ASX Announcement

17 November 2025

Terrajoule appoints Chief Technology Officer

Environmental Clean Technologies Limited (ASX: **ECT**) (**ECT** or **Company**) is pleased to announce its acquisition target, Terrajoule Pty Ltd (**Terrajoule**), has (in consultation with ECT) appointed Mr Justin Sharp as Chief Technology Officer (**CTO**).

As announced on 25 September 2025, ECT has entered into a binding agreement to acquire 100% of the issued shares in Terrajoule, which holds an exclusive option to licence Rice University's flash joule heating technology for the purpose of remediating PFAS/heavy metals contaminated soil (**Transaction**). Mr Sharp's appointment as CTO of Terrajoule was made in consultation with ECT, and he will play a key role in the Company's development and commercialisation of the technology moving forward.

Mr Sharp holds a Master's degree in Chemical Engineering from Rice University and a Bachelor of Science in Chemistry from James Madison University. He is currently a Research Assistant in the Department of Chemistry at Rice University and previously served as a USRA Graduate Researcher at NASA. Mr Sharp has developed several patents related to flash joule heating and joule heating technologies. He has also authored numerous publications on mineral separation techniques and flash joule heating.

Commenting on the appointment of Mr Sharp as CTO, ECT's Chairman, Faldi Ismail, said:

"On behalf of the Board and Management team at ECT, we are pleased to learn of Justin's appointment as Chief Technology Officer of Terrajoule. His appointment comes at a pivotal time as we look to finalise the acquisition of Terrajoule and advance strategy to build a diverse portfolio of innovative, scalable technologies across high-growth markets.

"Justin has, and continues to, work very closely with Professor James Tour at Rice University, the inventor of flash joule heating. He possesses deep technical knowledge and has hands-on experience with this groundbreaking technology, ideally positioning him to build on the foundation established by Professor Tour.

*"His appointment marks a pivotal step forward for Terrajoule and ECT as we drive the advancement of flash joule heating for rapid electrothermal mineralisation (**REM**) toward commercialisation over the next 24 months. We look forward to working with Justin and leveraging his expertise to accelerate this process and deliver strong commercial outcomes.*

"This appointment also highlights the depth of our collaboration with Rice University, reinforcing ECT's commitment to partnering with world-leading researchers to drive commercially viable innovation. As we continue to grow, we remain focused on expanding our team, enhancing our technology and pursuing targeted acquisitions and licencing opportunities that complement and strengthen our strategy."

Mr Sharp will commence his role as CTO on completion of the Transaction and will have primary responsibility for leading the development and commercialisation of the flash joule heating technology.

As outlined in the Company's 25 September 2025 ASX announcement, the technology has been shown to successfully remediate 2kg of PFAS contaminated soil within a 40 second period. The next step towards

commercialisation of the technology, which Mr Sharp will oversee, is the development of a more efficient FJH power supply for REM, which will enable REM treatment to be conducted with significantly less energy and less biochar conductive additive in soil to reduce remediation costs.

Company Strategy and PFAS

Mr Sharp's appointment is an important step towards the completion of the Transaction. ECT will seek shareholder approval for completion of the Transaction at its 2025 Annual General Meeting to be held on 24 November 2025, and is currently working with Terrajoule to satisfy the other conditions precedent to the Transaction.

This acquisition of Terrajoule places ECT at the forefront of PFAS remediation, offering a proprietary, scalable, and cost-effective process with strong licensing and commercial potential.

PFAS have a unique chemical structure, due to the strength of the carbon and fluorine bonds, which makes it extremely difficult to isolate and destroy them. They are found in trace amounts in water and soil in many locales due to widespread use and environmental persistence. There is typically a higher concentration near industrial sites, airports, and landfills. Traditional PFAS disposal methods are costly, energy-intensive and often generate secondary pollutants, prompting the need for innovative solutions.

However, Rice University's primary PFAS soil remediation technology, REM, uses flash joule heating to fundamentally transform PFAS into harmless, naturally occurring minerals while preserving the soil's ability to support life.

The REM process works by inserting graphite or metal electrodes into the soil and applying a high-voltage, high-power current through the soil between the electrodes, generating temperatures exceeding 1,000 degrees celsius in 1 to 60 seconds, depending on the size of the treated soil area. The intense heat breaks down the strong carbon-fluorine bonds in PFAS, converting them into inert, nontoxic fluoride salts such as calcium fluoride, made by calcium naturally found in soil, and the natural and non-toxic mineralised form of fluoride in the environment. A conductive additive such as biochar, an environmentally friendly fertiliser, may also be mixed into non-conductive soils to facilitate the REM process.

This technology provides a solution to environmental contamination issues, with a primary focus on targeting the United States, where the market size is large and there are over 79,000 presumed PFAS-contaminated sites in the US alone and due to this the White House is focus and committed to reducing PFAS exposure, which is highlighted the Department of Defence spending US$9.7 b in FY24 alone on PFAS remediation.

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