



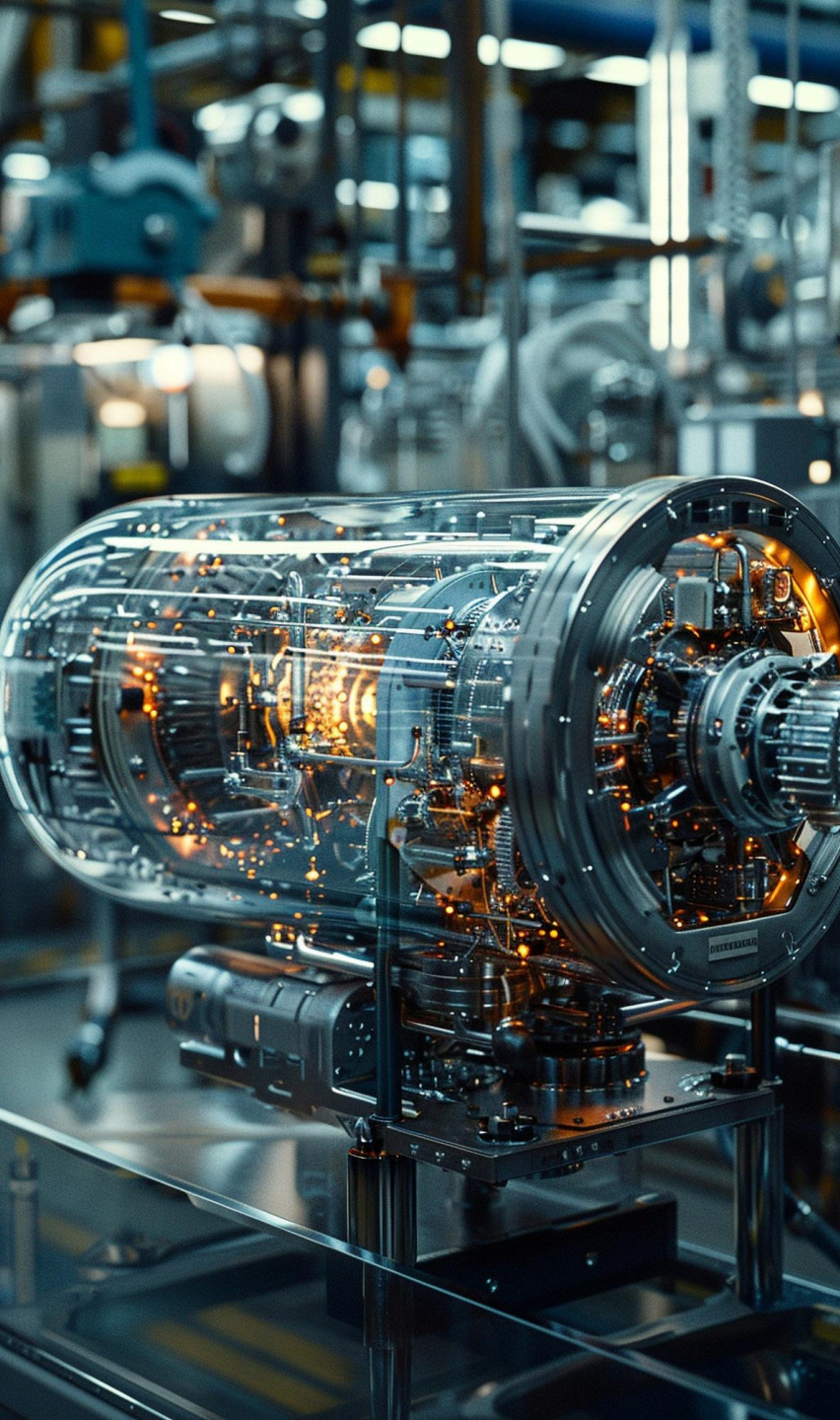
Star Scientific Limited

2025 Sustainability Report



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Glossary

CSRD	Corporate Sustainability Reporting Directive
DMA	Double Materiality Assessment
DNSh	Do No Significant Harm
ESG	Environmental, Social, and Governance
ESRS	European Sustainability Reporting Standards
EU	European Union
GHG	Greenhouse Gas
HERO®	Hydrogen Energy Release Optimiser
NSW	New South Wales, Australia
OECD	Organisation for Economic Co-operation and Development
PAI	Principal Adverse Impacts
R&D	Research and Development
RD&I	Research, Development, and Innovation
SFDR	Sustainable Finance Disclosure Regulation
SFDR Art. 9	Financial products under SFDR that have sustainable investment as their core objective
Star Scientific	Star Scientific Limited
TRL	Technology Readiness Level
UNGC	United Nations Global Compact
US	United States of America



Message from Leadership (1/2)

Welcome to the update of the Star Scientific Sustainability Report for the period covering the 2025 calendar year.

As reported last year, there was a significant re-alignment and loosening of the ESG framework throughout 2025, led by the Trump administration in the United States. The other dominant rule-maker in ESG, the European Union, relaxed and clarified aspects of the ESG taxonomy.

Star Scientific has, as a rule, been counter-cyclical to orthodox thinking on these matters and prefers to take the longer strategic view. We believe those companies who have taken the easy option of “marching back” their commitment to ESG, while achieving a short-term reward, will be negatively impacted in the longer term.

At the very cutting edge of innovation that Star Scientific inhabits, the competition for talented, skilled, experienced people is fiercely contested. Star’s aspiration to be regarded as the world-leading private research and development firm in sustainable energy demands that we attract and employ class-leading thinkers in their fields.

We expect that, like us, future employees will wish to work in an environment with a deeply ingrained commitment to ESG. They will eschew those who disingenuously turn their commitment to ESG on and off, depending on the whims of the prevailing political leadership. For this reason alone, Star Scientific will not be backing down on our ESG commitments.

(cont.)



Message from Leadership (2/2)



In practical terms, 2025 saw us continue experiments that would minimise the amount of input materials required for the HERO® catalyst when it comes to mass-manufacture. As 2025 ended, this new coating technique offered some very positive results.

In an operational sense, we installed a new monitoring system at our facility at Berkeley Vale, which allows us to monitor emissions data from the factory infrastructure, such as water usage.

We also invested in new information technology systems, incorporating careful approaches to artificial intelligence, that will ingrain continuous improvement in our manufacturing processes, including the use of raw inputs such as energy.

We hope you enjoy this, our third sustainability report, and find it stimulating. We look forward to bringing you further news of our ESG journey.



Andrew Horvath
Global Group Chair

Foreword

The year 2025 was a paradoxical one for those of us involved in the world of hydrogen and ESG. On the one hand, we saw global giants such as BP rapidly drop their commitments to the hydrogen economy while others dropped commitments to ESG.

The old fossil fuel sector, which made so many over-hyped promises on hydrogen, retreated rapidly when they realised that hydrogen did not fit into their conception of what a fuel supply chain looks like. In their view this supply chain is long, thin, capital-intensive and able to be monopolised by a handful of legacy energy entities.

On the other hand, the exponential growth of data centres and their energy demands moved from the domain of energy and technology conferences into the broader public discourse. Communities are starting to demand that data centre owners earn a social licence to operate in their locality.

Global technology giants are therefore driving innovation for energy sources that hit the sweet spot of being both reliable and renewable. In competing for their customers, data centre providers are striving to offer services that are both reliable and measurably sustainable.

This is not an easy aspiration to achieve, and we have seen global digital economy leaders like Microsoft and Google place enticing rewards and incentives on the table to spark innovation in the race to provide constant, reliable and sustainable energy resources.

The ideal energy supply change in this “new” world is lighter in impact, locally supplied and ticks all the key ESG boxes.

Star Scientific accepts this exciting challenge and therefore, as you will find in this report, renews and strengthens our commitment to ESG principles.



Matthew Hingerty
Deputy Chair, Deputy CEO and Head of Business Development

Energy Justice

It was the year of recalibration in 2025 for the hydrogen economy. After a period of rapid policy enthusiasm and capital development, activities slowed as projects faced high financing costs, infrastructure constraints, and the continued uncertainty around regulatory alignment.

This deceleration creates a risk that broader social outcomes are treated as secondary or deferred altogether. For Star Scientific, energy equity remains a core consideration in how the energy transition evolves, particularly during periods of slower market activity. Star Scientific strongly believes that every human being has the right to sustainable, affordable energy, regardless of their circumstances.

During 2025, a key challenge became increasingly evident across the industry: while energy equity is widely acknowledged in principle, there remains a lack of practical tools to integrate it meaningfully into hydrogen project design without compromising commercial fundamentals. Industry faces limited guidance on how to balance affordability, community impact, and local participation with bankable structures and investor expectations. As a result, equity-related considerations are often addressed indirectly or postponed, rather than embedded at the outset.

For Star Scientific, this gap reinforces the importance of approaches that reduce system complexity and lower barriers to adoption. Energy solutions that require less infrastructure intensity, minimise competition for constrained resources, and enable local deployment are more likely to align commercial outcomes with equitable access. In other words, energy equity becomes closely linked to risk reduction, scalability, and long-term value creation.

As the hydrogen economy enters its next phase, progress will be measured not only by technological advancement or market size, but by the quality and durability of deployment. Embedding energy equity early—through thoughtful project design and disciplined execution—supports stronger social licence and more resilient business outcomes. Star Scientific is positioning its technology and partnerships to reduce complexity, lower adoption barriers, and deliver long-term value across the energy transition.



Amy Halliday, MBA
Energy Justice Officer, DBA candidate

About this Report

Our 2025 Sustainability Report is structured around three core sections:

The first section provides an overview of Star Scientific and our heat-generating HERO® technology. It outlines our journey to date, our mission, governance and leadership, and the future potential of HERO®. This section also presents key awards and recognitions received by the Company, further supporting our confidence in the strategic direction we are pursuing.

The second section focuses on the updated sustainability topics most relevant to Star Scientific, aligned with the ESRS. These standards establish reporting requirements for companies to disclose sustainability-related impacts, risks, and opportunities under the EU CSRD.

The third section examines our position in relation to the EU Taxonomy and the SFDR Art. 9, including our updated assessment of compliance with the applicable requirements.

At present, Star Scientific aligns its sustainability reporting with the principles and structure of the ESRS, demonstrating our commitment to clear, consistent, and transparent disclosure. Following the publication of Australia's Sustainability Reporting Standards in 2024, which became mandatory for certain entities from 2025, we will assess their relevance to Star Scientific and consider how they may be incorporated into future reporting periods.

Disclaimer: This report includes a selected range of photographs featuring our employees, executive leadership, and current research and development activities. It also incorporates illustrative images obtained from open-access sources to help provide stakeholders with a broader understanding of Star Scientific's progress as the company advances towards commercialisation.



Company Overview

Advancing safe, reliable, and
affordable zero-emission energy
through our hydrogen-based
HERO®

Company History (1/3)

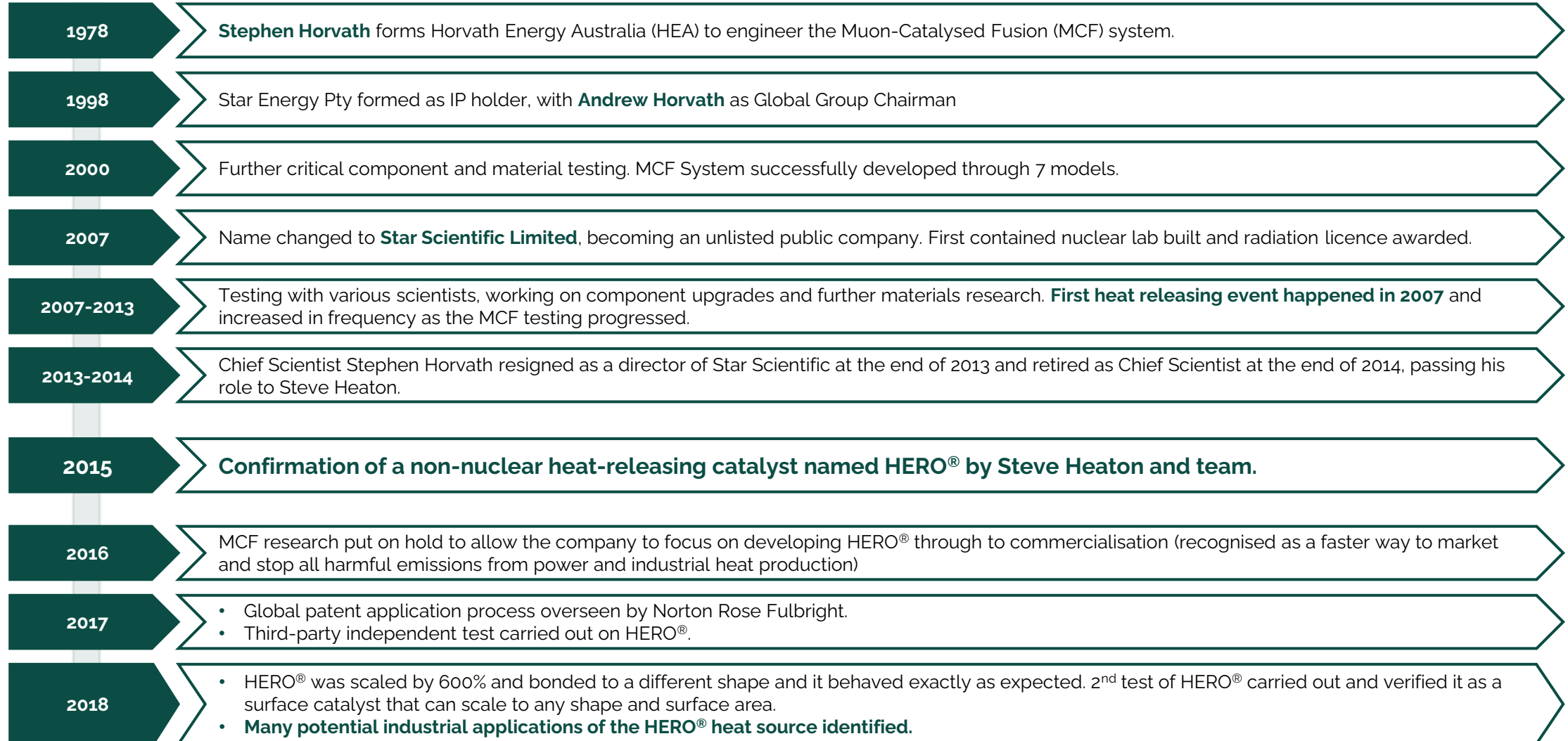


Founded over 25 years ago by Andrew Horvath, now Star Scientific's Global Group Chair, the Company began by exploring the potential of muon-catalysed fusion technology. This foundational research helped shape a culture defined by innovation, persistence, and scientific ambition.

A significant milestone in our evolution was the breakthrough that led to the creation of HERO®. This technology reflects our commitment to practical innovation, using hydrogen to generate heat in a way that supports sustainable, zero-emission energy solutions.



Company History (2/3)



Company History (3/3)



2019

- 5-year lease on a **new facility, located in Berkeley Vale**. Four times bigger than the previous facility.
- First small-scale commercial design heat exchanger was constructed and tested.

2021

- Memorandum of Understanding with **Central Coast Industry Connect Ltd** to provide food companies with carbon-free heat.
- Announcement of the first applied research pilot project of the HERO® technology using hydrogen to provide heat for industrial-scale sanitation with **Mars Food Australia**.

MARS
Food

2022

First partnerships with major industrial players covered by NDA.

2023

- Star Scientific and **the Government of the State of New Mexico** announced that Star Scientific had chosen Albuquerque, New Mexico as its preferred location for its first operation in the US.
- Star Scientific announced that it was developing a second pilot project for Central Coast packaging company **TrendPac**.



2024

- **April** - Star Scientific's New Mexico project was one of fifteen projects across the US to receive the Trade and Industry Development Magazine's "**Community Impact Award**".
- **April** - Star Scientific was honoured to be visited by **Kadri Simson, the EU's Energy Commissioner**.
- **May** - Star Scientific was presented as part of the huge Australian contingent at **the World Hydrogen Summit**.
- **June** - Star Scientific for the 1st time attended **the Americas conference of The Sustainable Energy Council**.
- **July** - Star Scientific announced that it develops a **third pilot program about saline and wastewater treatment**.
- **September** - Star Scientific attended **the African Hydrogen Summit** in Namibia, which confirmed the exceptional opportunities for HERO® in Africa.
- **September** - Star Scientific attended and spoke at **the Hydrogen Asia Summit** in Singapore.
- **October** - Star Scientific representatives visited Germany to attend a trade mission organised by **the German-Australian Chamber of Commerce** and gave a presentation on HERO® to the State Chamber of Industry and Commerce in the state of Lower Saxony.



Historical Timeline of 2025

The 1st of Jan 2025

Start of the Reporting period

April 2025

Installation of **the water consumption technology**.

May 2025

- Star Scientific's team was part of a **German-Australian Chamber of Industry and Commerce (AHK) mission to Germany and Denmark**, with talk to industry and government officials about the evolving face of hydrogen in Europe. The team spoke on a panel at the Australian Embassy in Berlin and participated in workshops with German hydrogen supply-chain participants.
- Star Scientific was represented at the annual **World Hydrogen Summit at Rotterdam**, where Star Scientific's Global Group Chair Andrew Horvath presented **the "Industrial Application" Award** (the same Award Star Scientific won in 2021).
- Star Scientific's Deputy CEO Matthew Hingerty joined an **Austrade trade mission to Sweden** to explore green steel opportunities, prompting a rethink of possible HERO[®] applications in the sector.
- Star Scientific's Deputy CEO Matthew Hingerty visited Warsaw for a range of meetings, including with **Secretary of State in the Ministry of Environment and Climate, Krzysztof Bolesla** to discuss Poland's Hydrogen Strategy.
- Star Scientific's Deputy CEO Matthew Hingerty visited Czechia for further meetings, one being with **Petr Mervart, the Senior Czech bureaucrat** responsible for their Hydrogen Strategy.

September 2025

- Star Scientific attended **the Hydrogen Americas Summit & Exhibition** in Washington, D.C.
- Star Scientific's representatives had a meeting with **the New Mexico Governor Michelle Lujan Grisham**.
- Star Scientific attended **the Data Centres: Towards Net Zero summit** in Kuala Lumpur.

November 2025

- Star Scientific attended **the Asia-Pacific Hydrogen Summit & Exhibition** in Sydney.
- Experiments with sputtering technique for catalyst coating** have proven effective, with significant reduction in environmental footprint by reducing acid / chemical bath method.

The 31st of Dec 2025

End of the Reporting period



Our mission

Our Vision

Put the necessary foundations in place to move towards a clean energy future that will improve the lives of people around the world without damaging the environment.

Our Global presence

In the future, our international offices will not be just strategic touchpoints but centres of innovation and collaboration. Each office will be an integral part of our R&D, ensuring that our solutions and practices can be adapted to different energy markets and environmental challenges around the world.

Our Partners

We are working with industry and government to lay the necessary groundwork to move towards a clean energy future that will improve the lives of people around the world without harming the environment.

Our Commitment to Sustainability

Every step of our operational and strategic activities is aligned with our core values of innovation, safety, and environmental stewardship. From our research laboratories to our offices around the world, our team is united in our commitment to contribute to a sustainable energy economy. We believe that our work not only leads to technological advances but also contributes to a broader transition to sustainable practices worldwide.



Our core values

6. We will be constantly curious

"Why?", "How?" and "What?" is our mantra. HERO® was born from asking these very questions. We will never stop asking them.

5. We will be resilient

Scientific research takes patience and resilience. It involves both success and failure. We will celebrate our successes, face adversity with courage and learn from disappointment.

1. Don't force nature

We don't have to force nature to meet our human needs. We don't have to destroy it. By deeply understanding the science of nature we can work with it to sustain and enhance our lives. We are, after all, part of nature ourselves.



4. We all have a right to a secure workplace

We view our staff's time, energy, and effort as our most precious investment. In return, we will respect their right to a safe, secure, and nurturing workplace.

2. We all have a right to energy

Access to continuous, stable, safe, affordable energy is a fundamental human right. Nobody should be held in poverty for a lack of energy. Everyone deserves the energy they need to be their best selves.

3. Everyone has an innovative spark in them

Scientific curiosity lives in every human being, regardless of their sex, their race, their beliefs, their education, or their wealth. No matter your background, if you're curious about nature and science, you have a place at Star Scientific.

Our leadership team (1/2)

Star Scientific is guided by an experienced leadership team united by a shared commitment to sustainable innovation. Drawing on diverse expertise, our leaders support the development of our technologies, strategy, and long-term vision.



Andrew Horvath
Global Group Chair

Andrew founded the Company over two decades ago and has been a driving force behind its pioneering spirit. As the Global Group Chair, he oversees the business strategy and development, focusing particularly on the advancement and deployment of our breakthrough technology, HERO®. His vision is fundamental in shaping the future of sustainable energy solutions.



Matthew plays a dual role in strategic planning and business development. He is instrumental in driving support for green hydrogen technologies across various sectors, including business and government. His efforts are key to integrating our solutions into broader energy and sustainability strategies.



Matthew Hingerty
Deputy Chair, Deputy CEO and
Head of Business Development

Our leadership team (2/2)

Star Scientific is guided by an experienced leadership team united by a shared commitment to sustainable innovation. Drawing on diverse expertise, our leaders support the development of our technologies, strategy, and long-term vision (cont.).



Steve Heaton

Global Head of Research

Steve orchestrates our international research efforts, managing a diverse portfolio that spans several continents. He works closely with industry leaders, academia, and government bodies to foster relationships that enhance our technological capabilities and drive forward our research agenda.



Shayne De Courcy

Global Head of Infrastructure

Shayne oversees the infrastructure aspects of our HERO® projects. His responsibilities include ensuring that the necessary physical and logistical infrastructure is in place to support the deployment and operation of our technology across different regions.



Jim Murray

Head of Mass Production

Jim leads the critical initiatives for scaling up the production of our technologies. He is at the forefront of developing and establishing mass production facilities that are capable of meeting the global demand for our innovative HERO® technology, ensuring that our solutions are accessible on a large scale.

HERO® technology (1/4)

At the centre of Star Scientific's sustainable energy ambitions is **HERO®**, our breakthrough heat-generating technology. HERO® uses a proprietary catalyst to enable a controlled reaction between hydrogen and oxygen, producing heat without combustion.

The technology **can reach temperatures exceeding 700°C within minutes**, delivering high-temperature heat for industrial applications in a flameless and inherently safe way. This makes HERO® well suited to a range of commercial and industrial uses where reliable, scalable heat is required.

HERO® is based on a simple but powerful principle: **the greater the catalyst's surface area and the more hydrogen available, the more heat is generated**. With pure water as the only by-product, the technology provides an efficient and clean pathway for meeting industrial heat demand while supporting the transition to zero-emission energy.



HERO® technology (2/4)

HERO® is the world's first and only safe, affordable, non-combusting hydrogen heat solution suitable for:

Power Generation

By swapping HERO® for a coal-fired boiler within an existing power plant, emissions can be cut while power stations can continue to operate. Costs can be reduced by eliminating the need for infrastructure replacement and multi-million-dollar pollution control measures.

The cost to produce steam using HERO® is around the same as with coal, with significant cost savings achievable due to a reduction in coal handling and pollution control. This has the potential to save power providers between \$100 million to \$250 million per year.



District heating

Heating for buildings like our homes and businesses is one of the largest drivers of carbon emissions.

With its ability to safely reach temperatures of over 700 degrees Celsius in just minutes, HERO® can provide efficient and clean district heating; a municipal-level replacement for individual home heating systems.



Off-grid power

HERO® can be placed in remote communities where it can quickly and reliably generate power at economical costs. HERO® can play a critical role in the developing world, connecting people to clean, reliable power and lifting them out of poverty.



HERO® technology (3/4)

HERO® is the world's first and only safe, affordable, non-combusting hydrogen heat solution suitable for (cont.):



Industrial processes

Heat production can be one of the most energy intensive parts of the production process for many industries.

HERO® can step in to create a clean, high temperature source of heat to affordably solve this challenge for industry, significantly cutting emissions outputs.

Water desalination

As demand for desalination rises, concern is also growing that the process must be made more affordable and sustainable. HERO®'s clean, rapid heat generation can enable a more efficient desalination process, creating the clean water needed to sustain life without further harming the environment.



HERO® technology (4/4)

Star Scientific's flagship technology is based on a high yield heat-releasing catalytic reaction that occurs when oxygen and hydrogen meet an innovative catalyst: HERO®.

What is HERO®?

It is a catalytic reaction between Oxygen, Hydrogen and a confidentially kept proprietary catalyst. This revolutionary heat-generating technology can be transformed into reliable energy for multiple uses.

What happens to the catalyst during the reaction?

HERO® catalyst is neither consumed nor degraded during the reaction so it can be used over time. This proprietary material isn't technically part of the reaction; it is the home of the reaction.

How can this reaction be monitored?

We have developed our own artificial intelligence system to automatically monitor the heat exchanger so that the exact amount of heat needed is produced for each particular industrial purpose.



What does this reaction create?

The reaction creates an immense amount of controllable heat without combustion. Within 5 minutes it can reach temperatures in excess of 700° C (1,292° F). This heat can be used for any industrial purposes where heat is required.

HERO® needs hydrogen, how do we make it?

Hydrogen can be produced through various methods. Black or Grey hydrogen can be produced using coal, but it releases carbon. If carbon capture, utilisation and storage (CCUS) is implemented during the process, then this hydrogen is called blue hydrogen. Green hydrogen can also be produced by transforming solar and wind energy into electricity to run electrolyzers, which then split water into hydrogen and water. New methods are being researched and promising leads such as the use of photocatalysts and other breakthrough methods of separating hydrogen and oxygen from each other in water will disrupt the market within five years.

Are there any greenhouse gas emissions or undesirable by-products?

No, the HERO® reaction doesn't produce any greenhouse gas or particulate emissions. The only by-product is the highest-grade purified water.

Awards and recognition

Star Scientific's focus on sustainability, innovation, and excellence in clean energy has been recognised by a range of respected organisations. These achievements reflect our continued efforts to advance zero-emission energy solutions and contribute to progress in industrial technology. We are pleased to highlight selected recognitions that mark key milestones in our journey.



S&P Global Platts Emerging Technology of the Year 2020

This recognition acknowledges Star Scientific's pioneering work in emerging energy technology. Our hydrogen-based innovation, which generates heat without combustion, was recognised as a distinctive and potentially transformative contribution to the energy sector.



Sustainable Energy Council World Hydrogen Awards Industrial Application 2021

This award reflects the practical application of sustainable energy solutions in an industrial context. It recognises our efforts to advance the use of hydrogen technology in industrial processes and support the transition towards cleaner energy systems.



SXSW Innovation Awards New Economy Technology 2022

This award highlights Star Scientific's contribution to industrial innovation. Our development of non-combustive hydrogen heat technology has strengthened our position as a company seeking to reshape how industry accesses and uses energy.

Framework

Aligning our ESG disclosures with the ESRS principles to support transparent and accountable sustainability reporting



ESRS

Star Scientific has structured its sustainability reporting with reference to **the ESRS**. This approach reflects our commitment to transparent disclosure, accountability, and the continued development of strong sustainability governance practices.

Why ESRS

These standards provide a comprehensive reporting framework designed to support consistent and comparable sustainability disclosures. As Star Scientific engages with international markets, including the EU, alignment with the ESRS helps us prepare for evolving regulatory expectations and strengthen the credibility of our ESG reporting.

Using the ESRS also allows us to present a more complete view of our sustainability-related impacts, risks, opportunities, and performance. The framework covers key environmental, social, and governance topics that are relevant to our stakeholders and supports continuous improvement in the way we assess, manage, and communicate sustainability matters.

The table below outlines **the relevance of selected ESRS topics to Star Scientific**. As the Company remains in the R&D stage, currently at TRL 6, not all ESRS topics are directly applicable to our present operations. However, we have included them to provide a broader understanding of the potential impacts our activities may have now and as we grow. As Star Scientific progresses towards commercialisation and future deployment, including the move towards TRL 9, we expect our sustainability reporting to become more detailed and mature.

Group of Standards	Subject	Relevance for the 2025 Sustainability Report	Relevance for the 2028* Sustainability Report
Cross-cutting	General requirements	+	+
	General disclosures	+	+
Environment	E1. Climate change	+	+
	E2. Pollution	+	+
	E3. Water and marine resources	+	+
	E4. Biodiversity and ecosystems	+/-	+
	E5. Resource use and circular economy	+	+
Social	S1. Own workforce	+	+
	S2. Workers in the value chain	+/-	+
	S3. Affected communities	+/-	+
	S4. Consumers and end users	+/-	+
Governance	G1. Business conduct	+	+

* Projected period when Star Scientific may operate internationally, with projects across multiple countries and regions.

DMA (1/7)

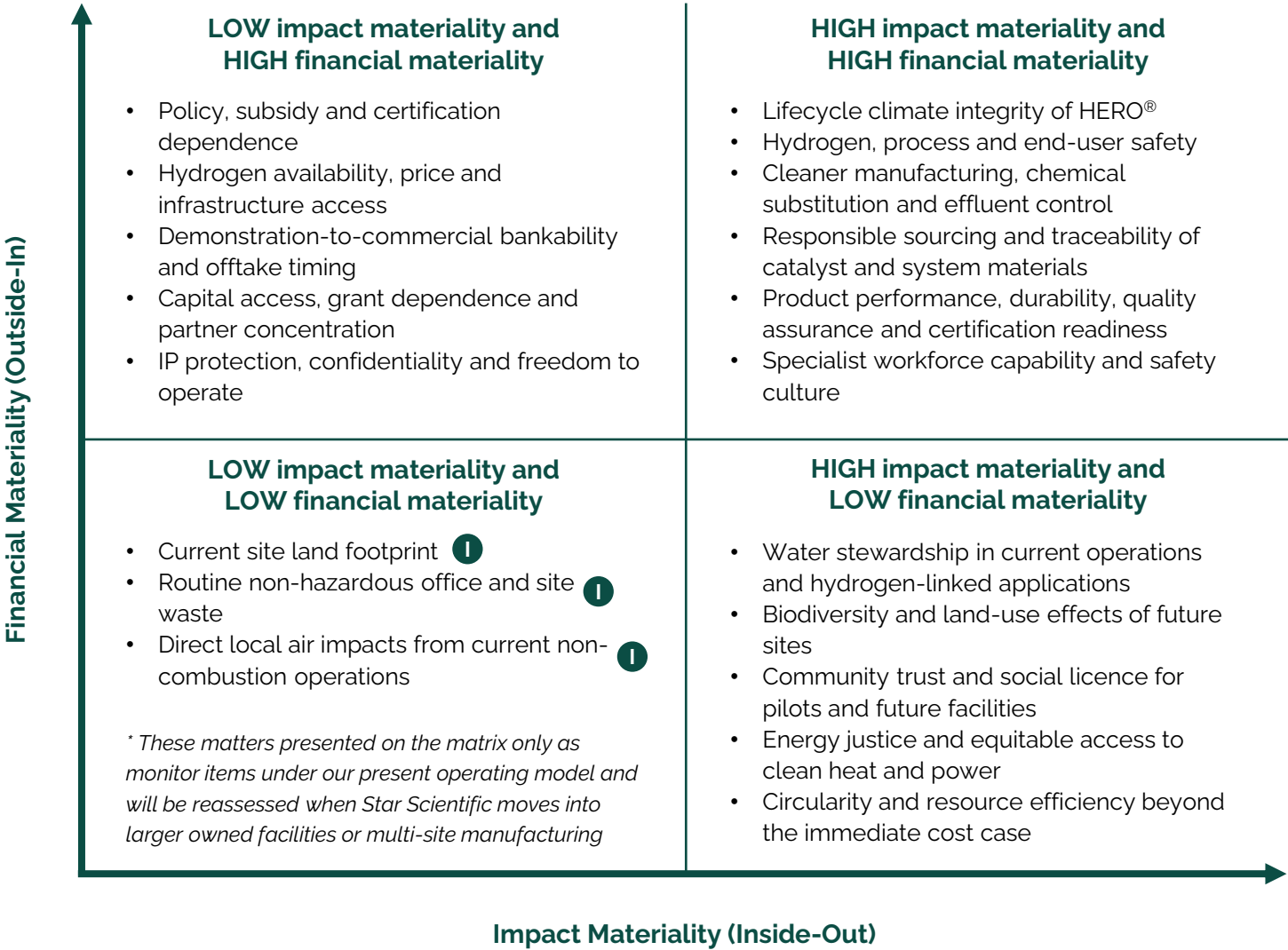
In accordance with the CSRD, companies are required to apply **the principle of double materiality** as the foundation for their sustainability disclosures.

Double materiality comprises two key dimensions:

- ✓ **Impact materiality (Inside-Out):** assesses the actual or potential, positive or negative impacts of the company's activities on ESG factors over the short, medium, and long term;
- ✓ **Financial materiality (Outside-In):** evaluates whether a sustainability matter could materially affect the company's financial performance, position or development.

Star Scientific is currently operating at the R&D stage, corresponding to TRL 6. At this point, conducting a full double materiality assessment, particularly in relation to future commercial operations at TRL 9, would be premature.

This DMA is a **management-validated refresh** based on the company's 2025 operating profile, pilot pipeline, published company disclosures and public-source sector analysis. It is intended as an interim update and will be further strengthened in a future cycle through more formal evidence gathering and targeted engagement with affected stakeholders across the value chain.



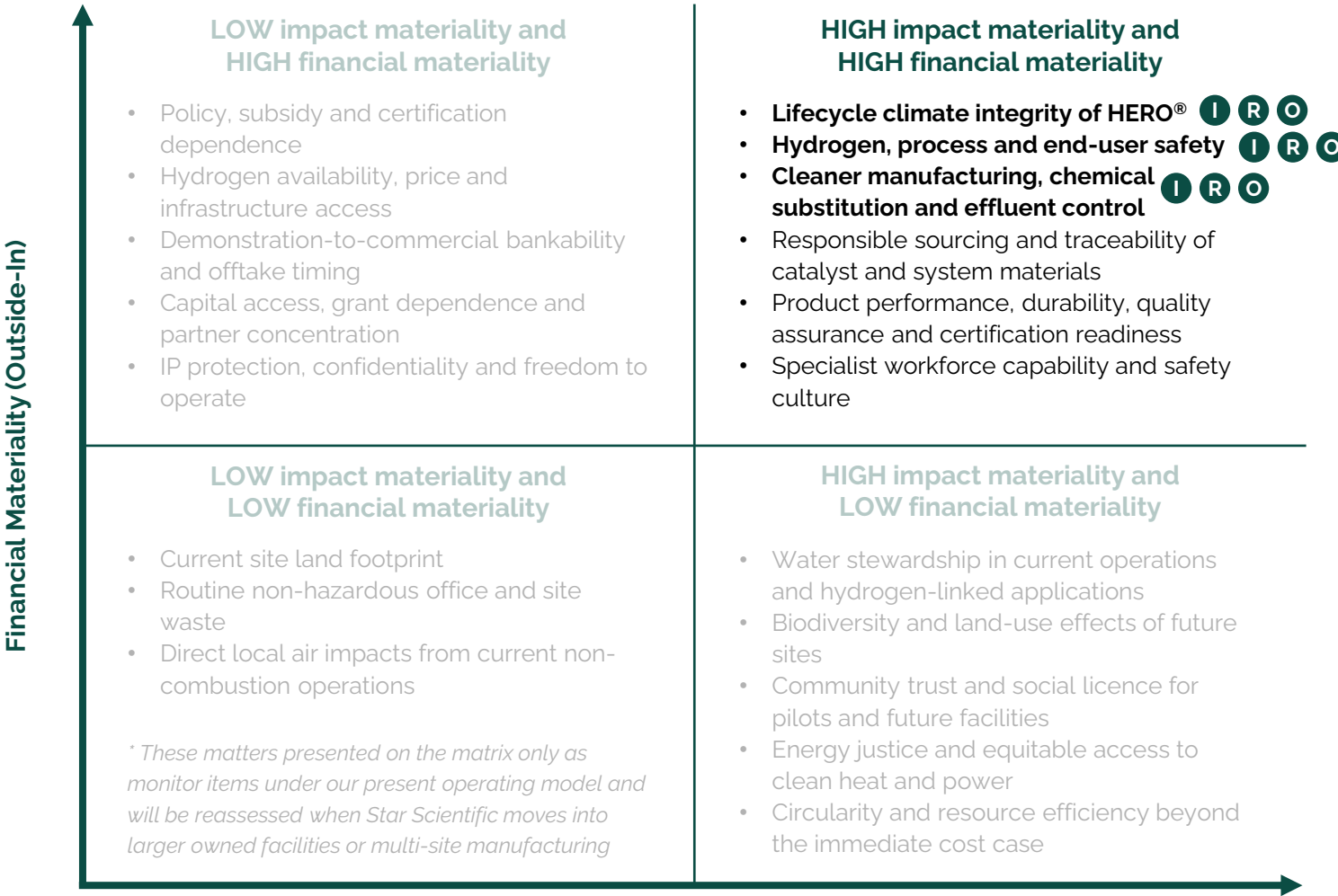
* I – Impact, R – Risk, O – Opportunity

DMA (2/7)

HIGH impact materiality and HIGH financial materiality

These are the matters where our sustainability performance and our path to commercialisation are most closely connected.

- ✓ **Lifecycle climate integrity of HERO®**
HERO® is central to our ambition to support zero-emission industrial heat. As we progress towards deployment, we will continue strengthening the evidence behind its lifecycle climate benefits.
- ✓ **Hydrogen, process and end-user safety**
Safety is fundamental to the way we develop HERO®. We will continue to embed strong controls, training and responsible operating practices as the technology moves closer to commercial use.
- ✓ **Cleaner manufacturing, chemical substitution and effluent control**
We are working to reduce the environmental footprint of our production methods, including through coating techniques that may reduce the need for hazardous chemical processes.



* I – Impact, R – Risk, O – Opportunity

DMA (3/7)

HIGH impact materiality and HIGH financial materiality

These are the matters where our sustainability performance and our path to commercialisation are most closely connected (cont.)

✓ **Responsible sourcing and traceability of catalyst and system materials**

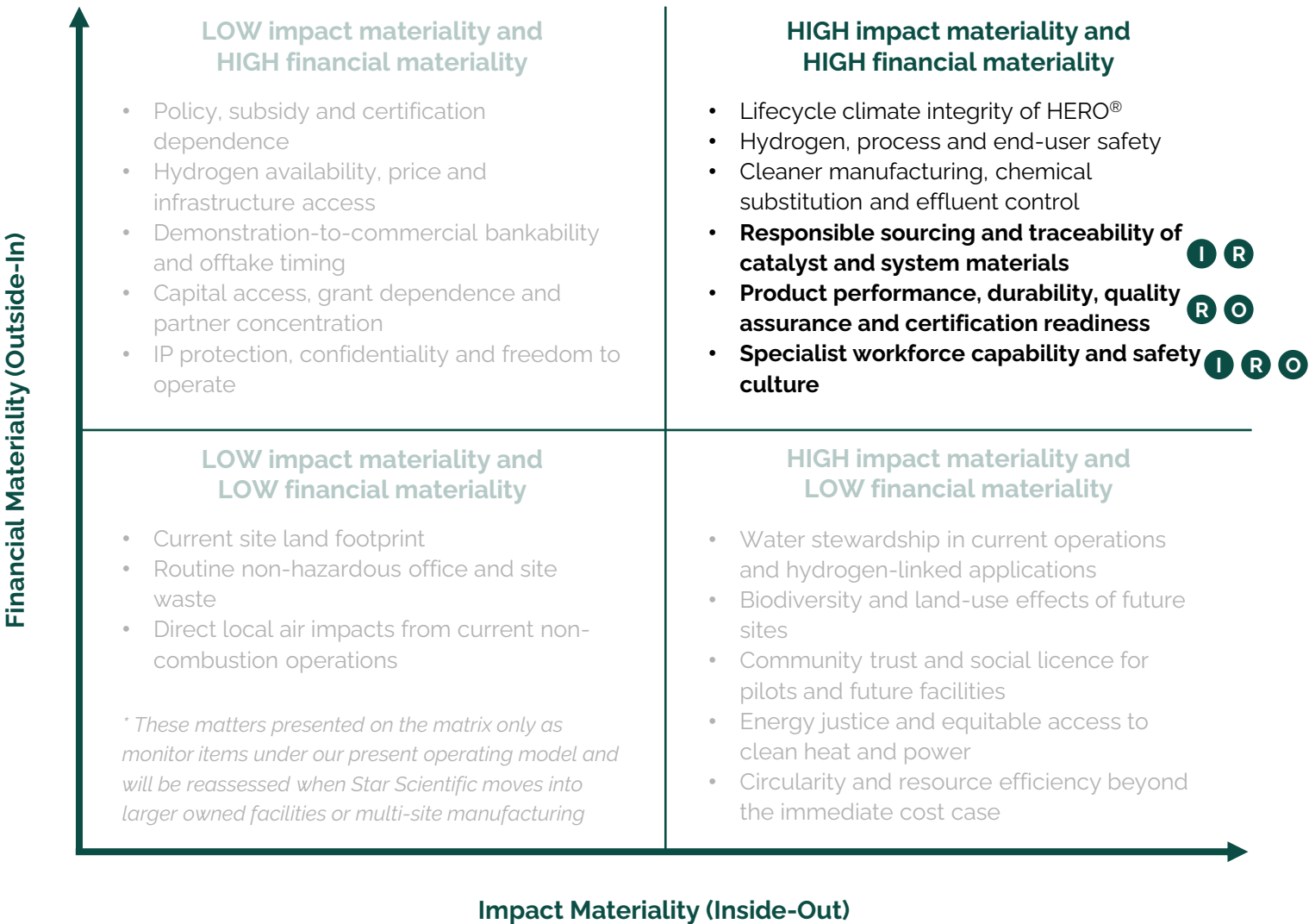
As we prepare for future scale-up, responsible sourcing will become increasingly important. We intend to strengthen supplier oversight and improve transparency across our material inputs.

✓ **Product performance, durability, quality assurance and certification readiness**

Reliable performance is essential to customer confidence. We will continue to develop quality systems and testing processes that support safe, repeatable and trusted deployment of HERO®.

✓ **Specialist workforce capability and safety culture**

Our people are central to our innovation. We will continue to support a safe, skilled and resilient workforce capable of advancing HERO® responsibly.



* I – Impact, R – Risk, O – Opportunity

DMA (4/7)

HIGH impact materiality and LOW financial materiality

These matters may have significant environmental or social importance, even where their current financial effect is limited at our present R&D stage.

- ✓ **Water stewardship in current operations and hydrogen-linked applications**

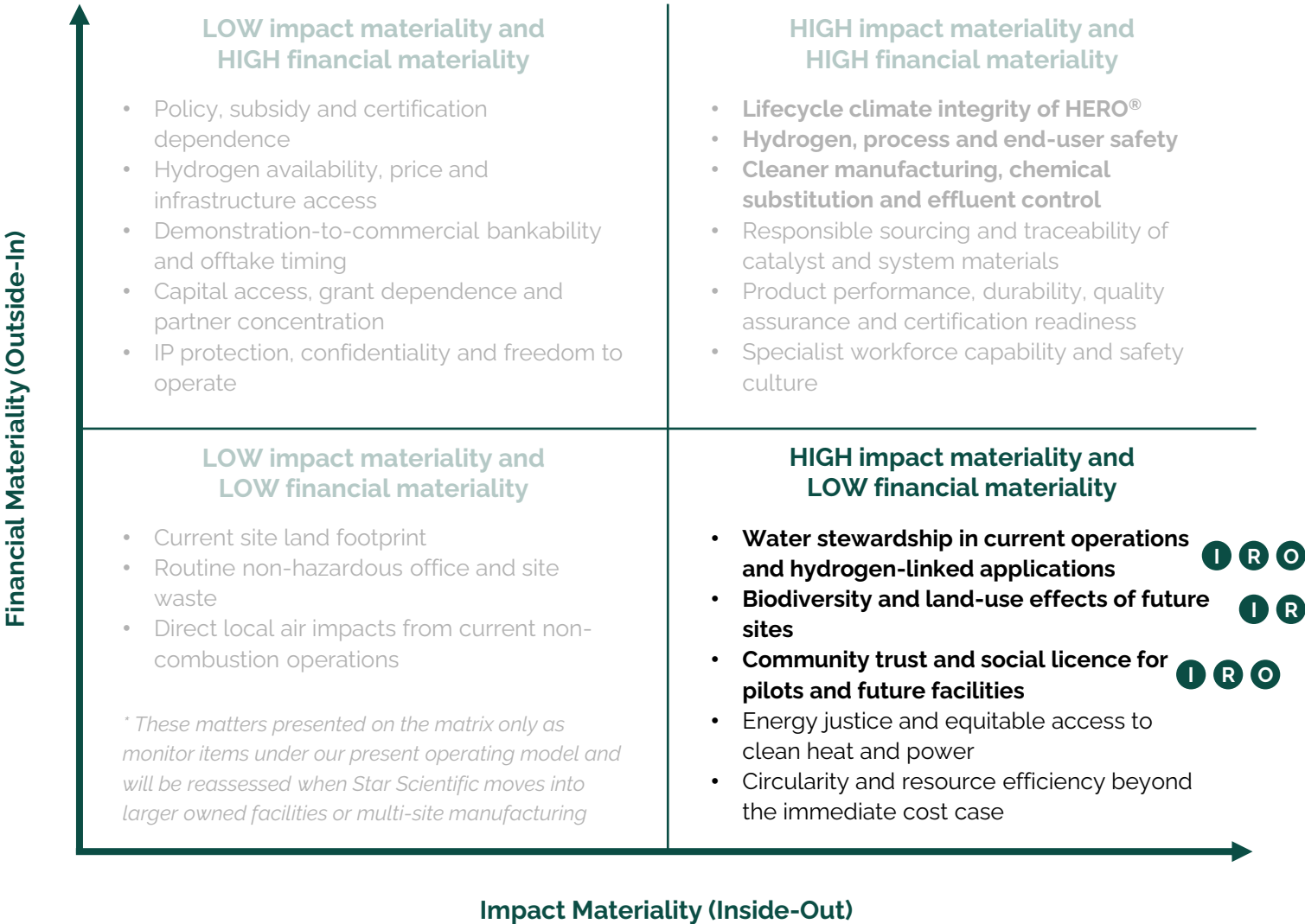
We recognise water as an important resource. Our new monitoring capability will help us identify unusual usage earlier and support more responsible water management.

- ✓ **Biodiversity and land-use effects of future sites**

Our current footprint is limited, but future growth may create new site-related considerations. We will aim to assess biodiversity and land-use impacts early in project planning.

- ✓ **Community trust and social licence for pilot projects and future facilities**

Constructive local relationships are part of responsible growth. We will continue engaging openly with communities, partners and stakeholders as our activities develop.



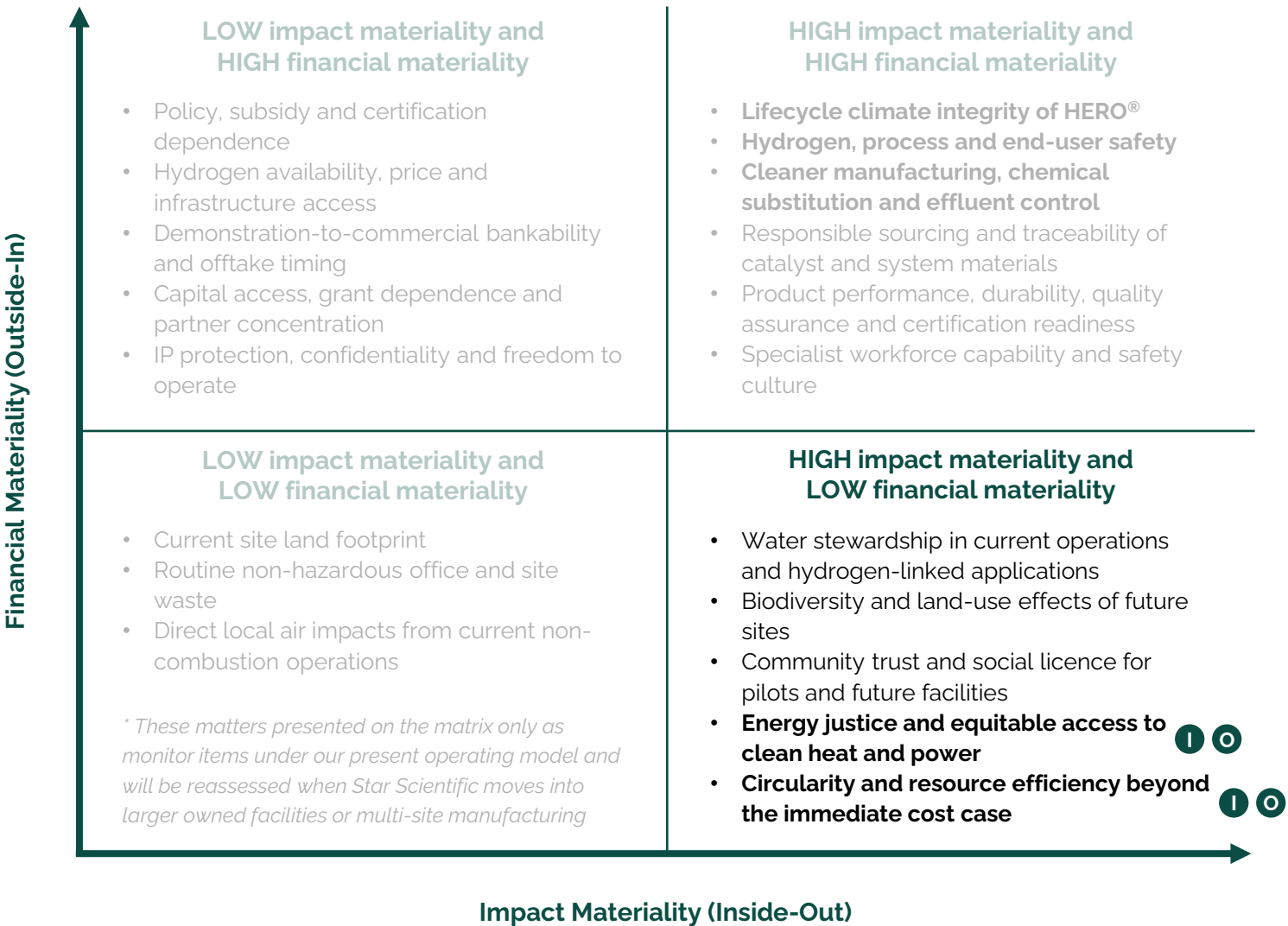
* I – Impact, R – Risk, O – Opportunity

DMA (5/7)

HIGH impact materiality and LOW financial materiality

These matters may have significant environmental or social importance, even where their current financial effect is limited at our present R&D stage (cont.)

- ✓ **Energy justice and equitable access to clean heat and power**
We believe access to safe, reliable and affordable energy matters. HERO® has the potential to support cleaner energy solutions for industry, communities and remote applications.
- ✓ **Circularity and resource efficiency beyond the immediate cost case**
We seek practical ways to reduce waste and extend asset life. Repairing, reusing and improving processes are part of how we embed circular thinking into our operations.



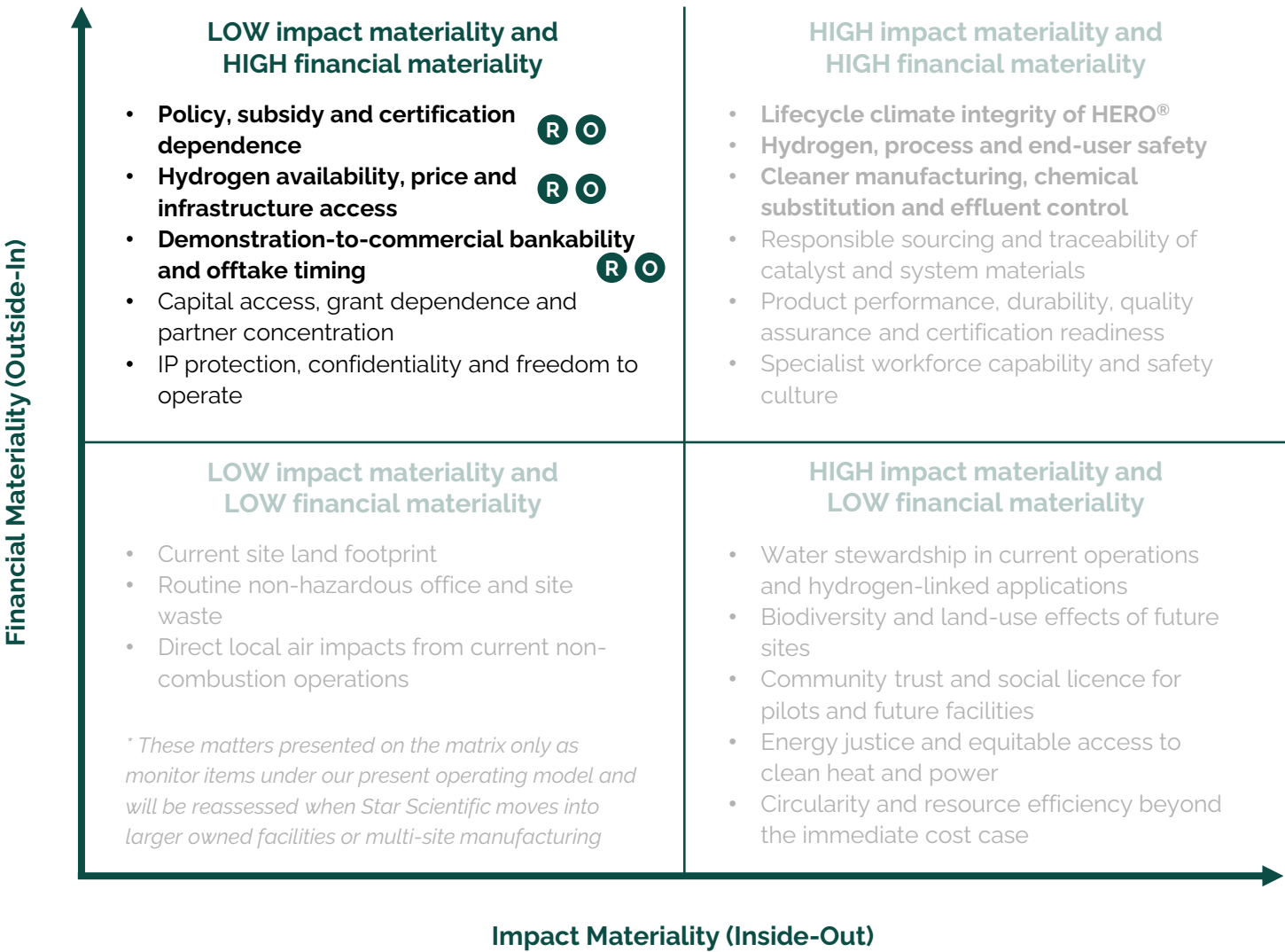
* I – Impact, R – Risk, O – Opportunity

DMA (6/7)

LOW impact materiality and HIGH financial materiality

These matters are mainly outside our direct operational footprint, but they may strongly influence the timing, funding and success of HERO® commercialisation.

- ✓ **Policy, subsidy and certification dependence**
The hydrogen and clean energy sectors continue to be shaped by policy and regulation. We will monitor these developments to support credible market positioning and future deployment.
- ✓ **Hydrogen availability, price and infrastructure access**
HERO® depends on access to suitable hydrogen supply. Availability, cost and infrastructure will influence how quickly customers can adopt clean heat solutions.
- ✓ **Demonstration-to-commercial bankability and offtake timing**
Moving from pilot projects to commercial use requires customer confidence, technical evidence and bankable project structures. We will continue building the foundations for this transition.



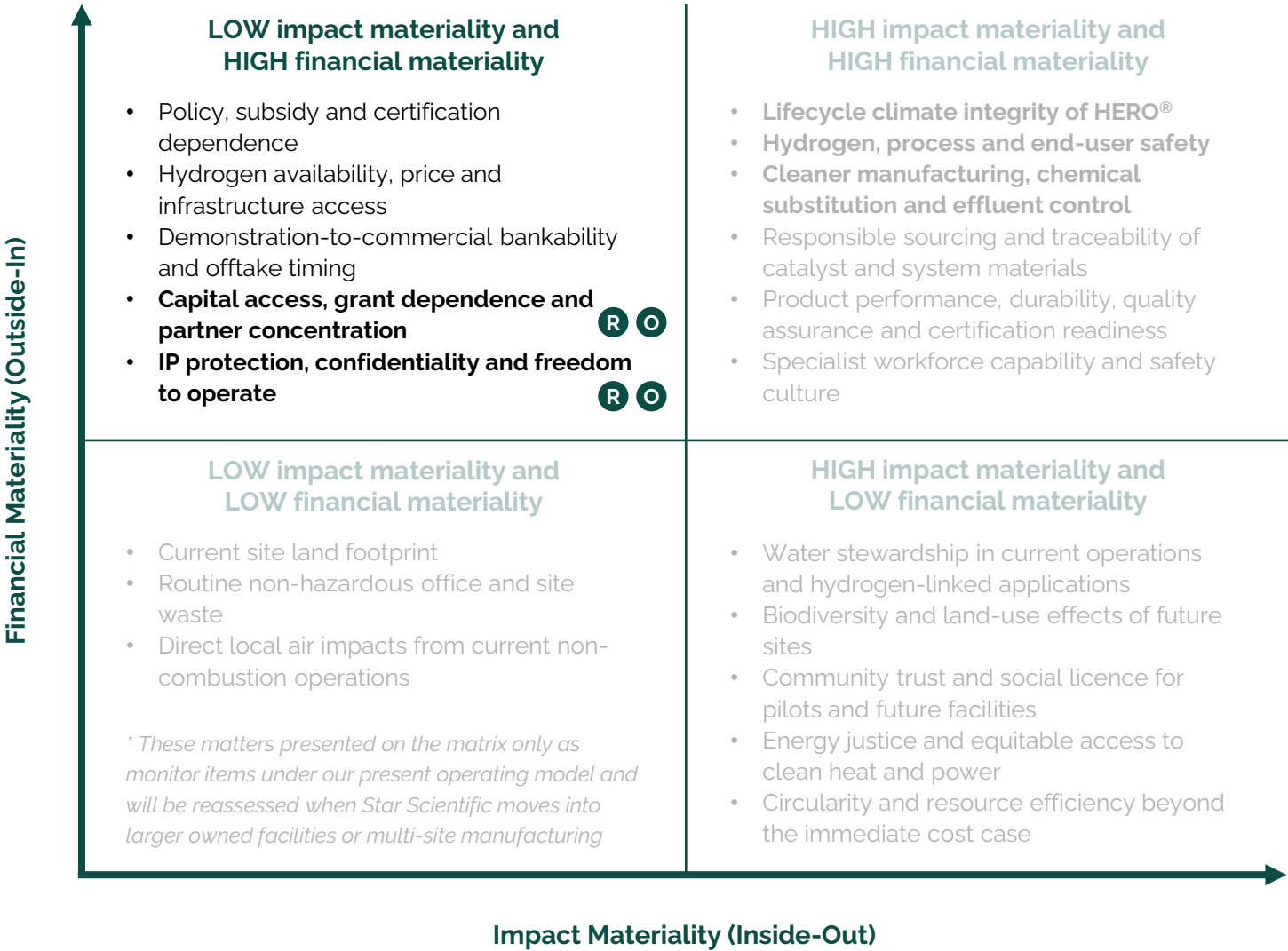
* I – Impact, R – Risk, O – Opportunity

DMA (7/7)

LOW impact materiality and HIGH financial materiality

These matters are mainly outside our direct operational footprint, but they may strongly influence the timing, funding and success of HERO® commercialisation (cont.).

- ✓ **Capital access, grant dependence and partner concentration**
Access to the right funding and partners will remain important as we progress towards scale. We aim to manage these relationships in a way that supports long-term resilience.
- ✓ **IP protection, confidentiality and freedom to operate**
Our intellectual property and know-how are central to our competitive position. We will continue protecting them carefully as HERO® moves towards broader deployment.



* I – Impact, R – Risk, O – Opportunity

Environment

Pioneering combustion-free HERO® technology to advance sustainable energy in harmony with nature



Environment

Environmental Responsibility

Star Scientific's approach to environmental sustainability is shaped by the belief that businesses have an important role in addressing climate change, protecting natural resources, and supporting long-term environmental resilience. This perspective has informed our research, operations, and technology development for more than 25 years, guiding us towards solutions that are both innovative and aligned with a lower-emission future.

As we continue our sustainability journey, we remain focused on continuous improvement and responsible environmental management. Our approach is supported by recognised standards, evolving best practices, and a commitment to reducing the environmental footprint of our activities. This includes attention to emissions reduction, energy efficiency, responsible water use, pollution prevention, waste management, and resource stewardship.

This section outlines Star Scientific's environmental management approach, key activities, progress, and future priorities. It demonstrates how environmental considerations are being integrated into our decision-making and operational planning as we move towards commercialisation. Through transparent reporting, we aim to strengthen accountability, encourage collaboration, and contribute to broader progress towards sustainable energy and environmental protection.

Our Environmental Commitment

At Star Scientific, environmental responsibility extends beyond the potential applications of HERO®. It is reflected in how we develop our technologies, manage our operations, engage with communities, and plan for future growth. We recognise that meaningful sustainability begins at the source, through responsible research, development, production, and deployment of technologies designed to support a cleaner and more sustainable energy future.

E1. Climate change

Advancing zero-emission innovation to support global climate action and sustainable practices



CO₂

E1. Climate change (1/8)

Scope 1

HERO® remains central to Star Scientific's ambition to support climate change mitigation through zero-emission energy innovation. Unlike conventional combustion-based heat generation, HERO® uses a proprietary catalyst to convert hydrogen into heat without combustion, producing no direct GHG emissions during the heat generation process.

As HERO® is still in the R&D phase, Star Scientific is continuing to refine its approach to measuring and reporting operational emissions. Complete Scope 1 emissions data associated with future production and deployment is not yet available. However, based on current understanding, HERO® is expected to provide substantial environmental benefits when compared with traditional fossil fuel-based heat generation.

Future GHG Emissions Monitoring

Looking ahead to 2026, Star Scientific plans to carry out due diligence on local service providers capable of supporting GHG emissions monitoring and verification. This process will focus on identifying a suitable firm to calculate and verify the Company's Scope 1 emissions, helping to strengthen the accuracy, transparency, and reliability of future climate-related disclosures as HERO® progresses towards commercialisation.



E1. Climate change (2/8)

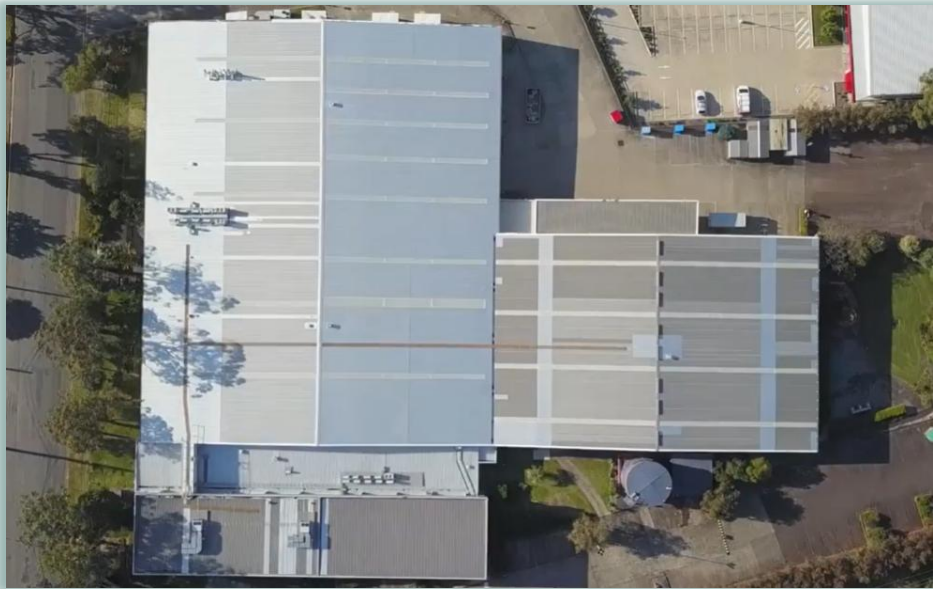
Scope 1 Perimeter

For the purposes of this Report, the information below sets out the initial areas, plant and equipment that may be used as the basis for the calculation, monitoring and verification of Star Scientific's Scope 1 emissions. It should be noted that Star Scientific is currently considering relocating its corporate headquarters from Gordon, NSW to Chatswood, NSW. This potential relocation may affect the Scope 1 perimeter from 2026 onwards.

1. Office site at Gordon, NSW

- ✓ **Total area:** 630 m², fully designated for office purposes
- ✓ **Equipment:** general office equipment

2. Research facility at Berkeley Vale, NSW



Area type	Area, m²
R&D	3,186
Office	2,540
Manufacturing	1,967
Storage	258
Other purposes	749
Total	8,700

Area name	Equipment summary
Experimental Bay	Furnace 550C, furnace 1500C
Laboratories	Analytical and sample-preparation equipment, including spectrometer, pH meter, fume cupboards, balances, microscopes, water purification equipment, sample cutters, grinder/polisher, mounting press, and scanning electron microscope
Manufacture Workshop	Fabrication and machining equipment, including bandsaw, bench grinders, lathes, computer numerical control equipment, milling machines, cold saw, drill press, guillotine, bender, hydraulic press, plasma cutter, plate roller, press brake, pressure vessel, sand blaster, spray booth, surface grinder, welders, and extractor
Testing Workshop	Testing and workshop equipment, including grinder/finisher, lathe, cold saw, drill press, forklift, furnace 1000C, hydraulic fork, hydrostatic pressuriser, manual mill, tool grinder, and welders
Turbine Bay	Heat exchanger and pressure vessel
Offices	General office equipment

E1. Climate change (3/8)

Scope 2

Star Scientific recognises that companies with the ability to do so should support the increased generation and use of renewable energy. In addition to reducing environmental impact, this approach helps manage operational risk in the context of growing pressure on electricity networks and rising expectations for low-emission business practices.

Our long-term ambition is to improve energy resilience and move towards greater energy self-sufficiency, supported where necessary by certified renewable electricity sourced from the grid. During the reporting period, our Berkeley Vale facility continued to support this commitment through the use of 100% certified green energy.

Renewable Electricity Procurement

From 1 March 2024, Star Scientific transitioned to renewable electricity across its operations under an agreement to source certified green energy. This forms part of our broader strategy to reduce the environmental footprint of our activities and ensure that our operational practices align with the zero-emission outcomes we seek to enable through HERO®.

Through extensions to the current renewable energy agreement, Star Scientific remains committed to maintaining renewable electricity procurement, in line with our long-term sustainability objectives.

Future GHG Emissions Monitoring

Looking ahead to 2026, Star Scientific intends to strengthen its emissions management approach by carrying out due diligence on local service providers capable of supporting Scope 2 emissions monitoring and verification. Establishing this capability will support more accurate emissions reporting, improve transparency, and provide a stronger basis for tracking future progress as the Company moves towards commercialisation.

Period	Electricity usage, MWh	GHG emissions, t
January 2025	12.4	0.0
February 2025	12.6	0.0
March 2025	12.6	0.0
April 2025	11.2	0.0
May 2025	11.4	0.0
June 2025	12.2	0.0
July 2025	13.8	0.0
August 2025	12.4	0.0
September 2025	10.9	0.0
October 2025	11.5	0.0
November 2025	11.1	0.0
December 2025	12.4	0.0
Total 2025	144.5	0.0
<i>For the reference:</i>		
<i>Total 2024</i>	<i>150.0</i>	<i>20.8</i>
<i>Changes from 2024 to 2025</i>	<i>-4%</i>	<i>-100%</i>

E1. Climate change (4/8)

Scope 3

Indirect GHG emissions that occur across Star Scientific's broader value chain may include emissions associated with business travel, waste management, product logistics, purchased goods and services, and the wider lifecycle impacts of our products and services.

Given the breadth and complexity of Scope 3 emissions, comprehensive data collection remains an evolving area for the Company. However, we recognise that understanding indirect emissions is an important part of building a mature and transparent climate strategy.

As Star Scientific progresses towards commercialisation, we intend to strengthen our ability to identify, measure, and manage value chain emissions. Improving visibility over these impacts will support better decision-making, enhance sustainability performance, and help ensure that our growth remains aligned with our environmental commitments.

Future Plans

Star Scientific is committed to developing a more structured approach to Scope 3 emissions management. Key areas of focus include:

✓ Data Collection and Reporting

We aim to improve data collection processes to support more accurate quantification and reporting of Scope 3 emissions. This will include engaging with suppliers and other value chain partners to better understand emissions associated with upstream and downstream activities.

✓ Supplier Engagement

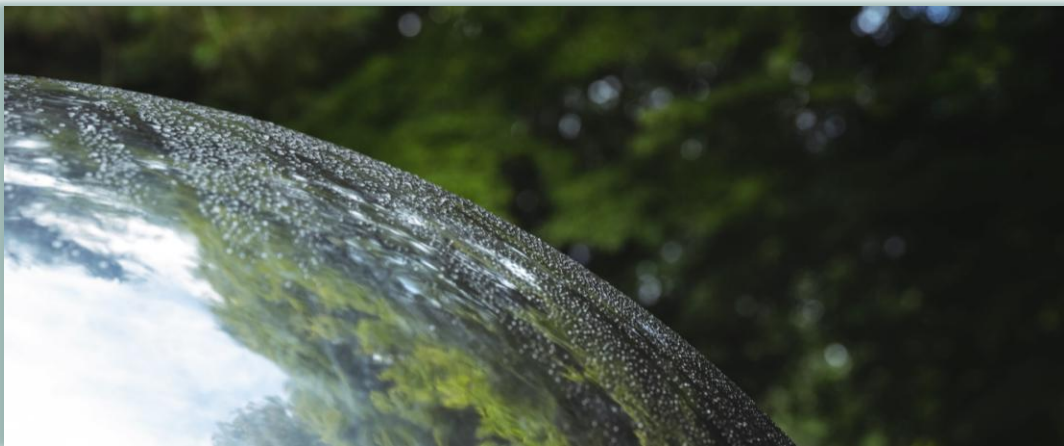
We intend to work with suppliers to encourage lower-emission practices and improve sustainability performance across the supply chain. This may include promoting more efficient processes, responsible sourcing, and the use of materials with reduced environmental impacts where feasible.

✓ Lifecycle Assessment

As our products and services develop, Star Scientific plans to consider lifecycle assessment approaches to identify major sources of indirect emissions and opportunities to improve environmental performance across the value chain.

✓ Continuous Improvement

We will continue to review our Scope 3 approach as data availability improves and reporting expectations evolve. Over time, this may include establishing reduction targets, monitoring progress, and aligning our practices with recognised sustainability reporting standards.



E1. Climate change (5/8)

Avoided emissions through HERO®

Star Scientific remains committed to advancing zero-emission energy solutions through HERO® and supporting global climate action through innovation, responsible development, and sustainable operational practices.

At present, the Company is in the RD&I stage. To illustrate HERO®'s potential contribution to emissions reduction, we have included information from a pilot project that demonstrates the expected climate benefits of the technology in a practical setting.

The following section presents the anticipated reduction in total carbon emissions, based on three key steps:

- 1. Assessing the carbon footprint of materials expected to be used by Star Scientific in the trial project.**
- 2. Demonstrating the absence of carbon emissions during the HERO® heat generation process.**
- 3. Estimating the reduction in the client's carbon intensity through the use of HERO®.**

Due to confidentiality obligations under Non-Disclosure Agreements, the data included in this report is presented in the form of final results. Where access to initial or underlying data is required, it may be provided upon formal request by authorised parties.



E1. Climate change (6/8)

Step 1. Assessing the carbon footprint of materials expected to be used by Star Scientific in the trial project.

Step 1.1. Material Breakdown

The table outlines the weight of materials used in the construction of the HERO® heat exchanger for the trial project, designed to meet the required output for the client's installation and provides the basis for estimating the embodied carbon associated with the system materials.

Materials	Weight, kg
Stainless Steel 316	819.5
Total catalyst materials	12.5
Titanium	0.73
Garlock g450 Gasket (PTFE)	4.8
Total	837.53

Step 1.2. Estimating the Catalyst Materials' Carbon Footprint

The specific composition of the HERO® catalyst, including the weights and proportions used, is protected as intellectual property. For this reason, the assessment uses the total catalyst weight rather than disclosing its detailed formulation. To support a conservative estimate, the carbon footprint of the most carbon-intensive relevant material has been applied to the total catalyst weight. According to the HERO® patent, the primary materials associated with the catalyst include steel, zinc, copper, nickel, and tin. Based on available open-source data, the table presents the estimated carbon footprint per kilogram for each of these materials.

Materials of the catalyst	Carbon footprint per 1 kg of the material, kg of CO ₂ e	Source of the information
Steel	1.91	World Stainless Association
Zinc	3.89	International Zinc Association
Copper	4.1	International Copper Association
Nickel	13.0	Nickel Institute
Tin	6.632	International Tin Association

E1. Climate change (7/8)

Step 1. Assessing the carbon footprint of materials expected to be used by Star Scientific in the trial project (cont.).

Step 1.3. Total Estimated Material Carbon Footprint

Using the material weight data and relevant open-source emissions factors, the total estimated carbon footprint of the materials used in the HERO® system for the pilot project is calculated at **5.79 tonnes of CO₂e**. This estimate does not include emissions associated with transportation. As Star Scientific is currently operating in the RD&I stage, the Company does not contract directly with material producers. However, supplier selection will continue to consider opportunities to reduce, and where possible eliminate, transport-related emissions linked to materials delivered to our premises.

Materials	Weight, kg	Carbon footprint per 1 kg of the material, kg of CO ₂ e	Total carbon footprint per material used, t of CO ₂ e
Stainless Steel 316	819.5	6.80 ¹	5.57
Total catalyst materials	12.5	13.0 ²	0.16
Titanium	0.73	17.0 ³	0.01
Garlock 9450 Gasket (PTFE)	4.8	9.6 ⁴	0.05
Total	837.53		5.79

¹ World Stainless Association

² Carbon footprint data for the catalyst's most carbon-intensive material: nickel

³ <https://www.californiametals.com/>

⁴ <https://shamrocktechnologies.com/>

Step 2. Demonstrating the absence of carbon emissions during the HERO® heat generation process

In July 2024, Star Scientific conducted two demonstrations of HERO® to verify the gases used and released during the heat generation process. The purpose of these demonstrations was to confirm that the system used only hydrogen as the fuel, oxygen as the oxidant, and argon as an inert carrier gas. Gas samples were collected from both the input and output streams and analysed by two independent analytical service providers. In addition, Star Scientific received a scientific overview and explanatory letter setting out the results of the demonstrations. The findings confirmed that **no common greenhouse gases were present either in the input gases or in the gases emitted from the system: carbon dioxide (CO₂), carbon monoxide (CO), methane (CH₄), and nitrous oxide (N₂O) were not detected**. The only reactive gases identified within the system were hydrogen and oxygen.

In May 2026, Star Scientific conducted a further demonstration of HERO® for the same purpose. **The results confirmed the previous findings and indicated that there had been no change to the HERO® heat generation process, including the absence of carbon emissions released from the system.**

E1. Climate change (8/8)

Step 3. Estimating the reduction in the client's carbon intensity through the use of HERO®.

As outlined in the letter of intent, the pilot project's primary goal is to replace natural gas power installations with HERO® in our client's operations. The project will begin with an initial phase where 15% of the natural gas carbon intensity will be removed. After 2-3 months, the project will transition into a full commercial contract, aiming to remove 100% of the natural gas carbon intensity.

Based on the projected operating scenarios, **HERO® has the potential to eliminate between 359.48 tonnes of CO₂e per year and 2,396.5 tonnes of CO₂e per year**, depending on the associated level of annual use, ranging from 15% to 100%.

When compared with the estimated embodied carbon footprint of the materials used in the HERO® system for the pilot project, calculated in Step 1.3 as 5.79 tonnes of CO₂e, **the potential level of carbon emissions reduction ranges from 78.5% to 99.8%** (as shown in the table on this slide), depending on the associated use scenario. The highest reduction potential, **approaching 100%**, highlighted in our previous sustainability reports remains valid since it was calculated for the long-term period following the initial deployment phase of the pilot project.

For the purposes of this Report, **the level of carbon emissions reduction** is calculated by using the formula below for a period of 1 year:

$$100\% - \frac{\text{Carbon footprint of the pilot project with the use of HERO® + Carbon footprint of the materials used in the HERO® system for the pilot project}}{\text{Carbon footprint of the pilot project before the use of HERO®}}$$

The table below shows the calculation of the level of carbon emissions reduction **for three scenarios**, depending on the extent to which the natural gas carbon intensity is removed:

	Scenario 1 3 months of 15% removal, then – 100%	Scenario 2 2 months of 15% removal, then – 100%	Scenario 3 Full contract with 100% removal
Carbon footprint of the pilot project before the use of HERO®, t of CO ₂ e	2,396.5	2,396.5	2,396.5
Carbon footprint removed by HERO®, t of CO ₂ e	1,887.2	2,057.0	2,396.5
Carbon footprint of the pilot project with the use of HERO®, t of CO ₂ e	509.3	339.5	0.0
Carbon footprint of HERO®, t of CO ₂ e	5.79	5.79	5.79
Level of carbon emissions reduction	78.5%	85.6%	99.8%

Initial level at the pilot project launch

Long-term level after 2-3 months

E2. Pollution

Reducing environmental impact through responsible pollution management, prevention, and compliance practices



E2. Pollution (1/2)

Current Pollution Management Practices

Star Scientific remains committed to managing pollution-related risks in a responsible, transparent, and proportionate manner. While our current operational impact is limited, we continue to maintain practices that support regulatory compliance, environmental protection, and continuous improvement across our technical and operational activities.

✓ Liquid Waste Management

To support transparency and demonstrate the negligible impact of our operations, Star Scientific has obtained a Liquid Trade Waste Licence from the local council responsible for the wastewater system. This licence enables the council to inspect our operations and analyse wastewater without prior notice, providing an additional layer of independent oversight. This approach reflects our commitment to responsible wastewater management and supports confidence that liquid waste from our activities is appropriately monitored and managed in line with applicable local requirements.

✓ Hazardous Waste Disposal

Star Scientific manages waste generated through its operations with a focus on safety, compliance, and environmental responsibility. Any waste requiring special handling is managed in accordance with relevant regulatory requirements and appropriate disposal practices. As our operations continue to develop, we recognise the importance of maintaining clear processes for identifying, classifying, storing, and disposing of waste materials. This helps ensure that potential risks to people and the environment are appropriately controlled.

✓ Dissolved Metals Extraction

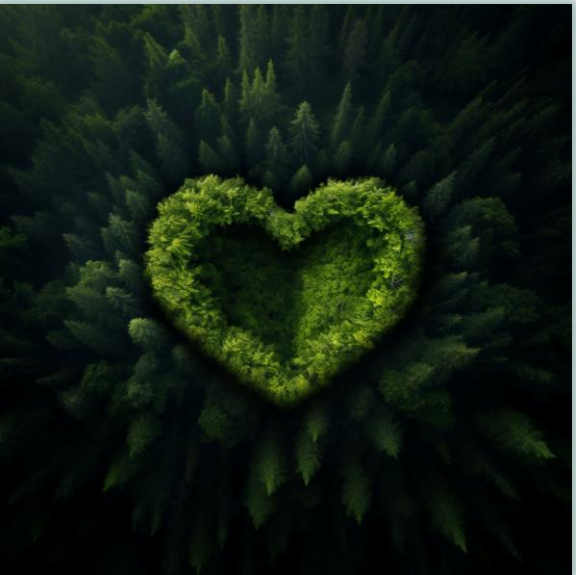
Where relevant to our research, development, and operational processes, Star Scientific considers the potential presence of dissolved metals or other substances in waste streams. Our approach is to manage these matters carefully through appropriate controls, monitoring, and engagement with qualified parties where specialist assessment is required. This supports our broader objective of minimising pollution-related impacts and maintaining responsible environmental practices as our activities progress towards commercialisation.



E2. Pollution (2/2)

Future Considerations

As Star Scientific continues to grow, we intend to further strengthen our pollution management approach through improved monitoring, assessment, and waste classification processes.



✓ Research and Development

We will continue to assess pollution-related risks that may arise from our technical and operational activities, including those connected to future development, testing, and deployment of HERO®. This will support early identification of potential impacts and help ensure appropriate controls are considered as our operations evolve.

✓ Waste Classification and Monitoring

Star Scientific plans to engage a local service company to provide monitoring and assessment services, including conducting an analysis of waste generated to better understand what proportion, if any, may be classified as hazardous or radioactive under terminology used in SFDR-related disclosures and relevant EU waste frameworks.

✓ Sustainability Planning

The outcomes of these assessments will help inform future sustainability planning, including improved waste management procedures, enhanced internal reporting, and more structured pollution prevention measures. This will allow us to better align our practices with recognised ESG expectations while maintaining compliance with local regulatory obligations.

Impact and Sustainability Goals

Our pollution management approach is designed to reduce environmental risk, support regulatory compliance, and promote responsible operational growth. By strengthening wastewater oversight, improving waste classification, and engaging qualified external specialists where needed, Star Scientific aims to maintain transparent, accountable, and proactive pollution management practices.

As we move towards future commercialisation, we will continue to review and improve our systems to ensure that pollution prevention, responsible waste handling, and environmental protection remain embedded in our operational decision-making.

E3. Water and marine resources

Managing water responsibly by reducing our footprint, improving efficiency, and supporting sustainable use

E3. Water and marine resources (1/2)

Operational Efficiency and Water Stewardship

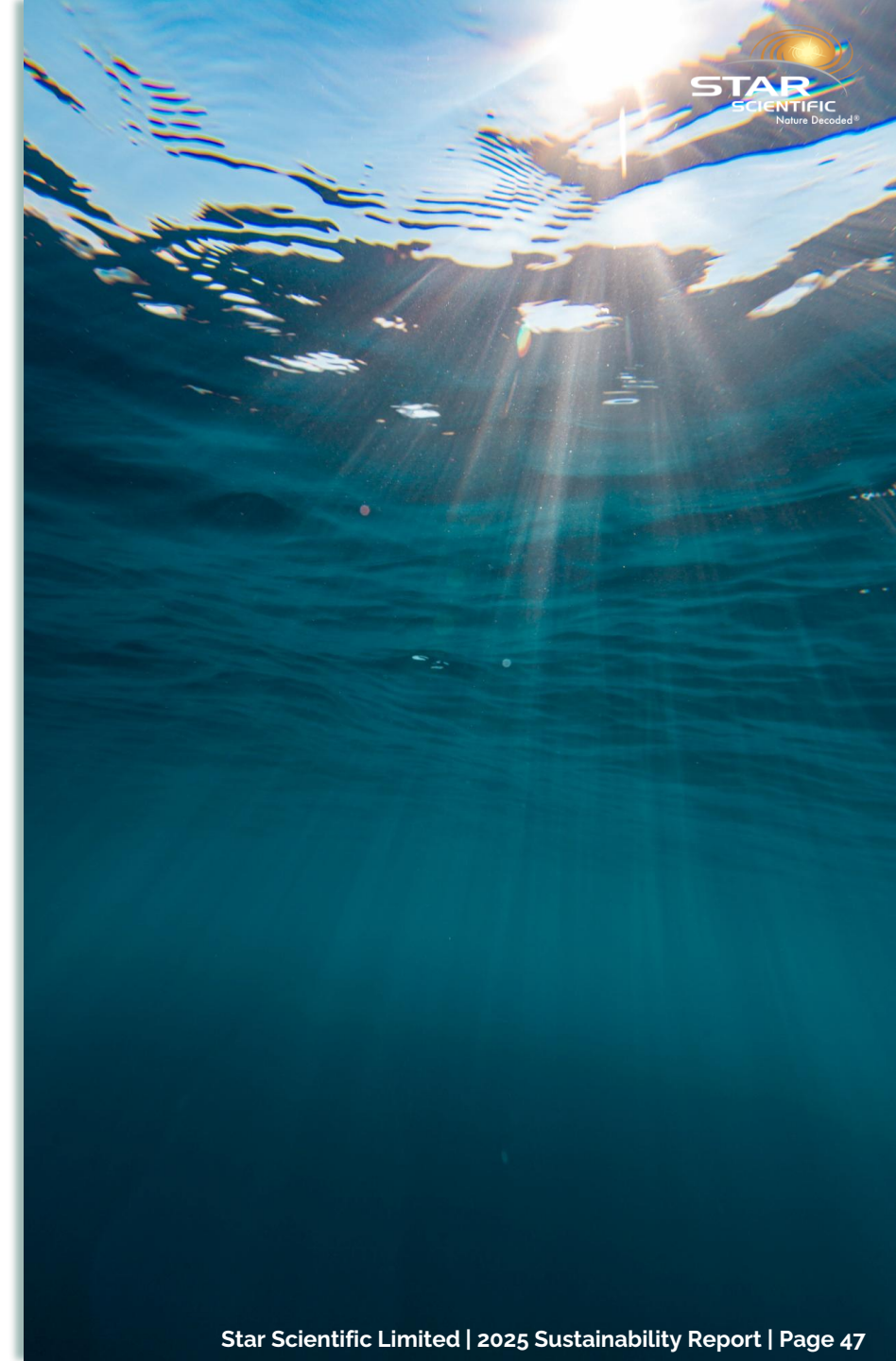
Star Scientific remains committed to responsible water management as part of our broader approach to resource efficiency and environmental stewardship. As we currently operate from leased premises, we continue to work with building owners and property management to support practical water conservation measures and encourage the efficient use of water across our day-to-day activities.

We also promote awareness among employees to support responsible water use within our operations. Through internal engagement and ongoing communication, we aim to foster a culture where water efficiency is recognised as part of our wider sustainability objectives.

During 2025, a significant one-day increase in water consumption was identified. The building owners were promptly notified, and an investigation found that the issue was linked to an infrastructure malfunction, which was subsequently repaired. This incident highlighted the importance of timely water consumption data and early detection systems in preventing unnecessary water loss.

At the time of the previous report, water consumption information was only available through local council billing cycles, typically at three-month intervals. This created a delay between any unusual increase in water use and the opportunity to investigate and take corrective action. To improve visibility and responsiveness, an [Itron Cyble Sensor](#) has now been installed, allowing water consumption to be monitored at intervals as short as one hour.

The introduction of this telemetry system strengthens our ability to detect abnormal usage patterns earlier, support faster response times, and improve overall water management.



E3. Water and marine resources (2/2)

Water Consumption in 2025

Period	Water consumption, kl
Q1 2025	633
Q2 2025	38
Q3 2025	27
Q4 2025	164
Total 2025	862
<i>For the reference:</i>	
<i>Total 2024</i>	<i>1,616</i>
<i>Changes from 2024 to 2025</i>	<i>-47%</i>

Future Considerations

As Star Scientific looks ahead to future operational growth, including the potential acquisition or development of owned facilities, we will continue to consider opportunities to integrate more advanced water management solutions. These may include improved monitoring systems, water-efficient infrastructure, rainwater harvesting, and other measures that support water resilience and reduced environmental impact.

In addition, Star Scientific plans to engage a local service company to support monitoring and assessment activities related to water management. This may include conducting an analysis of potential emissions to water arising from current technical and operational processes, including consideration of priority substances under the official EU list, as well as direct emissions of nitrates, phosphates, and pesticides.

Even within our current leased premises, we remain focused on practical and proactive water stewardship. By improving monitoring capability, working collaboratively with property stakeholders, and responding quickly to identified issues, we continue to align our water management practices with our broader sustainability commitments.



E4. Biodiversity and ecosystems

Recognising the importance of healthy ecosystems in protecting biodiversity and supporting sustainable life



E4. Biodiversity and ecosystems

Biodiversity and Ecosystem Conservation

As Star Scientific continues to evolve and prepare for future growth, we recognise that responsible development must consider the potential effects of our activities on surrounding ecosystems, natural habitats, and biodiversity. While our current operational footprint remains limited, we understand that future expansion, infrastructure development, and commercialisation activities may create new environmental considerations.

Our Approach to Biodiversity

Our approach is guided by the principle that business growth should be pursued in a way that respects the natural environment. We are committed to meeting applicable environmental obligations and, where practical, identifying opportunities to reduce impacts, support ecological resilience, and contribute to positive environmental outcomes.

✓ Responsible Planning and Decision-Making

We aim to consider biodiversity and ecosystem-related matters early in project planning and decision-making. This includes taking a risk-based approach to understanding how future activities may interact with the local environment and ensuring that environmental considerations are integrated into relevant business processes.

✓ Environmental Assessment and Risk Awareness

Where new developments or operational changes are proposed, we intend to assess potential environmental and biodiversity-related impacts as part of our planning process. These assessments help inform responsible decision-making and support the design of appropriate measures to avoid, minimise, or manage potential ecological disruption.

✓ Impact Management and Mitigation

Our approach prioritises the prevention and reduction of environmental impacts wherever possible. Where impacts cannot be fully avoided, we will seek to manage them responsibly through appropriate mitigation, restoration, or improvement measures. This reflects our broader commitment to continuous improvement and responsible environmental stewardship.

✓ Sustainable Development Principles

As we progress towards commercialisation, we aim to incorporate sustainability considerations into the design, development, and operation of future facilities and infrastructure. This includes promoting efficient resource use, limiting unnecessary disturbance, and considering environmental performance throughout the lifecycle of our activities.

✓ Collaboration and Expertise

We recognise that effective biodiversity management requires informed decision-making. Where appropriate, we will engage with environmental specialists, regulators, local stakeholders, and relevant community representatives to strengthen our understanding of biodiversity-related risks and opportunities.

✓ Ongoing Improvement

Our biodiversity approach will continue to develop as our operations grow. We are committed to reviewing our practices over time, improving our understanding of environmental impacts, and adapting our management approach in line with regulatory expectations, stakeholder feedback, and recognised sustainability practices.

E5. Resource use and circular economy

Promoting resource stewardship, operational efficiency, and circular economy principles across our business



E5. Resource use and circular economy (1/2)

Star Scientific is committed to using resources responsibly and reducing environmental impacts as our operations progress towards future growth and commercialisation. Our approach is guided by the principles of resource efficiency, waste minimisation, pollution prevention, and continuous improvement.

Resource Efficiency and Asset Life Extension

We seek to make practical decisions that reduce unnecessary material consumption and extend the useful life of existing assets where it is safe and appropriate to do so. In 2025, Star Scientific faced a decision regarding the large rainwater tank required for the site's fire-fighting system. Rather than replacing the tank, the Company chose to repair it.

This decision significantly reduced the material inputs that would have been required for the manufacture, transport, and installation of a new tank. It also demonstrates our preference for responsible asset management and circular economy thinking, where repair and reuse are prioritised over replacement where feasible.

Waste Management and Resource Stewardship

Star Scientific applies a responsible approach to waste management, with a focus on reducing waste generation, improving resource use, and ensuring that waste streams are handled safely and in line with applicable requirements. As our operations develop, we aim to strengthen how waste is identified, classified, monitored, and managed.

Our future approach will include improved systems for tracking waste generation and identifying opportunities to reduce, recover, or reuse materials where practical. This supports our broader objective of embedding resource stewardship into operational planning and decision-making.



E5. Resource use and circular economy (2/2)

Reducing Hazardous Material Use

As part of our ongoing process improvement efforts, Star Scientific is developing a new sputter-coating technique designed to replace toxic and hazardous acid or chemical baths previously used for coating substrates with the catalyst.

This innovation has the potential to reduce the use of hazardous substances, lower chemical waste risks, and support cleaner and safer production practices. By addressing potential waste and pollution impacts at the source, the Company is working to improve resource efficiency while reducing environmental and safety risks.



Circular Economy Approach

Star Scientific's circular economy approach is focused on practical actions that reduce material demand, minimise waste, and improve the efficiency of our technical and operational processes. This includes extending the life of existing infrastructure, improving production methods, reducing reliance on hazardous inputs, and exploring opportunities for material recovery or reuse.

The 2025 rainwater tank repair and the development of the sputter-coating technique are examples of how circular economy principles are being applied in practice. Together, these and other initiatives support our commitment to responsible innovation, reduced environmental impact, and more sustainable resource management as the Company advances towards commercialisation.

Social

Embedding social responsibility into our mission by creating positive impacts for people, communities, and the environments we operate in

Social

Social Responsibility

Star Scientific's approach to social sustainability is grounded in the belief that innovation is strongest when supported by a culture of respect, inclusion, fairness, and care for people. We recognise that our success depends not only on the technologies we develop, but also on the way we support our workforce, engage with communities, protect end users, and uphold responsible business practices.

This section describes our approach to creating a safe, inclusive, and supportive working environment, strengthening relationships with stakeholders, and embedding respect for human rights and social equity into our operations and decision-making.

As Star Scientific continues to progress towards commercialisation, we remain focused on enhancing our social practices and maintaining meaningful engagement with employees, partners, customers, communities, and other stakeholders. Through open disclosure, ongoing improvement, and collaboration, we aim to build trust and contribute positively to the broader transition towards sustainable energy.

The following pages outline our key activities, progress, and future priorities across areas including workforce wellbeing, community engagement, consumer and end-user protection, value chain responsibility, and ethical conduct. Together, these elements reflect our commitment to ensuring that our growth is accompanied by positive, responsible, and lasting social impact.

Our Social Commitment

At Star Scientific, we view social responsibility as an essential part of how we grow, innovate, and operate. Our commitment is centred on people: supporting a workplace where employees feel safe, respected, and empowered; building constructive relationships with partners and communities; and considering the needs of consumers and end users as our technologies progress towards deployment. We aim to ensure that our development as a company creates value beyond our operations, contributing to positive social outcomes, stronger stakeholder trust, and a culture grounded in fairness, accountability, and respect.

S1. Own workforce

Empowering our workforce through ethical, respectful, and supportive practices that foster innovation, career development, and personal growth

S1. Own workforce (1/2)

Star Scientific recognises that its people are central to the Company's ability to innovate, operate responsibly, and progress towards commercialisation. We are committed to maintaining a workplace that supports safety, inclusion, professional development, and respect for individual rights.

Employee demographics

Gender	No.	Office	No.
Female	7	Gordon	6
Male	15	Berkeley Vale	16
Total 2025	22	Total 2025	22

Diversity and Inclusion

Since its establishment, Star Scientific has aimed to foster a workplace culture where people are treated fairly, respectfully, and without discrimination. We value diversity of background, experience, perspective, and thought, recognising that different viewpoints contribute to stronger decision-making, greater creativity, and improved organisational performance.

Employment-related decisions are based on merit, capability, and business needs. We strive to maintain an inclusive and positive working environment where employees are encouraged to contribute, collaborate, and develop their potential.

Health, Safety and Wellbeing

The health and safety of our workforce remains a core priority. Star Scientific uses structured risk management processes, including Job Safety Analyses and Risk Assessments, to identify workplace hazards and implement appropriate controls. These assessments are reviewed on a scheduled basis and updated where significant workplace changes occur.

During the 2025 reporting period, no workplace health and safety incidents occurred. No incidents were recorded in the previous reporting period either. This outcome reflects the effectiveness of the Company's safety procedures, training, consultation processes, and ongoing commitment to maintaining a safe working environment.

In 2025, Star Scientific also adopted the Hierarchy of Control process to guide the identification and implementation of appropriate measures to prevent workplace accidents. This approach is recommended by SafeWork NSW, the relevant safety regulator. To ensure the process is practical and effective, employees and Workplace Health and Safety (WHS) representatives are consulted during its planning, implementation, and review. This consultation is formalised through "Workplace Health and Safety Consultative Policy".

Star Scientific continues to stay informed of developments in hydrogen safety and industry best practice through participation in relevant conferences and knowledge-sharing forums.

S1. Own workforce (2/2)

Work-Life Balance

Star Scientific recognises that work-life balance contributes to the physical, mental, and emotional wellbeing of employees. The Company continues to support flexible and sustainable working practices, including a four-day working week and five weeks of annual leave.

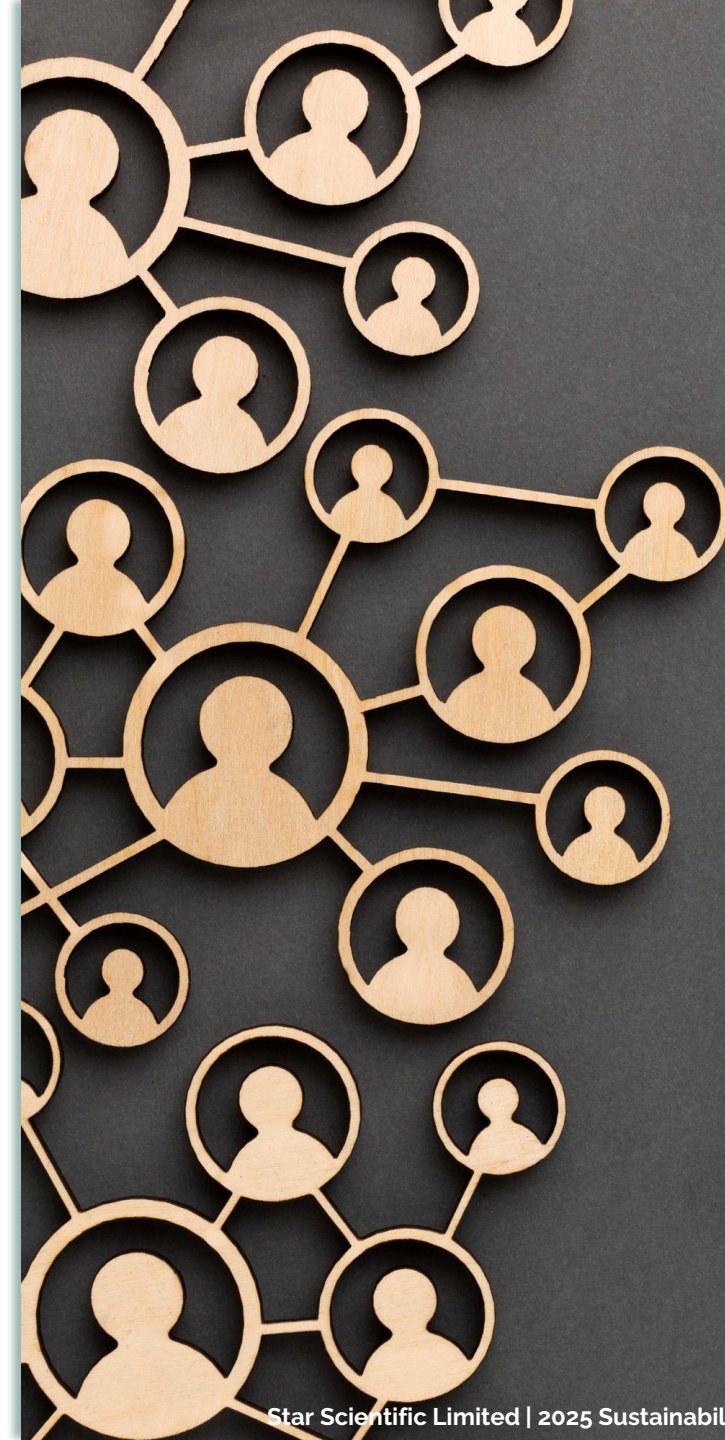
These arrangements are designed to help employees maintain wellbeing, remain engaged, and contribute effectively to the Company's long-term objectives.

Training and Development

Star Scientific is committed to supporting the ongoing development of its workforce. Training and professional development activities include safety training, technical learning, leadership development, and opportunities to build skills relevant to employees' roles and future career pathways.

In 2025, the Company continued to invest in employee development, including attendance at the Center for Hydrogen Safety (CHS) Asia-Pacific Conference in August. The conference brought together representatives from industry, government, and academia to exchange knowledge on hydrogen safety, technical progress, regulatory developments, and best practice across the sector.

By supporting continuous learning and professional growth, Star Scientific aims to ensure that employees are equipped to perform their roles safely and effectively while contributing to the Company's innovation and future success.



S2. Workers in the value chain

Strengthening responsible sourcing, supplier engagement, and ethical supply chain practices as our operations grow

S2. Workers in the value chain (1/2)

Current Situation

Star Scientific is committed to promoting ethical, responsible, and transparent practices across its supply chain. To support this commitment, we have established a [Supply Chain Policy](#) that sets out our expectations for responsible sourcing, supplier conduct, and engagement with business partners.

The policy is designed to help ensure that suppliers operate in a manner consistent with the principles that guide our own business, including quality, safety, integrity, respect for human rights, environmental responsibility, and compliance with applicable laws and regulations.

As our business continues to develop, we recognise the importance of strengthening our understanding of potential impacts across the value chain. This includes paying greater attention to the conditions and wellbeing of workers connected to our operations through suppliers and other business relationships. We view responsible supply chain management as an important part of building long-term resilience, maintaining stakeholder trust, and supporting sustainable growth.



S2. Workers in the value chain (2/2)

Future Developments

As Star Scientific expands its operations and supplier network, we intend to further develop our approach to supply chain oversight and engagement.

Key areas of focus may include:

✓ Supplier Due Diligence and Reviews

We plan to strengthen supplier assessment processes to better understand compliance with our policies, applicable regulations, and expected standards of conduct. This may include supplier reviews, risk-based audits, and ongoing monitoring where appropriate.

✓ Worker Welfare and Labour Standards

We aim to promote fair labour practices, safe working conditions, and respect for workers' rights throughout our supply chain. As our supplier relationships mature, we will seek to encourage practices that support the wellbeing and dignity of workers involved in delivering our products and services.

✓ Supplier Collaboration and Capacity Building

We recognise that meaningful improvement is best achieved through constructive engagement. We intend to work with suppliers to share expectations, identify improvement opportunities, and support the adoption of responsible business practices.

✓ Transparency and Stakeholder Communication

We will continue to improve transparency around our supply chain approach by communicating relevant policies, expectations, and progress to stakeholders. This supports accountability and reinforces our commitment to responsible business conduct.



Through these actions, Star Scientific aims to strengthen supply chain governance and ensure that our values of integrity, quality, safety, and sustainability are reflected across our broader value chain.

This approach will support operational resilience while contributing to better outcomes for the people and partners involved in bringing our innovative solutions to market.

S3. Affected communities

Building trusted, transparent, and lasting relationships with the communities in which we operate

S3. Affected communities (1/2)

Community Engagement and Involvement

Star Scientific values its role within the communities in which it operates and recognises the importance of building constructive, respectful, and long-term local relationships. Star Scientific remains an active participant in local and regional community groups, chambers of commerce, industry bodies, and related stakeholder forums. Our presence in the Central Coast region provides opportunities to engage with local business networks, community representatives, regulators, and other stakeholders in a way that supports mutual understanding and responsible growth.

Through regular participation in meetings, conferences, site visits, panel discussions, and community and industry events, we seek to remain connected to regional priorities, contribute to local initiatives, and maintain awareness of matters that may be important to the communities around us. These relationships help inform our approach to engagement and support our broader commitment to transparency, accountability, and positive community involvement.

In late 2025, Star Scientific participated in a local panel alongside Mars Food Australia, with the session receiving positive feedback from local business and community representatives. This engagement reflects our ongoing commitment to constructive dialogue and collaboration with stakeholders across the regions in which we operate.

Ongoing Communication

Open and accessible communication is central to our community engagement approach. We aim to maintain regular dialogue with local stakeholders through both formal and informal channels, including engagement with business associations, community leaders, residents, and other relevant groups.

Stakeholders are encouraged to share feedback, questions, or concerns through the contact details available on our website. This feedback helps us better understand community expectations, assess how our activities are perceived, and identify opportunities to improve our practices.

Whether feedback relates to environmental matters, community initiatives, operational impacts, or broader stakeholder expectations, we consider community input an important part of responsible decision-making. Our objective is to respond thoughtfully to local concerns and adapt our approach where appropriate as our operations evolve.



S3. Affected communities (2/2)

Current Community Impact

To date, our activities at Berkeley Vale have had limited environmental impact on the surrounding community. This is supported by ongoing community engagement and the absence of formal complaints or significant concerns raised in relation to our local operations.

Given the current scale and nature of our activities, we have not yet required dedicated environmental monitoring systems specifically focused on community-related impacts. However, we continue to monitor feedback and remain attentive to any matters that may arise.

Future Monitoring and Management

As Star Scientific progresses towards future growth, including potential expansion and the development of new facilities, we recognise the need for more structured community and environmental monitoring processes.

These systems are expected to be developed in consultation with relevant internal teams and external ESG advisors to ensure they are practical, proportionate, and aligned with recognised sustainability practices. Their purpose will be to help identify, assess, and manage potential impacts on local communities before they become material concerns.

Our future approach will be guided by responsible business principles, including proactive risk management, stakeholder engagement, environmental and social due diligence, and continuous improvement. As we expand, we will continue to align our activities with applicable local regulations and relevant international standards to support transparent, accountable, and sustainable operations.



S4. Consumers and end users

Ensuring safe, high-quality production processes that support reliable products and services for consumers and end users



S4. Consumers and end users (1/2)

Safety and Quality Assurance

Star Scientific is committed to maintaining safe, reliable, and high-quality production processes as we continue to advance HERO® towards deployment. To support this commitment, we have adopted recognised management system frameworks, including [AS/NZS ISO 45001](#) for occupational health and safety and [AS/NZS ISO 9001](#) for quality management.

These standards provide a structured approach to identifying risks, strengthening operational controls, improving consistency, and supporting continuous improvement across our activities. They also help ensure that safety and quality considerations are embedded into our processes as our operations develop.

Our alignment with these frameworks is supported by the commencement of independent assessment and certification activities, which are expected to progress as HERO® moves closer to deployment. This approach reinforces our focus on maintaining strong safety practices, robust quality assurance, and responsible operational management.

In addition, our practices are guided by applicable workplace health and safety obligations, including the [NSW Work Health and Safety Act 2011](#) and [Work Health and Safety Regulation 2017](#), supporting our commitment to protecting our workforce, partners, consumers, and end users.



S4. Consumers and end users (2/2)

Customer Feedback and Engagement

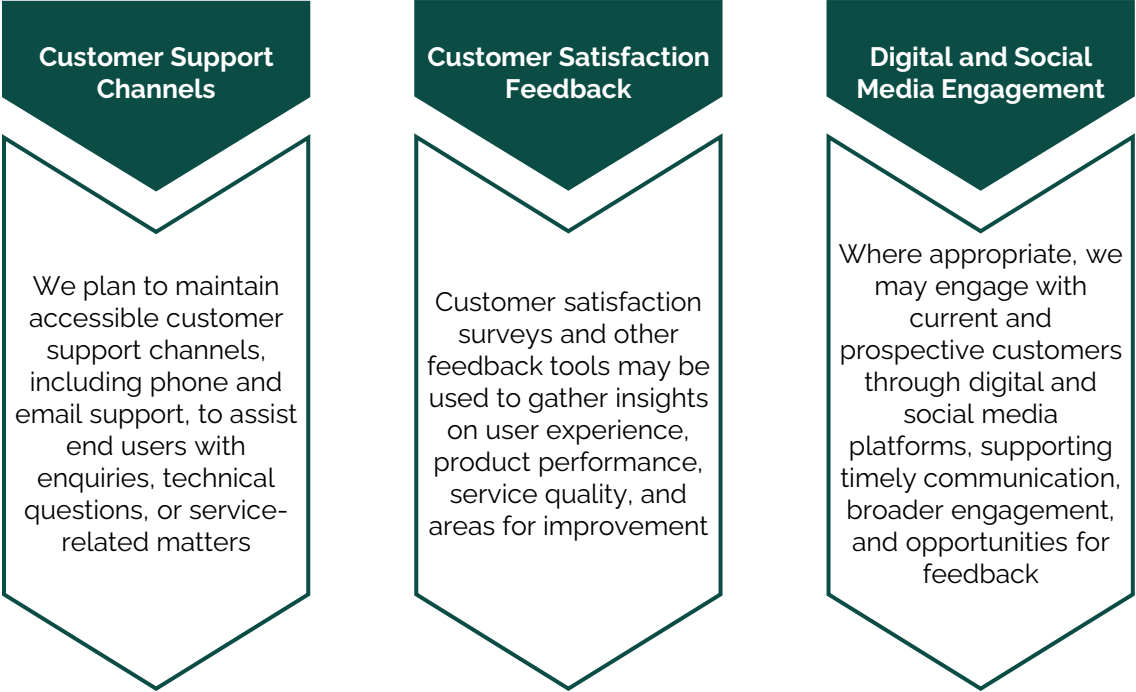
Understanding the needs, expectations, and experiences of end users is an important part of Star Scientific's customer-focused approach. As HERO[®] progresses towards deployment, we intend to further strengthen our customer engagement and feedback processes in line with the principles of AS/NZS ISO 9001.

This framework provides a structured basis for monitoring customer satisfaction, identifying improvement opportunities, and ensuring that feedback is considered as part of our ongoing quality management practices. Through this approach, we aim to support continuous improvement in our products and services while maintaining responsiveness to user expectations.



Mechanisms for End User Feedback and Engagement

To support effective communication with end users, Star Scientific intends to use a range of feedback and engagement channels as our commercial activities develop.



Together, these mechanisms will help Star Scientific build stronger relationships with end users, respond to emerging needs, and improve the quality, reliability, and value of our products and services over time.

Governance: G1. Business Conduct

Strong governance and ethical conduct underpin our operations and support accountability, integrity, transparency, and stakeholder trust

G1. Business Conduct (1/5)

Code of Conduct

Star Scientific is committed to upholding strong standards of integrity, accountability, and corporate governance across its operations. Our approach is intended to support responsible decision-making, strengthen trust in our governance systems, and promote ethical conduct in daily business activities.

Our **Code of Conduct** provides guidance for employees on expected standards of behaviour and responsible business practice. It is designed to support a culture of honesty, transparency, and accountability across the organisation. The Code **promotes**:

✓ Honest and Ethical Behaviour

Employees are expected to act with integrity and make decisions that reflect the Company's values. This includes identifying, managing, and appropriately disclosing any actual, potential, or perceived conflicts of interest between personal and professional responsibilities.

✓ Clear and Reliable Disclosure

Star Scientific seeks to ensure that information included in regulatory submissions, reports, and public communications is complete, accurate, timely, fair, and understandable.

✓ Compliance with Laws and Regulations

The Company expects all employees to comply with applicable legal and regulatory requirements. We also support protections against unlawful retaliation for individuals who raise concerns or provide information relating to potential non-compliance.

✓ Internal Reporting of Concerns

Employees are encouraged to report suspected breaches of the Code or other ethical concerns through appropriate internal channels. Prompt reporting helps maintain organisational integrity and supports a culture where issues can be identified and addressed responsibly.

✓ Accountability and Consistent Application

Adherence to the Code is expected at all levels of the organisation. Star Scientific aims to apply its ethical standards consistently and to address any concerns or breaches in a fair, timely, and appropriate manner.



G1. Business Conduct (2/5)

Risk Management

Effective risk management is an important element of Star Scientific's governance approach. The Board of Directors maintains oversight of key risks that may influence the Company's operations, strategic priorities, and long-term objectives. Through established governance processes, we aim to identify, assess, and manage risks in a proactive and structured manner.

Star Scientific's governance framework is designed to support our mission of developing safe, affordable, and zero-emission energy solutions. The Board brings together a range of skills, experience, and perspectives to guide strategic decision-making and support responsible growth.

As the Company continues to develop, we remain committed to strengthening resilience, maintaining transparency, and applying high standards of integrity and accountability across all areas of our business.



Prevention of Fraudulent Share Trading

Star Scientific has established a Risk Assessment to Prevent Fraudulent Share Trading Policy to support strong corporate governance and reduce the risk of improper or unlawful trading activity involving the Company's Australian shares. The policy has been developed with reference to relevant Australian regulatory requirements, including guidance and obligations associated with the Australian Securities & Investments Commission, the Privacy Act 1988, and the Corporations Act 2001 (Cth).

The policy is designed to identify potential risks connected with share sale or transfer requests and to ensure appropriate controls are applied before any transaction proceeds. It applies to all requests from shareholders seeking to sell or transfer shares.

Each request is reviewed carefully to assess the possibility of fraudulent or criminal activity, verify the authenticity of supporting documentation, and confirm that the instruction has been made by the registered shareholder.

As part of its governance approach, Star Scientific continues to monitor its obligations under Australian corporate law, particularly those arising under the Corporations Act. The Company also maintains engagement with the Australian Securities & Investments Commission where required and remains committed to applying and improving this policy over time.

G1. Business Conduct (3/5)

Transparency and Accountability

Transparency and accountability remain central to Star Scientific's governance and sustainability reporting approach. We aim to present information in a way that is clear, accessible, and useful to stakeholders, supporting a better understanding of our sustainability performance, priorities, and areas for continued improvement.

We recognise that transparent reporting involves more than highlighting achievements. It also requires open communication about challenges, limitations, and opportunities to strengthen our practices over time.

As our sustainability reporting matures, we intend to enhance the quality and scope of our disclosures by incorporating more comprehensive qualitative and quantitative information. This will help stakeholders assess our progress more effectively and understand how sustainability considerations are being integrated into our business.

Looking forward, Star Scientific also plans to further develop its stakeholder engagement processes to ensure that our sustainability priorities remain responsive to stakeholder expectations, regulatory developments, and our broader commitments to responsible growth.

Whistleblower Protection

Star Scientific's Whistleblower Protection Policy supports our commitment to lawful, ethical, and responsible business conduct. The policy provides a framework for employees and other eligible individuals to raise concerns about suspected misconduct, unethical behaviour, or unlawful activity without fear of retaliation. The policy covers a broad range of reportable matters, including fraud, financial misconduct, breaches of legal or regulatory obligations, and other conduct inconsistent with Star Scientific's standards of integrity and accountability.

✓ Anonymity and Confidentiality

The policy allows reports to be made anonymously and includes measures to protect the confidentiality of the whistleblower's identity, where permitted by law.

✓ Protection Against Retaliation

Star Scientific prohibits victimisation or retaliatory action against individuals who make a report in good faith or participate in an investigation into suspected wrongdoing.

✓ Reporting and Response Procedures

The policy sets out clear processes for raising, assessing, and responding to whistleblower reports, supporting fair, timely, and appropriate handling of concerns.

Together, these measures reinforce Star Scientific's broader commitment to ethical governance, transparency, and accountability. We continue to review and improve our policies to ensure they remain legally compliant, practical, and aligned with recognised standards of corporate governance and responsible business conduct.

G1. Business Conduct (4/5)

Anti-Bribery and Corruption

Star Scientific is committed to conducting business with integrity and in compliance with applicable anti-bribery and anti-corruption laws in Australia and in any other jurisdiction where we operate or conduct business. Our Anti-Bribery and Corruption Policy sets out the standards of behaviour expected of employees, directors, contractors, suppliers, and business partners. The policy is designed to help prevent bribery, corruption, improper influence, and unethical business conduct.



- ✓ **Prohibition of Bribery**
Star Scientific prohibits all forms of bribery and corruption, whether direct or indirect, and whether involving public officials, private sector representatives, or other third parties.
- ✓ **Gifts and Hospitality**
The policy provides guidance on the giving and receiving of gifts, hospitality, and other benefits to ensure they are appropriate, transparent, and do not create conflicts of interest or influence business decisions.
- ✓ **Third-Party Due Diligence**
Where relevant, we undertake due diligence on third parties, suppliers, and business partners to assess potential integrity risks and support compliance with our anti-bribery and corruption expectations, particularly in higher-risk jurisdictions or business contexts.
- ✓ **Training and Communication**
Star Scientific communicates the policy across the organisation and provides training to help employees understand their responsibilities, recognise potential risks, and uphold ethical standards in their daily activities.
- ✓ **Reporting and Whistleblower Channels**
Employees and other stakeholders are encouraged to report suspected breaches, concerns, or suspicious conduct through established reporting channels. Individuals who raise concerns in good faith are protected from retaliation in accordance with our Whistleblower Protection Policy.

Together, these measures support Star Scientific's commitment to ethical governance, responsible business conduct, and maintaining trust with stakeholders as the Company continues to grow.

G1. Business Conduct (5/5)

To strengthen its governance systems and support alignment with SFDR, in 2025 Star Scientific has adopted a new responsible business conduct policy framework focused on **monitoring compliance with the UNGC principles and the OECD Guidelines for Multinational Enterprises**.

The new framework includes three core documents:

- ✓ **Responsible Business Conduct and UNGC/OECD Compliance Policy**

This policy establishes Star Scientific's commitment to lawful, ethical, transparent, and socially responsible business conduct, integrated into governance, operations, projects, supply chains, and business relationships, while creating a risk-based approach to identifying, preventing, mitigating, monitoring, and addressing adverse impacts.

- ✓ **Grievance and Complaints Handling Procedure**

This procedure provides a fair, accessible, documented, and proportionate process for receiving, assessing, investigating, resolving, and recording grievances or complaints. It covers matters such as human rights impacts, labour practices, environmental concerns, bribery and corruption, supplier conduct, retaliation, and other responsible-business-conduct issues.

- ✓ **Responsible Business Conduct Monitoring and Review Procedure**

This procedure sets out how Star Scientific monitors implementation of its responsible business conduct framework, maintains evidence for governance, sustainability reporting, and investor diligence, and translates lessons learned into corrective actions and continual improvement.

Together, these policies strengthen Star Scientific's governance controls by formalising oversight, grievance handling, non-retaliation protections, corrective action tracking, annual review processes, and Board-level escalation of material matters. This supports more robust business conduct disclosure and provides a clearer basis for the Company's contribution to the SFDR Art. 9 reporting.



EU Taxonomy & SFDR Art. 9 Alignment

Aligning our operations and strategic objectives with the EU Taxonomy and the SFDR Art. 9 requirements to support sustainable growth and international compliance

EU Taxonomy (1/4)

EU Taxonomy alignment

The EU Taxonomy provides a framework for identifying economic activities that can be considered environmentally sustainable. It is designed to support companies, investors, and policymakers in assessing whether business activities contribute to the EU's environmental objectives.

Star Scientific seeks to align its operations and strategic direction with the principles of the EU Taxonomy. Our flagship product, HERO[®], represents a significant stride towards sustainable energy solutions, directly contributing to the objective of climate change mitigation. HERO[®] converts hydrogen into heat without combustion, resulting in zero GHG emissions, therefore playing a pivotal role in reducing carbon footprints.

Current activities

Star Scientific is primarily engaged in "Close to market RD&I", an economic activity identified as Taxonomy eligible.

This category encompasses research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the reduction, avoidance or removal of GHG emissions (RD&I) for which the ability to reduce, remove or avoid GHG emissions in the target economic activities has at least been demonstrated in a relevant environment, corresponding to at least TRL 6.

Contribution to Climate change mitigation

The EU Taxonomy specifies that activities contributing to climate change mitigation must either contribute to reducing greenhouse gas emissions or enhance carbon removal processes. HERO[®] meets these criteria by offering an alternative to fossil fuels and traditional combustion processes. Our innovation not only reduces direct emissions but also supports a broader transition to a low-carbon economy.

Specific requirements

Further details on Star Scientific's assessment against the EU Taxonomy criteria specifically outlined for the "Close to market RD&I" activity are provided in the following section. This includes consideration of the substantial contribution requirements, DNSH principles, and applicable minimum safeguards.



EU Taxonomy (2/4)

Substantial Contribution Criteria	Star Scientific Status 2025
1. The activity researches, develops or provides innovation for technologies, products or other solutions that are dedicated to one or more economic activities for which the technical screening criteria have been set out in the EU Taxonomy.	HERO® converts hydrogen into heat without combustion, aligning with the EU Taxonomy by providing a zero-emission alternative to conventional energy sources and contributing to climate change mitigation.
2. The results of RD&I enable one or more of those economic activities to meet the respective criteria for substantial contribution to climate change mitigation, while respecting the relevant criteria for DNSH to other environmental objectives.	HERO® substantially reduces GHG emissions by eliminating combustion, aligning with climate change mitigation goals. Through tests done, Star Scientific can demonstrate that HERO® produces heat without GHG emissions. The implementation of this technology does not harm other environmental objectives, such as water and air quality.
3. The economic activity aims at bringing to market a solution that is not yet in the market and is expected to have a better performance in terms of life-cycle GHG emissions than best commercially available technologies based on public or market information. The implementation of the technologies, products or other solutions being researched results in overall net GHG emissions reductions over their life cycle.	HERO® represents a groundbreaking solution not yet commercially available, offering superior life-cycle GHG emissions performance compared to existing technologies. Its market introduction is expected to lead to significant net GHG emissions reductions. In 2024 we have commenced pilot projects with TrendPac and Mars Food Australia.
4. Where the researched, developed or innovated technology, product or other solution already enables an activity or several activities to meet the technical screening criteria specified in the EU Taxonomy, or where that technology, product or other solution already enables one or more economic activities considered as enabling or transitional to meet the requirements specified in points 5 and 6 respectively, the RD&I activity focuses on the development of equally low- or lower-emission technologies, products or other solutions with new significant advantages, such as lower cost.	HERO® ultimately enables other economic activities to substantially reduce their GHG emissions or substantially improve their technological and economic feasibility to facilitate their scaling up.

EU Taxonomy (3/4)

Substantial Contribution Criteria	Star Scientific Status 2025
5. Where a research activity is dedicated to one or more economic activities considered as enabling activities in accordance with Article 10(1), point (i), of Regulation EU 2020/852 for which the technical screening criteria are set out in the EU Taxonomy, the results of the research deliver innovative technologies, processes or products that allow those enabling activities and the activities that they ultimately enable to substantially reduce their GHG emissions or substantially improve their technological and economic feasibility in order to facilitate their scaling up.	Our R&D efforts focus on enabling technologies that facilitate substantial GHG emissions reductions. HERO® improves the feasibility and scalability of hydrogen-based energy solutions, supporting broader adoption and impact.
6. Where a research activity is dedicated to one or more economic activities considered as transitional activities in accordance with Article 10(2) of Regulation EU 2020/852 for which the technical screening criteria are set out in the EU Taxonomy, the technologies, products or other solutions researched enable the target activities to be carried out with substantially lower projected emissions compared to the technical screening criteria for substantial contribution to climate change mitigation set out in the EU Taxonomy. Where a research activity is dedicated to one or more economic activities specified in Sections 3.7, 3.8, 3.9, 3.11, 3.12, 3.13, 3.14 and 3.16 of the EU Taxonomy, the technologies, products or other solutions either enable the target activities to be carried out with substantially lower GHG emission, which aim at a 30% reduction compared to the relevant EU ETS benchmark or benchmarks or are dedicated to the widely accepted relevant low carbon technologies or processes in these sectors, notably electrification, in particular of heating and cooling, hydrogen as fuel or feedstock, CCS, CCU and biomass as fuel or feedstock, where biomass complies with the relevant requirements set out in Sections 4.8, 4.20, 4.24 in the EU Taxonomy.	Not applicable to Star Scientific and our HERO®.
7. Where the researched, developed or innovated technology, product or other solution is at TRL 6 or 7, life-cycle GHG emissions are evaluated in simplified form by the entity carrying out the research. The entity demonstrates one of the following, where applicable: - a patent not older than 10 years associated with the technology, product or other solution, where information on its GHG emission reduction potential has been provided; - a permit obtained from a competent authority for operating the demonstration site associated with the innovative technology, product or other solution for the duration of the demonstration project, where information on its GHG emission reduction potential has been provided. Where the RD&I technology, product or other solution is at TRL 8 or higher, life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018(386) or ISO 14064-1:2018(387) and are verified by an independent third party.	HERO® falls under TRL 6. The technology is backed by a 2023 patent demonstrating its GHG emission reduction potential and a letter of intent from our partner, who will be part of our pilot project.

EU Taxonomy (4/4)

DNSH Criteria
Climate Adaptation: Our technologies, products, and solutions align with the criteria set forth in the EU Taxonomy, demonstrating resilience to climate impacts and fostering positive contributions to climate adaptation efforts. In our view, the formal climate assessment outlined in the EU Taxonomy may be conducted after the forthcoming upgrades to our TRL and Taxonomy Aligned Economic Activity. This timing ensures the assessment will incorporate our most up-to-date technological and operational enhancements.
Water: We assess and address any potential risks to the good status or ecological potential of bodies of water, including surface water, groundwater, and marine waters. This involves evaluating the impacts of our researched technology, products, and solutions to prevent any adverse effects on water quality and ecosystems.
Circular Economy: Star Scientific evaluates potential risks to circular economy objectives. We ensure that our technologies and products support sustainable resource use and waste reduction.
Pollution Prevention: We are vigilant in identifying and mitigating any risks of significant increases in pollutant emissions to air, water, or land resulting from our technologies and solutions. Our goal is to prevent pollution and protect environmental health.
Biodiversity: We evaluate and address any risks to the good condition or resilience of ecosystems and the conservation status of habitats and species, including those of EU interest. Our commitment includes safeguarding biodiversity and supporting the conservation of natural habitats.

Minimum safeguards
The EU Taxonomy minimum safeguards require companies to conduct their activities in line with recognised standards of responsible business conduct, including the UNGC principles and the OECD Guidelines for Multinational Enterprises. These safeguards cover areas such as human rights, labour rights, environmental responsibility, anti-corruption, fair business conduct, and responsible governance. Star Scientific supports alignment with these safeguards through its Responsible Business Conduct and UNGC/OECD Compliance Policy, together with dedicated procedures for grievance handling, monitoring, review, escalation, and corrective action. This framework establishes a risk-based approach to identifying, preventing, mitigating, monitoring, and addressing actual or potential adverse impacts across the Company's operations, projects, supply chains, and business relationships. It also supports transparent reporting, investor diligence, non-retaliation protections, and ongoing review of compliance with responsible business conduct expectations.

SFDR (1/5)

What is the SFDR

The SFDR is the EU's transparency framework for sustainability-related disclosures in the financial services sector. It requires financial market participants and advisers to explain how sustainability risks are considered in investment decision-making, and how investments may create adverse impacts on environmental and social factors. The framework applies both at the level and product levels, with disclosures made through websites, pre-contractual documents, and periodic reports.

Within this framework, the SFDR Art. 9 financial products are designed for investments that have a sustainable investment objective. In practice, these funds are expected to demonstrate how their investment strategy contributes to defined sustainability outcomes, while providing investors with enhanced transparency on sustainability performance, risks, and impacts.

Star Scientific forms part of an SFDR Art. 9 fund, which means that relevant company-level sustainability data may support the fund's own regulatory disclosures. This includes information connected to environmental performance, social safeguards, governance practices, and selected indicators used to assess principal adverse sustainability impacts.

For Star Scientific, this creates a clear link between corporate sustainability reporting and investor-level disclosure requirements. The Company's data helps the fund demonstrate how its investment portfolio is aligned with its sustainable investment objective, while also identifying, monitoring, and reporting potential adverse impacts associated with investee companies.

SFDR Art. 9 PAI Disclosure

The following slides therefore present Star Scientific's relevant sustainability data for the purposes of supporting the fund's Principal Adverse Sustainability Impacts statement. These disclosures are intended to provide transparent, structured, and decision-useful information on the Company's current position, recognising that Star Scientific remains in the RD&I stage and that certain indicators may become more applicable as the Company progresses towards commercialisation.



SFDR (2/5)

Adverse Sustainability Indicator	Metric	Star Scientific Status 2025
1. GHG emissions	Scope 1 GHG emissions	Scope 1 GHG emissions have not yet been fully quantified or independently verified for 2025 at company level. Star Scientific plans to engage a local service company in 2026 to calculate and verify direct emissions
	Scope 2 GHG emissions	Electricity consumption in 2025 was 144.5 MWh. Star Scientific used 100% certified renewable electricity during 2025 therefore 2025 Scope 2 GHG emissions are 0.0 t CO ₂ e on that basis. Formal methodology and independent verification are planned to be strengthened in 2026
	Scope 3 GHG emissions	Scope 3 GHG emissions have not yet been quantified for 2025 because Star Scientific remains at TRL 6 and value-chain data from counterparties is still limited. The most relevant categories are expected to include purchased goods and services, transport/logistics, waste, business travel and future product lifecycle impacts. A more structured data-collection approach will be developed as the company moves towards commercialisation
	Total GHG emissions	Total company GHG emissions cannot yet be robustly stated for 2025 because Scope 1 is not yet fully quantified and Scope 3 has not yet been calculated. Scope 2 emissions are 0.0 t CO ₂ e on the basis of certified renewable electricity procurement
2. Carbon footprint	Carbon footprint	A full company carbon footprint for 2025 is not yet available because of the lack of complete Scope 1 and Scope 3 data
3. GHG intensity of investee company	GHG intensity of investee companies	GHG intensity cannot yet be robustly calculated for 2025 because total company GHG emissions are not yet fully available
4. Exposure to companies active in the fossil fuel sector	Share of investments in companies active in the fossil fuel sector	Star Scientific is not active in the fossil fuel sector. Our current business is hydrogen-based R&D and the development of non-combustion HERO® heat technology

SFDR (3/5)

Adverse Sustainability Indicator	Metric	Star Scientific Status 2025
5. Share of non-renewable energy consumption and production	Share of non-renewable energy consumption and non-renewable energy production of investee companies from non-renewable energy sources compared to renewable energy sources, expressed as a percentage of total energy sources	All energy received by Star Scientific in 2025 was 100% renewable, and the share of non-renewable energy consumption is 0%. Star Scientific does not directly produce energy, so the energy-production limb of this indicator is not applicable at present
6. Energy consumption intensity per high impact climate sector	Energy consumption in GWh per million EUR of revenue of investee companies, per high impact climate sector	Not applicable at present. According to the Statistical classification of economic activities NACE , Star Scientific's current activity is 72.19 "Other research and experimental development on natural sciences and engineering", which is not part of the high impact climate sectors for this indicator
7. Activities negatively affecting biodiversity-sensitive areas	Share of investments in investee companies with sites/operations located in or near to biodiversity-sensitive areas where activities of those investee companies negatively affect those areas	Based on our current internal assessment, Star Scientific has not identified sites or operations located in or near biodiversity-sensitive areas where its activities negatively affect those areas, under the terms and conditions outlined in the SFDR documents
8. Emissions to water	Tonnes of emissions to water generated by investee companies per million EUR invested, expressed as a weighted average	No quantified tonnes of emissions to water are reported for 2025. Current controls include a Liquid Trade Waste Licence and wastewater oversight by the local council. Star Scientific plans to engage a local service company to support monitoring and assessment activities related to water management, including conducting an analysis of potential emissions to water arising from current technical and operational processes, consideration of priority substances under the official EU list , as well as direct emissions of nitrates, phosphates, and pesticides

SFDR (4/5)

Adverse Sustainability Indicator	Metric	Star Scientific Status 2025
9. Hazardous waste and radioactive waste ratio	Tonnes of hazardous waste and radioactive waste generated by investee companies per million EUR invested, expressed as a weighted average	No SFDR-aligned hazardous waste and radioactive waste ratio is reported for 2025. Waste requiring special handling is managed under applicable local requirements. Star Scientific plans to engage a local service company to provide monitoring and assessment services, including conducting an analysis of waste generated to better understand what proportion, if any, may be classified as hazardous or radioactive under terminology used in SFDR-related disclosures and relevant EU waste frameworks – Directive on hazardous waste and Directive on radioactive waste .
10. Violations of UNGC principles and Organisation for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises	Share of investments in investee companies that have been involved in violations of the UNGC principles or OECD Guidelines for Multinational Enterprises	In 2025 Star Scientific was not involved in any violations of UNGC principles and OECD Guidelines for Multinational Enterprises
11. Lack of processes and compliance mechanisms to monitor compliance with UNGC principles and OECD Guidelines for Multinational Enterprises	Share of investments in investee companies without policies to monitor compliance with the UNGC principles or OECD Guidelines for Multinational Enterprises or grievance/complaints handling mechanisms to address violations of the UNGC principles or OECD Guidelines for Multinational Enterprises	In 2025 Star Scientific has adopted a new responsible business conduct policy framework focused on monitoring compliance with the UNGC principles and the OECD Guidelines for Multinational Enterprises. The new framework includes three core documents: • Responsible Business Conduct and UNGC/OECD Compliance Policy; • Grievance and Complaints Handling Procedure; • Responsible Business Conduct Monitoring and Review Procedure
12. Unadjusted gender pay gap	Average unadjusted gender pay gap of investee companies	The unadjusted gender pay gap for 2025 is not publicly disclosed in this report because of the sensitivity of employee remuneration data in a small workforce. This indicator should therefore be treated as confidential/non-public rather than as not measured. The gap level, as well as the Initial and underlying data, may be provided upon formal request by authorised entities

SFDR (5/5)

Adverse Sustainability Indicator	Metric	Star Scientific Status 2025
13. Board gender diversity	Average ratio of female to male board members in investee companies, expressed as a percentage of all board members	Board gender diversity in 2025 is 0% female and 100% male, as the Board is currently composed entirely of male members. However, as Star Scientific progresses towards commercialisation, future Board appointments will remain open to people of all genders and will be assessed on a merit-based approach, supporting diversity, capability, and effective governance
14. Exposure to controversial weapons (anti-personnel mines, cluster munitions, chemical weapons and biological weapons)	Share of investments in investee companies involved in the manufacture or selling of controversial weapons	Star Scientific is not involved in the manufacture or sale of controversial weapons
15. Proposed PAI from the Additional climate and other environment-related indicators: PAI #4 Investments in companies without carbon emission reduction initiatives	Share of investments in investee companies without carbon emission reduction initiatives aimed at aligning with the Paris Agreement	Star Scientific should not be classified as a company without carbon emission reduction initiatives. Its core technology is designed to reduce industrial carbon emissions, and the current report includes pilot-based carbon reduction analysis
16. Proposed PAI from the Additional indicators for social and employee, respect for human rights, anti-corruption and anti-bribery matters: PAI #1 Investments in companies without workplace accident prevention policies	Share of investments in investee companies without a workplace accident prevention policy	Star Scientific has workplace accident prevention policies and systems in place, including Job Safety Analyses, Risk Assessments, the Hierarchy of Control process, WHS consultation arrangements and ISO 45001-aligned practices. No workplace safety incidents were reported in 2025

The future: Next steps

Driving innovation while continuously adapting to meet evolving sustainability challenges, opportunities, and ESG expectations

Afterword

As Star Scientific moves into its next phase of development, the Company remains focused on advancing HERO® towards deployment while strengthening the organisational, operational, and sustainability foundations needed for responsible growth. Our priorities continue to reflect a commitment to disciplined commercialisation, practical innovation, improved ESG systems, and constructive engagement with industry, government, academia, and potential customers.

1. Strategic Growth and Operational Readiness

During 2025, Star Scientific maintained stability in its leadership structure while continuing to build internal ESG capability. Looking ahead, the planned relocation of the corporate headquarters to Chatswood, NSW, and ongoing due diligence on a potential Central Coast site reflect the Company's focus on preparing for future research, development, and manufacturing needs.

The potential new site may also support greater water and energy resilience, including opportunities for self-sufficiency and the possible export of excess resources.

2. HERO® Development and Pilot Project Deployment

HERO® remains central to Star Scientific's long-term strategy. In 2025, the Company made progress in developing scalable manufacturing techniques, particularly through experimentation with sputtering technology for coating the catalyst onto substrates. This work is expected to support future manufacturing efficiency, reduce the amount of catalyst material required, and strengthen supply chain sustainability.

In 2026, key priorities include completing sputtering development, establishing a scalable manufacturing process, and progressing the TP1 prototype towards construction, testing, and certification.

3. Innovation, Partnerships and Market Opportunities

Star Scientific continues to explore complementary technologies across the hydrogen value chain, including renewable hydrogen production, storage, and related energy systems. The Company also maintains active dialogue with government, industry, and research partners as regulatory pathways and market opportunities evolve.

Emerging demand from AI and data centre energy use is being monitored closely, with early discussions underway regarding potential collaboration. Ongoing engagement with the University of Queensland on supercritical CO₂ (sCO₂) cycle research also reflects Star Scientific's broader interest in complementary innovation.

The granting of the US patent for HERO® in early 2026 represents an important milestone in protecting the Company's core technology and supporting its future commercial pathway.

As Star Scientific enters its next stage of development, the Company remains committed to advancing HERO®, strengthening its sustainability practices, and building the systems, partnerships, and governance structures needed to support responsible commercialisation and long-term sustainable value creation.



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