ASX Announcement

7 April 2026

ECT Expands FJH Platform to Destroy PFAS Captured on Adsorbents

Highlights:

- ECT expands licence agreement with Rice University to include the right to apply Flash Joule Heating (FJH) to PFAS-contaminated adsorbents such as granular activated carbon (GAC)
- Expansion leverages core intellectual property developed at Rice University under FJH inventor, Professor James Tour
- GAC is a highly porous filtration medium used across various industries, most commonly in water treatment systems to remove contaminants (such as PFAS) from drinking water
- The expanded licence will enable the development of an on-site PFAS destruction platform targeting traditional water treatment media, including GAC and other adsorbents
- Incumbent solutions to destroy PFAS captured in GAC typically involve transporting the spent material to an incinerator, which can result in the release of harmful gasses and increase the risk of PFAS exposure during transport
- Independent peer-reviewed research demonstrates FJH can achieve >99.9% PFAS removal from contaminated carbon media such as GAC under controlled conditions, with favourable lifecycle energy and emissions performance relative to incineration
- Global PFAS water contamination is driving urgent market demand, with tightening international regulatory standards accelerating demand for scalable, verifiable PFAS destruction technologies

Environmental Clean Technologies Limited (ASX: **ECT**) (**ECT** or **Company**) is pleased to announce it has expanded its licence agreement with William Marsh Rice University (Rice) to include the right to apply FJH to PFAS-contaminated absorbents such as GAC. The expanded licence extends the Company's PFAS remediation strategy and represents the next stage in the development of the Company's FJH platform.

Building on its established Rapid Electrothermal Mineralisation (REM) technology for the remediation of PFAS in soil, the expanded licence will enable the Company to target the destruction of PFAS captured within on-site adsorption materials.

This next phase leverages further core intellectual property developed at Rice University under Professor James Tour and represents a complementary expansion of ECT's licensed technology base.

The decision follows a technical assessment of PFAS treatment pathways undertaken to broaden the Company's addressable market. The opportunity was identified through ECT's ongoing collaboration with Rice University, with further technical evaluation conducted by the Company's Chief Technology Officer, Justin Sharp, in consultation with the Advisory Board.

Commenting on the update, ECT Chief Technology Officer, Justin Sharp, said, *"This expansion is a strategic progression of our existing REM platform and reinforces our position in PFAS destruction technologies. Importantly, the move into PFAS destruction from adsorbents, including those used in water treatment systems, utilises the same licensed Flash Joule-Heating technology I helped to develop in my time on staff at Rice University. It is highly complementary to our soil remediation capabilities, as it utilises the same system we are developing for the ex-situ REM treatment of PFAS-contaminated soil.*

"The industry is increasingly looking for alternatives to incineration when it comes to treating spent treatment media such as GAC, as there are growing concerns about releasing PFAS into the atmosphere during combustion. Therefore, we believe an on-site mineralisation solution that efficiently eliminates PFAS from spent treatment media and reduces secondary waste has the potential to address a critical gap in current GAC treatment pathways and in particular for those used in water treatment applications."

PFAS Captured in GAC

Granular Activated Carbon (GAC) is widely used as an adsorbent to remove PFAS from contaminated liquids and gases, but is most commonly applied in water treatment for the removal of PFAS from contaminated sources. However, once saturated, PFAS-laden GAC becomes a concentrated hazardous waste that is typically transported off-site for high-temperature incineration. This process is energy-intensive and dependent on specialist destruction capacity.

ECT's strategy seeks to address this limitation by enabling on-site destruction of PFAS captured on treatment media, minimising cost and risk associated with incumbent destruction of PFAS on GAC.

As part of its technical evaluation of existing PFAS treatment pathways, in particular those related to water, the Company identified inherent structural limitations with existing approaches to destroying PFAS captured in GAC;

- The generation of secondary waste from the incineration of PFAS, such as hazardous gases released into the atmosphere;
- High energy consumption associated with thermal desorption and destruction; and
- Logistical and environmental risks associated with transporting contaminated materials for off-site disposal.

ECT's Flash Joule Heating Technology for On-Site Mineralisation of PFAS in Spent GAC

FJH applies high-power electrical current through carbon-based materials to achieve rapid temperature increases within seconds. Under controlled laboratory conditions, FJH has demonstrated the ability to break carbon–fluorine bonds characteristic of PFAS compounds.

This rapid electrical heating rate destroys the carbon-fluorine bonds characteristic of the general PFAS structure and converts the GAC into high-value carbon material products such as graphene, amorphous carbon, or graphite.

Peer-reviewed research indicates that FJH applied to PFAS-contaminated carbon media can:

- Achieve >99.9% PFAS removal under controlled conditions

- Convert 90–96% of fluorine to stable inorganic fluoride salts
- Operate within seconds at temperatures approaching 3,000°C
- Produce minimal volatile fluorinated by-products

In addition to PFAS destruction, the process can transform spent carbon media into higher-value carbon products, including graphene, graphite and other advanced carbon materials. Where silicon metal is introduced prior to treatment, silicon carbide nanomaterials may also be produced.

Importantly, the proposed water treatment application leverages the same core power systems and hardware architecture currently under development for ECT's ex-situ REM soil remediation platform, supporting scalability across multiple PFAS destruction applications. The ex-situ REM system is under development for PFAS-contaminated soil already moved to waste management sites. The same core technology applies to remediating PFAS-laden GAC, providing a translatable technology between ex-situ soil remediation and GAC remediation for water filtration.

The ability to destroy PFAS-laden GAC on site has the potential to reduce reliance on transport and incineration pathways while minimising secondary waste streams.

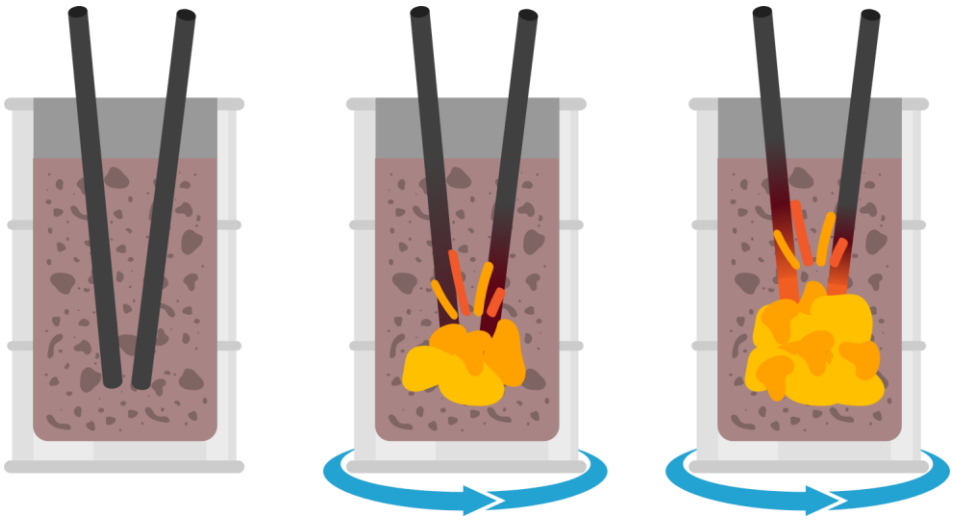

Figure 1: Ex-Situ REM Deployment to be Used for Mineralisation of PFAS from Spent GAC

Life cycle assessment and techno-economic analysis reported in peer-reviewed studies indicate competitive or favourable energy and emissions performance compared with incineration, while enabling potential value recovery from carbon-based co-products.

Licence Terms

As detailed in its 11 December 2025 ASX announcement, the Company (through its wholly owned subsidiary Terrajoule Inc.) has an existing licence agreement with Rice under which it has licenced the right to apply Rice's proprietary FJH technology for the remediation of PFAS and/or heavy metals

contaminated soil. The key terms of the licence agreement are set out in the 11 December 2025 announcement.

The parties have now amended the licence agreement to enable ECT to apply FJH to PFAS-contaminated adsorbents such as GAC. In consideration for this:

- ECT will pay Rice a once-off licence amendment fee of $10,000 (and reimburse Rice for specified patent expenses);
- the annual licence maintenance fee has increased by US$2,500 (from US$10,000 to US$12,500); and
- the milestone fee in the event ECT achieves US$50,000,000 in gross sales of products under the licence has increased by US$50,000 (from US$150,000 to US$200,000).

Next Steps

This new technology is intended to position the Company to deliver further PFAS destruction capability across both soil and water treatment mediums.

The Company will now progress development and validation of its on-site system for the mineralisation of PFAS from spent GAC using FJH, with the objective of advancing toward pilot-scale deployment, subject to technical and regulatory validation.

This announcement is authorised for release to the ASX by the Board.

For further information, please contact:

INVESTORS

Faldi Ismail
Chairman

info@ectltd.com.au / +613 9849 6203

Annalise Batchelor
Sodali & Co

annalise.batchelor@sodali.com

Forward-looking Statement

This announcement may contain forward-looking statements regarding future events or performance, including but not limited to projections of financial results, anticipated growth, and business strategies. These forward-looking statements are based on current expectations, assumptions, and projections that involve inherent risks and uncertainties. Actual results may differ materially from those anticipated due to various factors, including market conditions, regulatory changes, technological advancements, and economic conditions.

Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date of this announcement. The Company undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise, except as required by applicable securities laws.

Investors should carefully consider the risks and uncertainties disclosed in the Company's periodic reports. filed with the Australian Securities Exchange (ASX) and other regulatory authorities. Forward-looking statements are provided as of the date of this announcement, and the Company disclaims any obligation to update them, except as required by law.