 new homes, bringing the total to 4,794 homes and sites (3,582 homes, 120 under refurbishment, and 1,092 development sites)

OUTCOME: More affordable homes available

IMPACT: >3,550 people living in affordable homes

Eureka:

INPUT: $32 million of additional property investment

OUTPUT: 10 new homes completed, which with acquisitions and disposals brings the total to 2,551 units, 46 villages (28 owned, 5 JV, 13 managed)

OUTCOME: Better living and affordability for seniors

IMPACT: >2500 people living in affordable, quality housing with resident satisfaction of greater than 80%.

Source: Eureka 2023 Annual Report

Ingenia Communities:

INPUT: $204.6m of additional property investment

OUTPUT: 458 new homes constructed, bringing the total to 14.740 homes/sites

OUTCOME: Better living and affordability for seniors

IMPACT: >14,000 people living in affordable, quality housing.

Source: Ingenia 2023 Annual Report

Lifestyle Communities:

INPUT: $82 million of additional property investment

OUTPUT: 356 new homes, bringing the total to 3,549 homes

OUTCOME: Better living and affordability for seniors

IMPACT: >3,500 people living in affordable, quality housing.

Source: Lifestyle 2023 Annual Report

Arena REIT:

INPUT: $38.3 million invested in properties and capital expenditure on a total asset base of $1.57 billion as at 30 June 2023

OUTPUT: 10 new Early Learning Centres (ELCs) completed bringing the total to 263 ELCs, 6 medical centres, and 3 specialist disability accommodations. The operating portfolio, ELC portfolio and healthcare portfolio have an occupancy rate of 99.7%, 99.6% and 100% respectively.

OUTCOME: Early development and socialisation outcomes for children; Childcare availability to allow for parent employment.

IMPACT: 249 operating ELC properties offer a total of 23,476 licensed places across Australia. This equates to an average of 19,485 children receiving the benefits of childcare per day.

Charter Hall Social Infrastructure Trust:

INPUT: Four childcare development assets completed with a total value of $33.8 million

OUTPUt: 358 childcare centres owned and 100% occupied

OUTCOME: Early development and socialisation outcomes for children; Childcare availability to allow for parent employment.

IMPACT: Early learning education and development for 35,800* children

* Assumes 100 place centres on average

G8 Education:

INPUT: $58 million invested in tangible assets; $1.1 million in intangible assets and $75,000 purchases of businesses.

OUTPUT: 438 early learning and education centres; >48,000 children per week

OUTCOME: Provides a safe and secure environment for children to be cared for and educated.

IMPACT: 48,000* children developing basic cognitive and language skills supporting their learnings outcomes during primary school; increasing the participation of female workforce.

* Assumes 100 place centres on average

Mayfield Childcare:

INPUT: $1.3m invested in PP&E and business acquisitions

OUTPUT: 35 ELCs, with 3,109 registered places and average size of 89 children per centre; 875 educators

OUTCOME: Provides a safe and secure environment for children to be cared for and educated.

IMPACT: 3,115 children developing basic cognitive and language skills supporting their learnings outcomes during primary school; increasing the participation of female workforce.

AI Media:

INPUT: $585,505 invested in property and equipment, alongside $367,000 related to acquisitions and $695,000 in intangibles.

OUTPUT: 9.1 million minutes per month of translated and captioned material delivered

OUTCOME: 2,885 people can watch captioned video, based on the average rate of television watching per month.
(13hrs per week avg = 3,120 minutes per month: https://www.abs.gov.au/articles/australians-spend-one-month-year-sitting-watching-tv)

IMPACT: At least 2,885 people are included into entertainment, news and other sources of information delivered via video media.

Wisr:

INPUT: Increased loan book from $780m to $931m; $4.3m invested in PP&E and technology assets

OUTPUT: $495m in new loan origination; 785,000 financial wellness platform profiles (up 111,000)

OUTCOME: more people accessing fairer loan terms and improving their financial literacy and behaviours

IMPACT: 785,000 people with access to financial literacy tools

Healthcare

Australian Clinical Labs

INPUT: $6.9m invested in PP&E.

OUTPUT: Operated 1,328 collection centres, 73 pathology labs, and 31 skin care clinics; Delivered more than 9m pathology episodes; 4.7/5.0 rating by customers from over 360,000 survey responses; brought a new, exclusive genetic test for breast cancer to Australia.

OUTCOME: Detection of diseases and conditions to provide a pathway to treatment.

IMPACT: Provided 16% of the total pathology market services.

Beamtree

INPUT: $2.5m invested in software product development.

OUTPUT: Supported over 180 customers across 25 countries.

OUTCOME: Improved productivity and efficiency in healthcare systems; Beamtree technologies analyse data to help healthcare providers deliver more efficient and effective care.

IMPACT: Improved health outcomes with systems installed in over 1,000 locations; Up to 29% reductions in Hospital Acquired Complications (HACs) reported.

Capitol Health

INPUT: $19.0m capex ($10.2m growth, $8.8m maintenance) into healthcare technologies that provide high-quality images and reports, ensuring the best possible patient outcomes.

OUTPUT: New comprehensive MRI clinic opened in Sunshine Private Hospital at a cost of $5.2m (growth capex); additional MRIs in Cranbourne and Hoppers Crossing at a cost of $2.9m(total 3 new MRIs); 8 new radiologists commenced; operate 66 clinics and have a total 28 MRI services; over 100 radiologists conducted over 1.4m procedures.

OUTCOME: Detection of diseases and conditions to provide a pathway to treatment.

IMPACT: Improved health outcomes for patients.

Healius

INPUT: $76.1m in PP&E and intangible assets, with growth capex of $36m focused on collection centres, greenfield and brownfield imaging sites, and technology investments.

OUTPUT: Pathology: 2,057 collection centres, an increase of 59, and 95 medical labs; 170 pathologists; over 18m pathology samples tested; Radiology: 148 imaging sites, with over 160 radiologists performing over 3.3m radiology examinations.

OUTCOME: Around 70% of all medical decisions are dependent on pathology, so it is a crucial part of the healthcare ecosystem. It enables detection of diseases and conditions to provide a pathway to treatment and supports clinical decisions across the healthcare system.

IMPACT: Improved health outcomes for patients, including in rural and remote areas, with the majority of services bulk-billed through Medicare to ensure access for all.

Integral Diagnostics

INPUT: $45.2m invested in capex ($19.1m growth capex), including 2 new greenfield sites (1 in Australia and 1 in New Zealand), MRI upgrades, CT expansion, and ongoing technology investment to enhance the patient and referrer experience.

OUTPUT: 248 radiologists performed more than 2.5 examinations across 91 sites; 37 MRI machines and 6 PET scanners.

OUTCOME: Improved access to radiology services, resulting in detection of diseases and conditions to provide a pathway to treatment.

IMPACT: Served over 1m patients, helping them to access appropriate treatment.

Pacific Smiles

INPUT: $11.1 million invested in new centres, relocations, expansions and refurbishments, as well as technology upgrade and equipment replacement.

OUTPUT: 130 Dental Centres, 900 dentists, 545 Dental Chairs, 545,000 routine exams, 515,000 cleans, 335,000 filings, 29,000 root canals, 73,000 extractions, 15,000 crowns, 1,000,000 appointments.

OUTCOME: Better dental health for the community.

IMPACT: An estimated 400,000 - 500,000 people treated in FY23.

Sonic Healthcare

INPUT: $497 million invested in PP&E and intangible assets.

OUTPUT: 126m patient consultations across 3,500 locations; Over 1,800 pathologists and radiologists; 8 new regional Medicare-funded MRI licences; 160 medical clinics with nearly 2,000 doctors seeing more than 7m patients.

OUTCOME: Better health for the community.

IMPACT: 126m patient consultations testing for, and managing, chronic disease such as diabetes, chronic kidney disease, and heart disease; Provision and encouragement of participation in screening programs for the early detection and treatment of diseases such as bowel cancer, breast cancer, and cervical cancer resulting in fewer early deaths.

Avita Medical

INPUT: US$452,000 invested in property & equipment; US$13.9 million Research & Development focused on the clinical development of RECELL System.

OUTPUT: 15,000+ patients; ~150 burn centres.

More than 1,000 patients have been successfully treated with the RECELL System for stable vitiligo outside of the U.S., and to date there are eleven publications demonstrating the benefits of the RECELL System in vitiligo.

OUTCOME: Soft tissue repair and healthy skin regeneration post burns.

IMPACT: 56%-60% fewer mean surgical procedures versus the American Burn Association's National Burn Repository; RECELL System for deep partial-thickness burns reduces the total treatment cost by an average of 26% for those with 40% total body surface area burns.

Burn wounds treated using RECELL show comparable results in burn wound healing outcomes relative to conventional grafting, despite the use of less donor site tissue.

Cochlear

INPUT: Over $240m invested in R&D; $95.9m invested in PP&E, IT systems, and other intangible assets.

OUTPUT: Delivered latest generation sound processors to over 48,000 prior generation cochlear implant recipients; Published new evidence showing that after wearing hearing aids for 3 years, cognitive decline slowed by 48% for a group of older adults with mild to moderate hearing loss who were at a higher risk of cognitive decline.

OUTCOME: Delivering societal benefit through improved health outcomes.

IMPACT: Helped over 44,000 more people to hear with an implant, providing an estimated net societal benefit of more than $7b over the lifetime of the recipients from improved health outcomes, educational cost savings, and productivity gains.

Nanosonics

INPUT: Over $29.5m invested in R&D; $3.6m invested in PP&E and intangible assets.

OUTPUT: 4,410 trophon units for high level disinfection of ultrasound probes installed to bring the total to 32,450 units.

OUTCOME: Reduced cases of cross contamination in hospitals; improved efficiency for healthcare staff; less toxic chemicals required.

IMPACT: Approximately 26m patients are protected from the risk of ultrasound probe cross contamination.

Nova Eye

Input: $800,000 invested in PP&E, intangible assets, and product development.

OUTPUT: Over 200 surgeons using iTrack Advance device to treat glaucoma.

OUTCOME: Improved vision for patients without the need for implants.

IMPACT: 367 patients treated for glaucoma with the iTrack device.

Paragon Care

INPUT: $21m invested in PP&E and intangible assets.

OUTPUT: Manufacturing of In-Vitro Diagnostics reagents used for blood grouping and antibody screening to ensure compatible blood for transfusion. Distribution of medical devices to clinical and life science customers.

OUTCOME: Aggregated solution to access range of medical devices for healthcare customers across 8 countries in Asia.

IMPACT: Safer blood transfusions and better access to medical devices.

Proteomics

INPUT: $1.2m invested in PP&E.

OUTPUT: Commercialising ProMarkerD, a predictive test for Diabetic Kidney Disease by entering into a distribution agreement with Sonic Healthcare USA. Ongoing development of pipeline for novel blood tests for endometriosis, asthma and COPD, oesophageal cancer, diabetic retinopathy, and oxidative stress.

OUTCOME: Access to a predictive test for diabetic kidney disease which means that early treatment can avoid irreversible kidney damage.

IMPACT: Reduce the total cost (US$130b p.a. in the USA alone) and health impacts of diabetic kidney disease.

Resmed

INPUT: US$287.6m invested in R&D; US$119.7m invested in PP&E.

OUTPUT: Over 160m people across 140 countries benefitted from Resmed products; they have over 9,600 patents and designs and over 16b nights of clinical respiratory data.

OUTCOME: Providing medical devices for people with sleep apnea, COPD, and other chronic respiratory diseases to enable them to live healthier, higher quality lives and to keep people out of hospital.

IMPACT: Resmed products slow disease progression, reduce overall healthcare system costs, and improve the quality of life for patients.

SDI

INPUT: $1.4m invested in R&D; $34.5m invested in PP&E and intangible assets.

OUTPUT: 2 new products (Stela and Riva) released; Manufactured dental products in Australia and exported around 90% of its products.

OUTCOME: Innovating dental products resulting in multiple product awards from Dental Advisor.

IMPACT: Manufactured 11 different categories of dental products that enable dentists to deliver better health outcomes and improve patient lives.

Volpara

Input: NZ$17.7m invested in R&D; NZ$2.6m invested in PP&E and intangible assets.

OUTPUT: Volpara software used in the screening of 17.3m women for breast cancer; 6m women assessed for breast density; achieved BCorp certification.

OUTCOME: Advancing the early detection of breast cancer to enable live-saving treatment.

IMPACT: 17.3 million women across 41 countries tested for breast cancer using Volpara software, resulting in better images, greater understanding of cancer risk, and detection of 2,600 potential extra breast cancers.

Botanix

INPUT: $5.7m million research & development; $7.1m invested in PP&E and intangible assets.

OUTPUT: Prepared sofpironium bromide drug for submission to the US FDA for approval.

OUTCOME: Submission occurred and FDA mid-cycle review meeting was successfully completed (note: post year end, the FDA required a new submission with a review of the instructions leaflet and this submission occurred in January 2024).

IMPACT: Development of a treatment for axillary hyperhidrosis with clinical benefits relative to existing treatments, which will improve the lives of up to 10m people in the US alone that currently seek solutions.

Clarity Pharmaceuticals

INPUT: $31.5 million spent on research & development; $47,000 invested in plant & equipment.

OUTPUT: 7 active clinical trials and 1 successfully completed; 2 rare paediatric disease designations; 2 orphan drug designations; 5 active FDA investigational new drug applications; 200 diagnostic doses and 34 therapy doses.

OUTCOME: The improvement of diagnostic and treatment outcomes for children and adults with cancer.

IMPACT: Significant reduction in PSA levels for first patient in metastatic prostate cancer trial.

CSL

INPUT: US$1.235b spent on research & development; US$1.692b invested in PP&E and intangible assets

OUTPUT: 12 new plasma centres opened to bring the total to 342 and record plasma collections, up 31% on previous year; 2 new manufacturing facilities opened for base fractionation; Distribution of innovative life-saving medicines in over 100 countries, including 130m flu vaccination doses distributed; recruited last patient for CSL 112 trial which is a novel therapy shown to remove cholesterol from arteries; multiple other studies and trials across immunology, haematology, respiratory, cardiovascular, vaccines, and transplant; achieved 98 product registrations or new indications in 34 countries.

OUTCOME: A healthier, more productive society by protecting global health from life-threatening complications resulting from influenza.

IMPACT: Saving and/or improving the quality of 100,000s of people with rare and serious diseases.

Mayne Pharma

INPUT: $15.7m spent on research, development, medical and regulatory affairs; $219.5m invested in PP&E and intangible assets.

OUTPUT: Manufacturing and distribution of 5 branded drugs for women's health and 3 proprietary brands, 6 speciality brands, and over 20 generic brands in dermatology; 33,100 monthly uses of NEXTSTELLIS (in July 2023) with total unit sales of 256,330 in FY23; NEXTSTELLIS launched in Australia; funded a program to increase awareness of NEXTSTELLIS in the US and expand access birth control.

OUTCOME: Progress in the development and commercialisation of new pharmaceuticals, offering patients better, safe, and more accessible medicines.

IMPACT: Over 30,000 women using NEXTSTELLIS for contraception with proven benefits relative to other oral contraceptives.

Education

3P Learning:

INPUT: $2.6m invested in product development for educational software.

OUTPUT: Over 5.5m customers using maths, reading, or writing learning tools.

OUTCOME: Improved learning outcomes for students.

IMPACT: Over 5.5m students benefitting from access to software that delivers improved learning outcomes for maths, reading, or writing.

Academies Australasia:

INPUT: $1.2m spent on teaching materials and $445,000 invested in PP&E and intangible assets.

OUTPUT: 18 colleges operated across Australia and Singapore, offering over 180 higher education and vocational training courses.

OUTCOME: Vocational and higher educational training for students.

IMPACT: Over 5,000* students benefitting from access to higher education and vocational training courses.
(* assumes at least 30 students per course)

IDP Education:

INPUT: $38.9m invested in PP&E, product development and intangible assets.

OUTPUT: 1.93m Internationals English Language Testing System (IELTS) tests administered; 84,600 students placed in higher education courses globally, including 35,400 into Australian courses.

OUTCOME: Students gaining access to higher education courses.

IMPACT: 84,600 students benefitting from access to higher education.

Probiotec

INPUT: $10.1m invested in PP&E and intangible assets

OUTPUT: 6 manufacturing and packing facilities, providing pharmaceutical and other manufacturing and packing services for over 240 customers including GSK, inova Pharmaceuticals, Mylan, and Pfizer.

OUTCOME: Onshore manufacturing of OTC medicines and pharmaceutical products ensures security of supply and provides greater comfort on the quality of manufacturing

IMPACT: Provided over 1% market share of Australian OTC medicines and pharmaceutical products, helping to address security of supply given that imports account for over 90% of the total market.

Ansell

INPUT: $67.2m invested in PP&E and intangible assets

OUTPUT: Operated 15 manufacturing facilities producing personal protective equipment for healthcare and industrial sectors. Manufactured over 10b gloves protecting more than 10m workers every day. Progressing greenfield Surgical facility construction in India and invested in solar energy and reverse osmosis systems in Malaysia and Sri Lanka; launched 4 new glove products, including a micro surgical glove with superior durability and comfort and 15% thinner to aid tactile sensitivity and dexterity.

OUTCOME: Produced protective equipment at scale trusted by a large number of businesses globally.

IMPACT: Reduced the risk of harm, injury, or death for over 10m workers each day.

Clover Corp

INPUT: $2.6m spent on research and development; $1.6m invested in PP&E.

OUTPUT: Operates a manufacturing plant for tuna oils and related products in order to deliver encapsulated ingredients for use in infant formula, nutraceuticals, pharmaceuticals, and sports nutrition market. Successfully manufactured and packaged Premneo, a product developed to enhance the IQ of preterm infants which is now seeking registration in multiple countries. Clinical trials for Premneo showed that it significantly improved their IQ. Launched 4 new products, including Gelphorm for the addition of omega-3 to milk-based products.

OUTCOME: Produced encapsulated products with a proprietary process developed by the CSIRO to enable the addition of omega-3 to infant formula, nutraceuticals, and pharmaceuticals.

IMPACT: Improved health outcomes for infants and adults.

Kip McGrath:

INPUT: $2.9m invested in technology to expand their offering to customers online. Additional capital was invested in building a sales pipeline to drive growth in the US market and $367,000 invested in property, plant and equipment.

OUTPUT: Over 2m lessons were delivered across 505 learning centres, with an average of 80 students per centre.

OUTCOME: Learning outcomes for students delivered by small group tutoring.

IMPACT: Equivalent of 4,273 years of academic progress.

NextEd:

INPUT: $5.3m invested in PP&E

OUTPUT: 9 campuses with 258 classrooms operated across Australia, offering higher education and vocational training courses; 6 new vocational certificate and diploma courses launched in Perth, Brisbane and Gold Coast.

OUTCOME: Vocational and higher educational training for students.

IMPACT: Over 17,000 international students enrolled in higher education and vocational training courses; over 19,000 students active English language students.
(* assumes at least 30 students per course)

Schrole

INPUT: $1.4m invested in software development and PP&E

OUTPUT: Provides software tools to 3% of the 13,371 international schools worldwide; launched Engage onboarding software; total of 520 customers

OUTCOME: Schools and organisations provided with tools to improve productivity and deliver training

IMPACT: 520 schools and organisations benefiting from training and productivity software

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