Developing a Diversified Portfolio of High-Impact & Disruptive Technologies

Investor Presentation

DECEMBER 2025 ❯

ASX:ECT

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Corporate Overview

ASX:ECT

Share Price

A$0.135

As at 28 November 2025

Market Capitalisation (exc ELF's)

~$48m

As at 28 November 2025 (post acquisition and capital raise)

Shares on Issue (exc ELF's)

~358 million

Cash

~$3.2m (post transaction

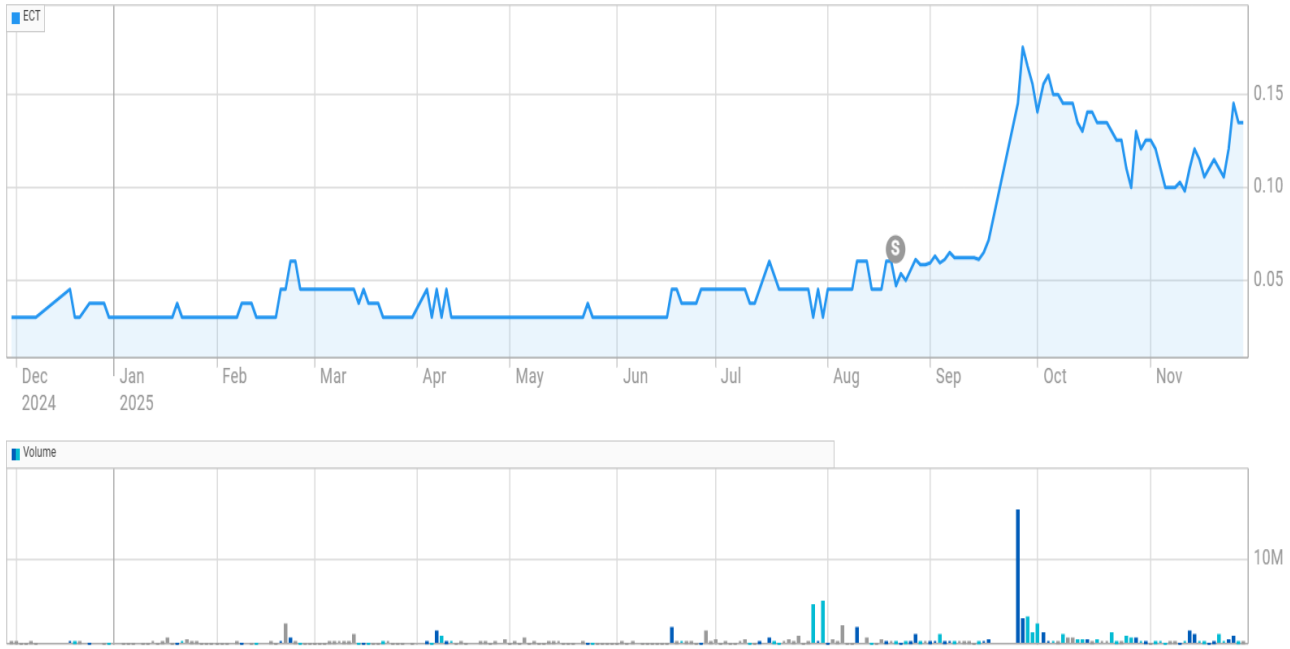
Board and Management

- Faldi Ismail (Executive Chairman)
- Justin Mouchacca (Non-Executive Director)
- Joseph van den Elsen (Non-Executive Director)
- Justin Sharp (Chief Technology Officer)
- Robert Bilott (Advisory Board Member)

Recent Milestones

1 December 2025: Robert Bilott appointed to Advisory Board
17 November 2025: Terrajoule appoints Chief Technology Officer
25 September 2025: Acquisition of Rice University PFAS Flash Joule Technology

ASX Share Price & Volume



ECT Overview

ECT is developing a diversified portfolio of high-impact and disruptive technologies, such as its PFAS remediation solution, in collaboration with renowned researchers

Recent corporate restructure

with a refreshed strategy, led by a new management team, board and advisors

ECT to grow as a developer of innovative patented IP

by structuring and executing licensing partnerships, while providing expertise, infrastructure, and capital pathways needed for large-scale, cross-industry applications

Acquisition of PFAS and heavy metal remediation technology IP from Rice University

which is a proprietary, scalable, and cost-effective process with strong licensing and commercial potential. This acquisition is the first under ECT's new strategy

Appointed Chief Technology Officer

Justin Sharp has worked closely with Professor Tour at Rice University and brings extensive experience in electrothermal systems and PFAS remediation to the team

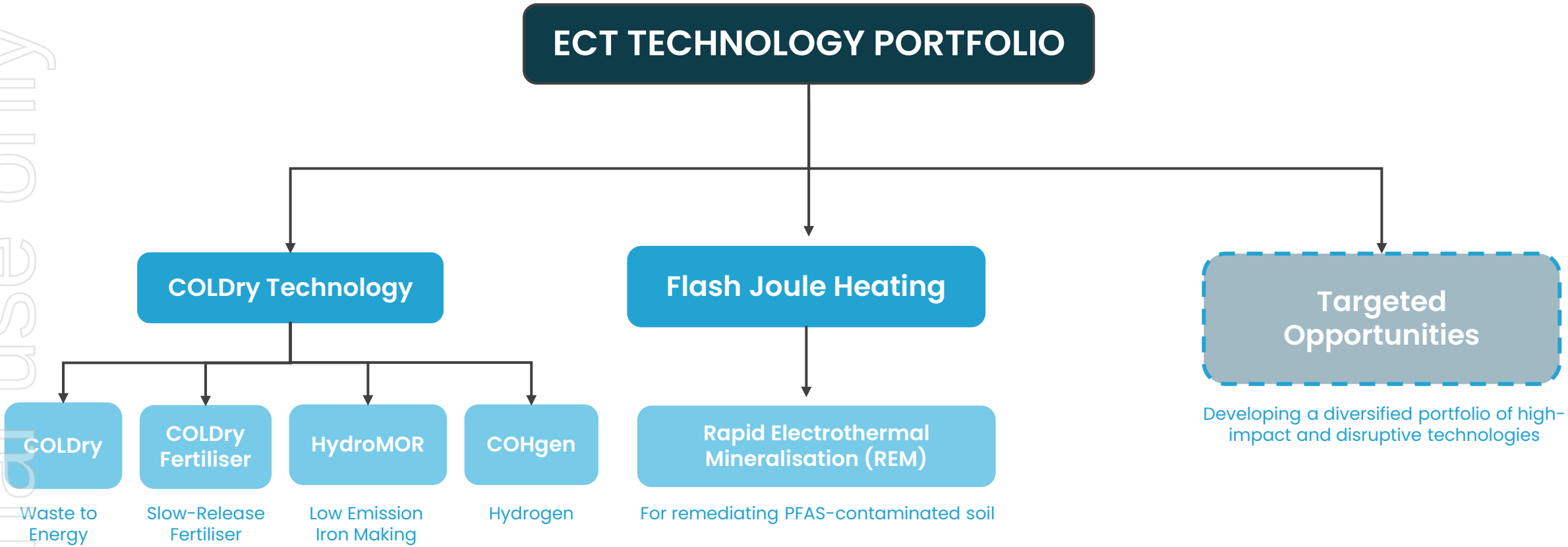
Appointment of Robert Bilott to Advisory Board

Successful PFAS class-action attorney and recognised leader in the fight against hazardous PFAS chemicals, bringing valuable networks and opportunities to ECT

Dedicated to acquiring and building scalable and innovative processes

boasting significant commercial potential across numerous high-growth markets

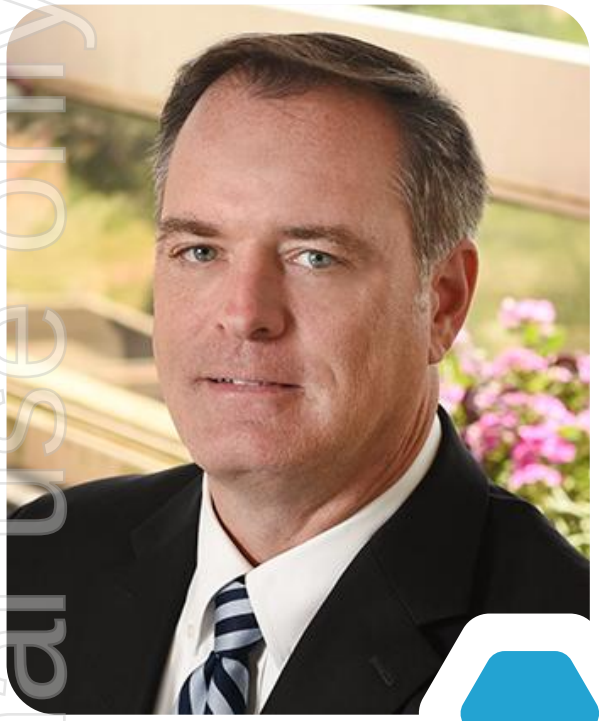
Technology Overview



Solving the Global PFAS Challenge

Advisory Board

First Appointee: Robert Bilott, environmental lawyer and globally recognised PFAS leader



Foundation Advisory Board Member

Members to introduce ECT to their networks, bring partnership and commercialisation opportunities and provide independent, experience-based council. Additional Advisory Board Members are expected to be appointed over time

Professional Background

Mr Bilott is an American environmental lawyer known for securing billions of dollars in recoveries for a wide array of clients adversely impacted by PFAS contamination, including clients impacted by PFAS in soil

Renowned leader in the fight against PFAS

Mr Bilott's work has attracted growing global media attention, featuring in his book *Exposure*, the documentaries *The Devil We Know (2018)* and *Revealed: How to Poison a Planet (2024),* and the feature film *Dark Waters (2019).* In June 2025, he also appeared before the Australian Senate's Select Committee on PFAS to provide evidence on PFAS regulation and management in Australia

Extensive Network

Mr Bilott has built a substantial network of clients affected by PFAS contamination, many of whom are actively seeking remediation solutions. His appointment to ECT's Advisory Board is expected to open valuable partnership and commercialisation opportunities as the Company advances its Flash Joule Heating PFAS remediation technology

Acquisition of Terrajoule

Innovation solution to the PFAS problem

Image Credit: Rice University

ECT to acquire Terrajoule

Acquisition approved by ECT shareholders and expected to complete shortly. Terrajoule will hold a licence to use Rice University's proprietary Flash Joule Heating (**FJH**) technology for the purposes of remediating PFAS contaminated soil

Acquisition Consideration

73.3m ordinary shares and 66.7m performance rights (two tranches, milestone-based). Consideration subject to 6 months voluntary escrow. Vendors included FJH inventor Professor James Tour and Rice University, now directly aligned on the ECT register

Rice University and Professor James Tour

Relationship with Rice University and renowned scientist Professor James Tour, the inventor of the FJH technology with a proven track record of licensing his inventions to ASX listed (and other) entities for commercial development

Entry into large and growing global market

Remediation of PFAS is a global issue. In the US alone, the Environmental Protection Agency and Department of Defense are expected to spend over $10 billion annually to address PFAS contamination

Diversification of technology suite

Acquisition diversifies ECT's technology suite, and is a significant step towards its strategy of building a diverse portfolio of innovative and scalable technologies

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The PFAS challenge

Known as “forever chemicals”, PFAS are long-lasting, hazardous chemicals which pose a significant health risk to all living organisms

The Problem

PFAS pose a significant health and environmental risk and are very slow to degrade

- As known carcinogens, they have been linked to serious health risks, including cancer, immune system disruption, and reproductive and developmental issues
- They are used in a wide range of products, from cookware and food packaging to firefighting foam
- PFAS have a unique chemical structure, which makes it extremely difficult to isolate and destroy
- PFAS can take up to 1,000 years to decompose naturally
- Traditional PFAS disposal methods are costly, energy-intensive and often generate secondary pollutants, prompting the need for innovative solutions

Scale of Contamination

PFAS are found in trace amounts in water and soil globally due to widespread use and environmental persistence

There is typically a higher concentration near industrial sites, airports, and landfills

79,000 +

presumed PFAS-contaminated sites in the US alone

An emerging global problem

Initial focus on the US, Japan, Europe and Australia, where the market size is large

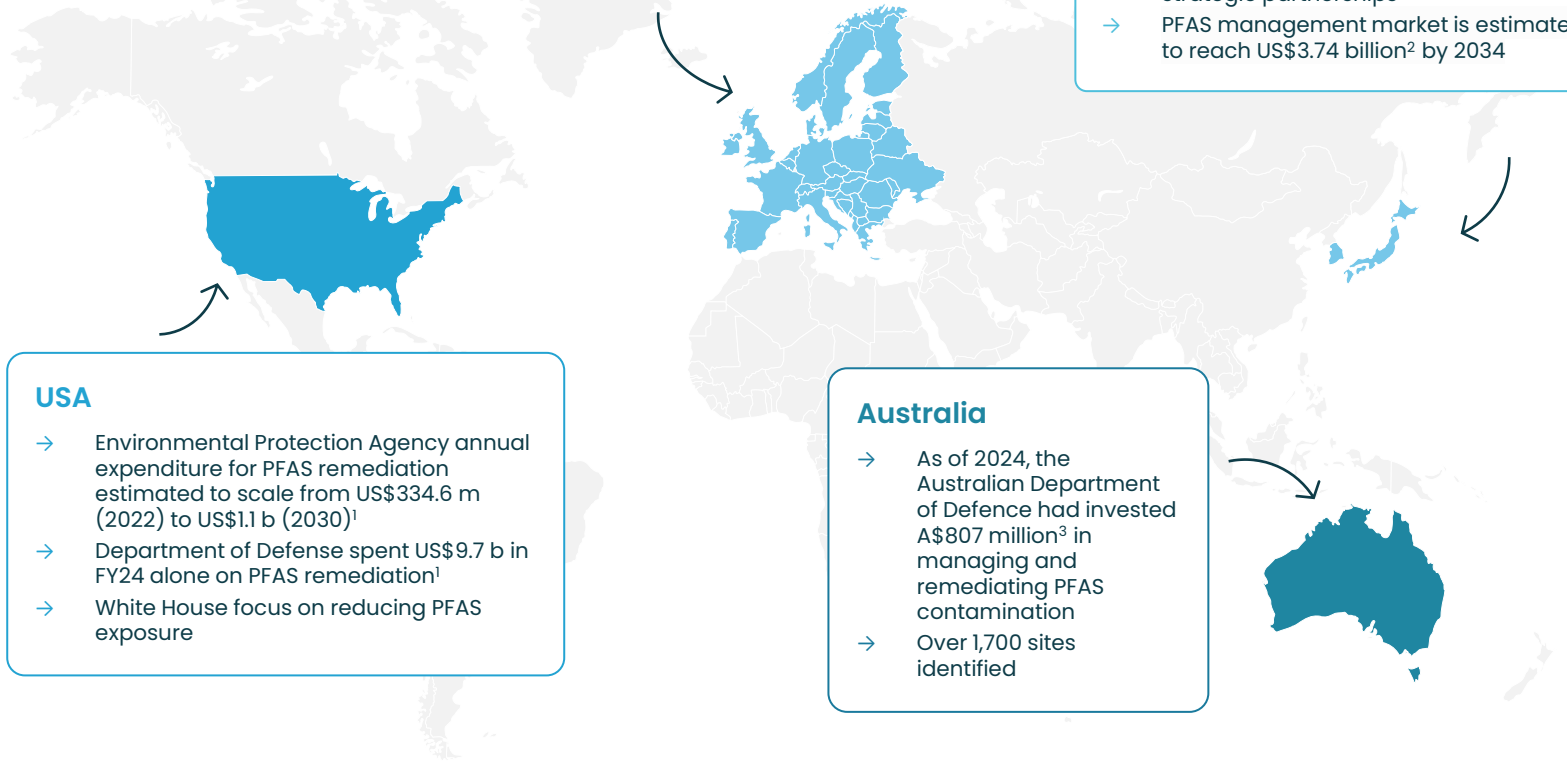
Market Drivers

Public pressure is driving regulatory action

Tougher regulation of PFAS will stimulate spending by forcing potentially exposed parties to address liability risks

ECT has a novel technology, able to destroy PFAS without secondary pollutants, unlike incumbent methods

Global growth of PFAS liability events



Europe

- Over 17,000 estimated contaminated sites, with remediation costs estimated to be €2 trillion[4]
- PFAS are highly regulated; remediation efforts mandated

Japan

- Market entry planned for Japan via strategic partnerships
- PFAS management market is estimated to reach US$3.74 billion[2] by 2034

USA

- Environmental Protection Agency annual expenditure for PFAS remediation estimated to scale from US$334.6 m (2022) to US$1.1 b (2030)[1]
- Department of Defense spent US$9.7 b in FY24 alone on PFAS remediation[1]
- White House focus on reducing PFAS exposure

Australia

- As of 2024, the Australian Department of Defence had invested A$807 million[3] in managing and remediating PFAS contamination
- Over 1,700 sites identified

[1]Kluger, Jeffrey. "How the U.S. Military Plans to Tackle Its 'Forever Chemical' Problem." *TIME*, September 25, 2024.
[2]Saurabh Bidwai and Aditi Shivarkar. "PFAS Waste Management Market : Demand, Production, and Future Projections." *Towards Chem & Materials*, 1 October 2025
[3]Parliament of Australia, *Chapter 5 – Remediation of PFAS Affected Sites*, in *Interim Report of the Senate Select Committee on PFAS (per- and polyfluoroalkyl substances)*
[4]"The top 12 PFAS producers in the world and the staggering societal costs of PFAS pollution", *Chem Sec*, 25 May 2023

Existing PFAS soil remediation technologies

Existing technologies

Existing technologies for remediating PFAS contaminated soil include:

- Thermal desorption
- Immobilisation
- Soil washing
- Advanced oxidation processes
- Bioremediation
- and others

Challenges

Existing processes face several challenges, such as:

- Slow remediation speeds
- Co-contamination
- High consumption of chemicals burdens economics
- Waste water generation leading to secondary pollution
- High transportation cost for reagent processes and moving contaminated soil

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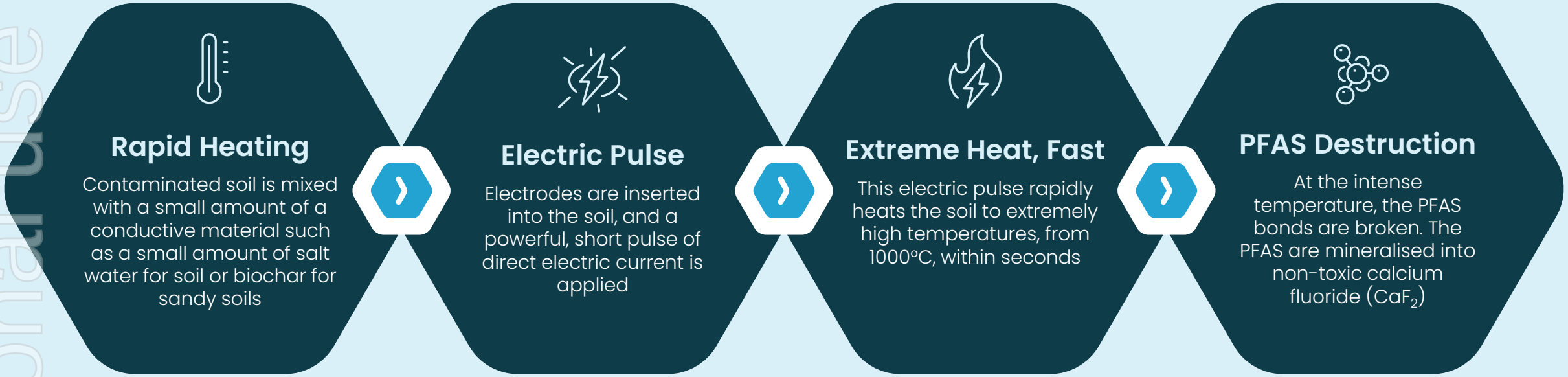
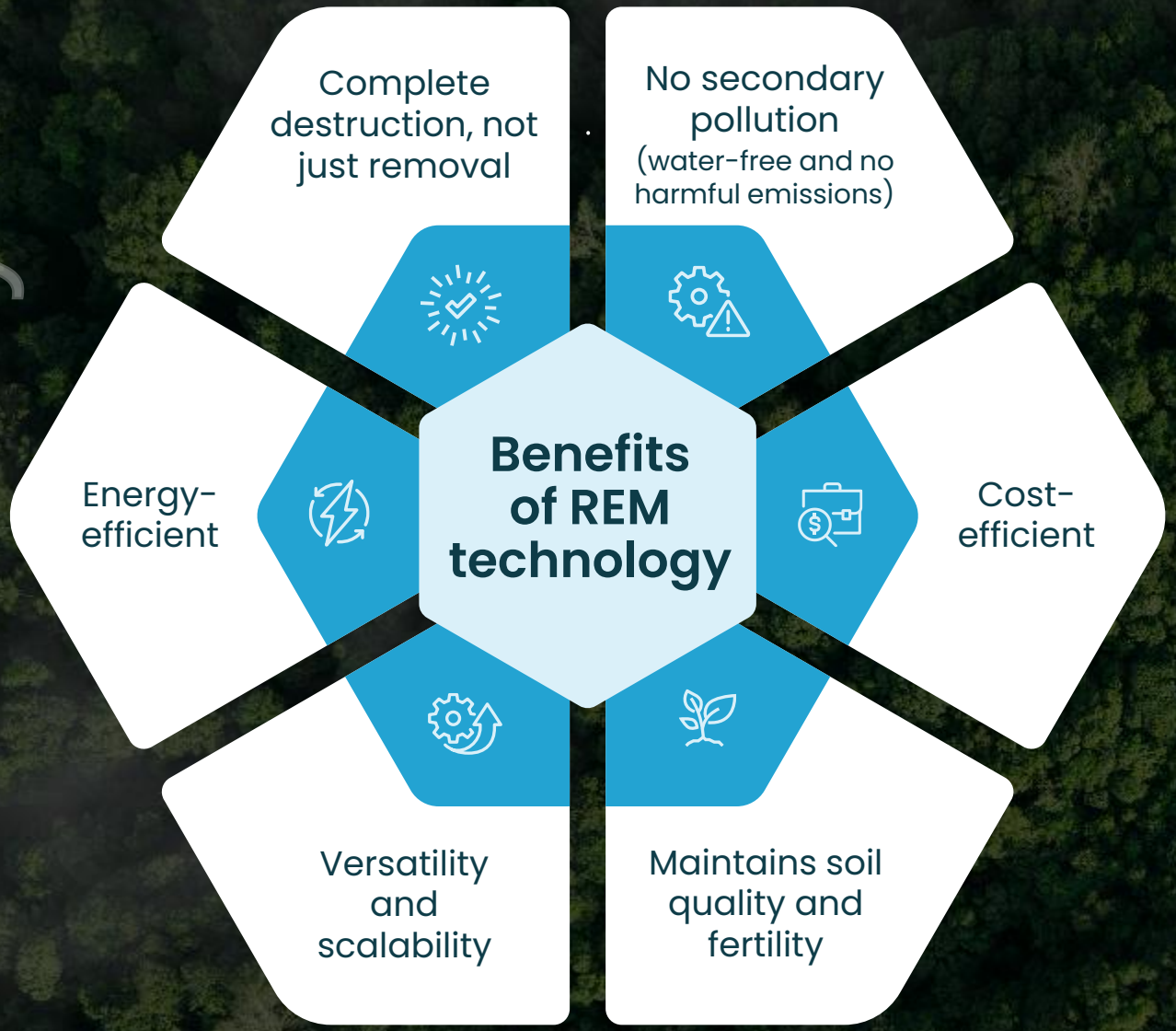
Using Flash Joule Heating to destroy PFAS

Professor James Tour and Rice University have developed an innovative solution to remediate PFAS and heavy metals contaminated soil using its patented Rapid Electrothermal Mineralisation (REM) process, a subset of its FJH technology





REM aims to provide a fast, energy-efficient, and scalable solution to environmental PFAS contamination issues

REM technology development

Clear path to commercialisation

Current State of Development

- CTO appointed to drive commercialisation
- Lab testing of REM has demonstrated >96% defluorination efficiency and 99.98% removal of perfluorooctanoic acid (PFOA), one of the most persistent and harmful PFAS pollutants

Next ~18-24 months

- Development of high voltage/high frequency system to enable REM treatment at a significantly lower cost
- Development of a scaled-up prototype as a modular, mobile unit

The Future

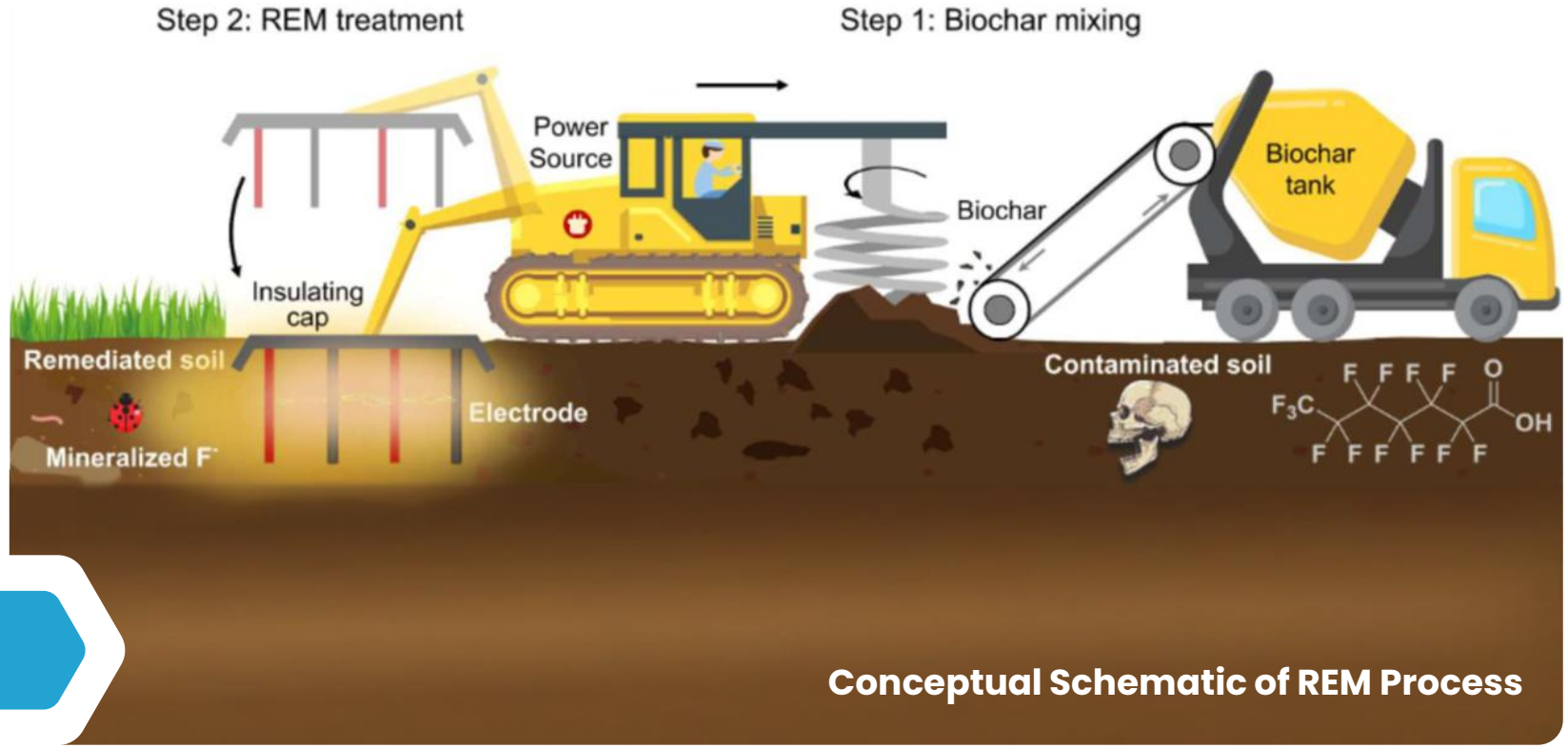
- Development of commercial units
- Partnership opportunities with farming equipment producers and landowners

Future workstreams for technology development

Development of high-frequency/high-power system for direct electrical heating (No use of solvents, water, or reagents to drive down costs)

Establish commercial partnerships to develop a pilot “remediation tractor” using current farming technology

Scale production of “remediation tractors” by utilizing autonomous driving to remediate contaminated land and reduce personnel costs and remediation time



Conceptual Schematic of REM Process

Inventor pedigree and ongoing relationship

To drive commercially viable innovation, ECT has an established relationship with highly renowned researchers at Rice University

This includes a partnership with Professor James Tour, who invented FJH and has substantial experience in commercialising innovative research-based solutions

Academic Appointments

T.T. and W.F. Chao Professor of Chemistry, Professor of Computer Science, and Professor of Materials Science and Nano Engineering at Rice University

Educational Background

Synthetic organic chemist with a BS in Chemistry from Syracuse University, PhD from Purdue University, and post-doctoral training at Wisconsin and Stanford Universities

Research and Intellectual Property

Professor Tour has over 800 research publications, over 130 granted patents, and over 100 pending patents

Honors and Recognition

Inducted into the National Academy of Inventors (2015), elected to the National Academy of Engineering (2024) and listed in “The World’s Most Influential Scientific Minds” by Reuters (2014)

Commercialisation of Professor Tour's technologies

Commercialisation of the research by Dr. Tour and his research team at Rice University spans many applications across various high-value markets

Weebitnano

ASX:WBT

- A leading developer of advanced semiconductor memory technology
- Dr. Tour is a scientific advisor and co-founder of Weebit Nano
- Peaked at a market capitalisation of ~A$1.5B in 2023 (currently ~A$815m)

METALLIUM

ASX:MTM

- Revolutionising metal recovery across the mining value chain by changing the way metals are recovered and recycled
- MTM holds a licence from Rice to use the FJH technology for the purposes of recovering metals from electronic waste, bauxite residue, coal fly ash and ores
- Current market capitalisation of ~A$593m

UNIVERSAL MATTER
ADVANCED MATERIALS

Private Company

- Pioneering the conversion of carbon-based materials, such as coal, petroleum coke, biochar, and mixed plastic waste, into graphene through FJH
- Sells ready-to-use formulations for commercial applications, including concrete, asphalt, rubber, plastics, and paints
- Based in Canada with US and UK subsidiaries

COLDry

COLDry

The PFAS remediation technology complements ECT's existing portfolio, focused on commercialising innovative and sustainable solutions

COLDry
Waste to Energy

Net Zero solution for high-value products from waste and low-value resources

COLDry Fertiliser
Slow-Release Fertiliser

Designed to provide plants with a steady, extended supply of nutrients

HydroMOR
Low Emission Iron Making

Utilising waste and low-value resources to produce iron and steel

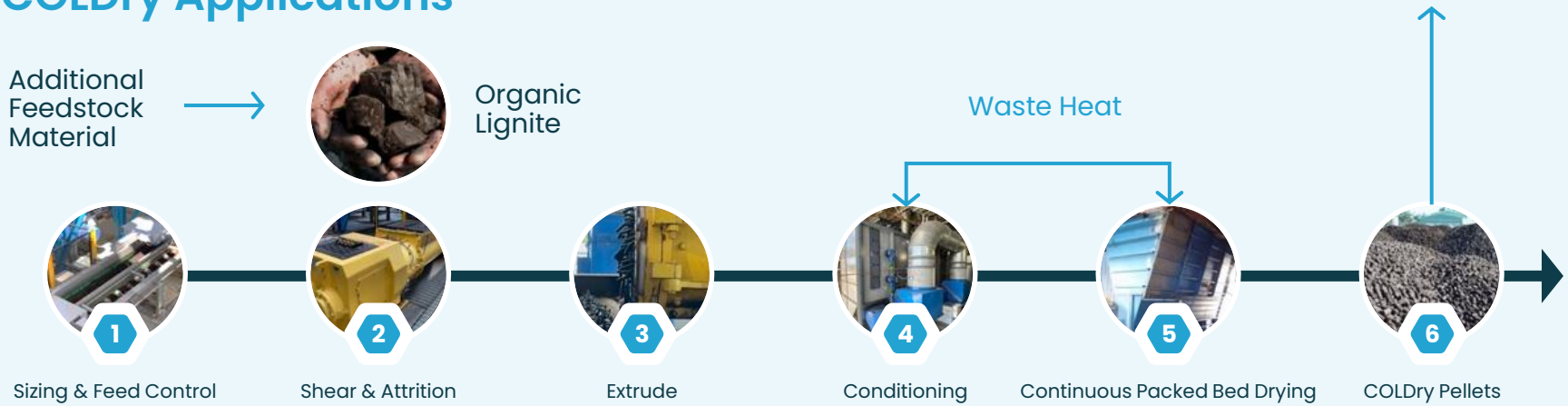
COHgen
Hydrogen

Low and zero-emission hydrogen from waste and low-value resources

Process

- Simple
- Scalable
- Robust
- Low-Temperature
- Low-Cost
- Zero-emissions

COLDry Applications



COLDry

Lab Scale

Concept Evaluation

Scale: ~10kg batch

Prototype

Proof of Concept

Scale: 5t batch

Pilot Plant

Versions 1 > 3

Capacity: 6,000 t/y to 15,000 t/y

1

2

3

Demonstration Plant

Capacity: 35,000 t/y

Process validation & optimisation

Product Options

- ✓ Soil Health
- ✓ Low Carbon Steel
- ✓ Syngas
- ✓ Char
- ✓ H2
- ✓ MeOH
- ✓ Ammonia
- ✓ Advanced Carbons

Upcoming catalysts

News flow and milestones

Technical Scale Up and Testing

Development of high high-frequency, high-power REM system

Commercial Partnering Opportunities

Potential partnership/commercialisation to support development of the Company's technologies

Building out the team

Additional technical, corporate, and advisory appointments to be made to support the Company's strategy

M&A

Continued search for complementary or synergistic M&A opportunities

Thank You

CONTACT	Faldi Ismail
EMAIL	info@ectltd.com.au

CONTACT	Annalise Batchelor
EMAIL	annalise.batchelor@sodali.com