PURE RESOURCES LIMITED | ASX:PR1

TEMPERON™ Programme Update – Key Appointment & CNTF Heat Exchange Properties 1,000 Thermal Cycles In Air vs Comparable Nichrome Just 5 Cycles

Dedicated lead researcher appointed at Rice University, and newly published peer reviewed data quantifies carbon nanotube fibre performance under extreme heat.

HIGHLIGHTS

- TEMPERON™ is the Company owned brand and trade mark for its carbon nanotube fibre (CNTF) thermal management programme, consolidating all CNTF activity, technology and future products under a single ownable identity. Rice University remains the research and development partner and the collaboration agreement is unchanged.
- Dr Jong Ha Park has been appointed lead researcher on the TEMPERON™ programme, based at Rice University in the Preston Innovation Laboratory, Department of Mechanical Engineering.
- Dr Park holds a PhD in Mechanical Engineering from the University of California, Berkeley and brings a thermal transport and scalable device fabrication background, including co-authored research published in Nature Communications and Science Advances.
- Peer reviewed results published in Small by the Rice faculty group leading TEMPERON™ show **CNTF sustaining more than 1,000 thermal cycles in air at 25 MW per kilogram, against a comparable nichrome sample failing after five cycles at a lower 20 MW per kilogram, with a CNTF failure temperature of approximately 2,300 degrees Celsius in non oxidising gases.**

ANNOUNCEMENT

TEMPERON™ programme update

Pure Resources Limited (ASX: PR1) ("Pure" or the "Company") is pleased to provide an update on TEMPERON™, the Company's carbon nanotube fibre ("CNTF") thermal management programme, conducted under a binding research and development collaboration agreement with Rice University, Houston, Texas.

TEMPERON™ is the Company owned brand and trade mark under which all CNTF thermal management activity is now conducted. It supersedes prior external references to the Rice University collaboration and to HyperFlux, and gives the Company a single identity for the programme, the technology and any product commercialised from it.

The collaboration agreement with Rice University, including its joint intellectual property ownership provisions, is unchanged.

This update covers two developments. First, the appointment of a dedicated lead researcher to the programme at Rice University. Second, newly published peer reviewed results from the Rice faculty group that leads the Company's programme, quantifying how CNTF behaves at power loadings and temperatures where conventional metal elements fail.

COMMENTARY

Rocco Tassone, Chief Executive Officer

> *"Two things matter in this update. Following an intensive search for the perfect TEMPERON lead we have made a key appointment and welcome Dr. Jong Ha Park tothe programme positioned at Rice. Secodnly the faculty group that leads our work has just published peer reviewed data in Small showing how carbon nanotube fibre behaves at temperatures where copper and aluminium are no longer an option. That thermal ceiling is the constraint data centre operators and defence platform integrators are running into today and something we aim to solve."*
>
> **— Rocco Tassone, Chief Executive Officer** Pure Resources Limited

DETAIL – SECTION A

Appointment of lead researcher, TEMPERON™ programme

Dr Jong Ha Park has been appointed lead researcher on the TEMPERON™ programme. He is a postdoctoral fellow at Rice University in the Preston Innovation Laboratory within the Department of Mechanical Engineering, the laboratory of Professor Daniel J. Preston, one of the four Rice faculty leads on the Company's programme. Dr Park's background is in thermal transport and the scalable fabrication of thermal and energy conversion devices.

- PhD, Mechanical Engineering, University of California, Berkeley (2026), completed in the laboratory of Professor Liwei Lin at the Berkeley Sensor and Actuator Center. MS and BS, Korea University.
- Co author of research published in Nature Communications (2023) on a passive cooling system for photovoltaic modules, reporting an average cell temperature reduction of 15.1 degrees Celsius, a cooling energy density of 2,876 kJ per kilogram and average cooling power of 403 W per square metre.
- Co author of research published in Science Advances (2025), and in Energy Conversion and Management (2023) on an ammonia sorption thermal battery driven by a low temperature heat source.
- Co author of research published in Green Chemistry (2022) on carbon nanotube and silicone oil emulsions, and first author of two papers in the Journal of CO2 Utilization (2021 and 2022).
- Eighteen publications and 273 citations recorded as at 17 August 2026.

Dr Park's appointment adds dedicated senior research capacity to the programme. Professors Matteo Pasquali, Daniel Preston, Geoffrey Wehmeyer and Vanessa Sanchez continue to lead the Rice faculty team. Dr Park's thermal transport and device fabrication experience is directed at the programme's core objective, converting CNTF material properties into heat sink architectures that can be manufactured at scale.

DETAIL – SECTION B

Extreme heat performance of CNTF fabric

The Rice faculty group that leads the TEMPERON™ programme published peer reviewed results in the journal Small quantifying the performance of CNTF wires and fabrics under high specific power loading in flowing gas. Professors Pasquali, Preston, Wehmeyer and Sanchez are co authors and are named as lead contacts on the paper. The study was conducted and funded independently of the Company.

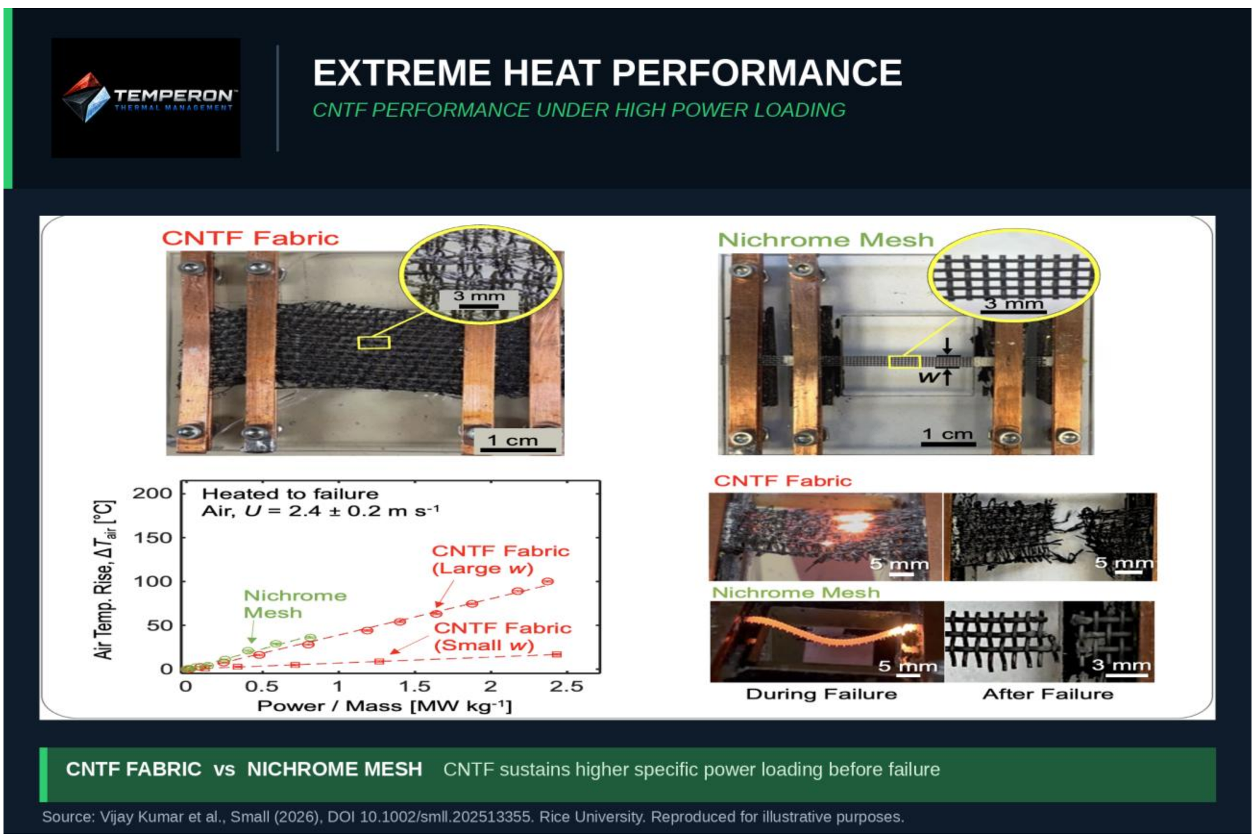

Fig. 1: CNTF fabric compared with nichrome mesh, heated to failure in air flowing at 2.4 plus or minus 0.2 metres per second. Air temperature rise against specific power loading for two CNTF weave widths. Adapted from Vijay Kumar et al., Small (2026), DOI 10.1002/smll.202513355.

The reported results establish the following, measured under the test conditions described in the paper.

- A CNTF failure temperature of approximately 2,300 degrees Celsius in non oxidising gases, against approximately 1,400 degrees Celsius for nichrome in comparable non-oxidizing conditions.
- A single CNTF filament sustained more than 1,000 thermal cycles in air, approximately 5.5 days of continuous cycling, at a specific power loading of 25 MW per kilogram with no measurable change in room temperature resistance. A comparable nichrome sample failed after five cycles at a lower loading of 20 MW per kilogram.
- In high vacuum, CNTF filaments showed no drift in room temperature resistance across 100 cycles at 134 MW per kilogram, corresponding to a modelled maximum temperature of 1,810 degrees Celsius.
- Measured heat transfer coefficients of 1,500 to 1,700 W per square metre per kelvin for forced convection in air, unusually high for air cooling and a function of the very small diameters at which CNTF can be produced.
- Compared with rigid nichrome mesh, CNTF fabrics heated more uniformly with reduced hot spot formation, an effect the authors attribute to the axial thermal conductivity of the fibre spreading heat along its length.

The Small paper addresses CNTF used as a resistive heating element immersed in flowing gas. It is not a test of a heat sink. Its relevance to TEMPERON™ is that the properties it measures, thermal stability at extreme temperature, heat spreading that suppresses hot spots, and compatibility with woven and knitted textile manufacturing, are the same properties on which the Company's heat sink programme depends. The Company is not a party to the paper and did not fund the work reported in it.

DETAIL – SECTION C

Strategic significance and next steps

Accelerator thermal design power is now the binding constraint on rack density in artificial intelligence data centres. Copper and aluminium fin architectures are at their practical limits on conductivity, mass and achievable geometry. TEMPERON™ targets that constraint directly, using a fibre at roughly half the density of aluminium with axial thermal conductivity of up to approximately 600 W per metre per kelvin and thermal anisotropy above 20 times, formed by three dimensional knitting into fin geometries metals cannot replicate.

- Programme objectives under the Rice collaboration are CNTF thermal property optimisation, three dimensional knitted heat sink design, and benchtop demonstration against conventional aluminium and copper fin architectures under conditions representative of data centre operation.
- The Company holds DARPA ERIS Marketplace Awardable status for its CNTF three dimensional heat sink solution, and structured engagement with United States defence and national laboratory counterparties continues.
- Patent and licencing documentation currently being prepared and trade mark applications for TEMPERON™ are being progressed. All external references to the programme will use the TEMPERON™ mark.

The Company will update the market on programme milestones as they are achieved, in accordance with its continuous disclosure obligations.

AUTHORISATION

Approval & Release

This announcement is approved for release by the Board of Pure Resources Limited.

Rocco Tassone
Chief Executive Officer
Pure Resources Limited

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ABOUT

Pure Resources Limited (ASX: PR1) is an ASX listed advanced materials and critical minerals company pursuing an integrated defence materials platform strategy, from 100% ownership of an upstream graphite and garnet asset in Western Australia, through a US Department of Energy Strategic Partnership for heavy rare earths, to a funded downstream research and development collaboration with Rice University (Houston) in high performance carbon nanotube fibre conducted under the Company owned TEMPERON™ brand.

THE MATERIAL OF THE INTELLIGENCE AGE

> *"CNTFs are not an incremental improvement. They represent a step change in materials capability. Through advanced materials science they unlock lighter, stronger and more conductive systems that redefine performance across defence, energy and advanced manufacturing. This is not evolution. It is a fundamental revolution in what materials can do."*

01 UPSTREAM

Garnet Hills Project
Graphite & Garnet

The Company's 100% owned **Garnet Hills Project** provides upstream exposure to graphite and garnet under a granted mining lease in Western Australia.

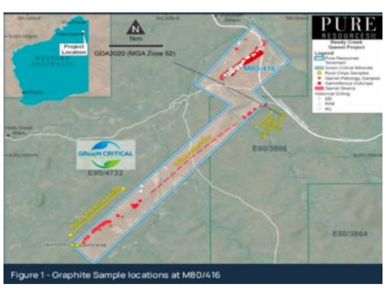

Fig. 1 Graphite sample locations at M80/416, Reedy Creek Garnet Project (GDA2020, MGA Zone 52).

● WESTERN AUSTRALIA · GRANTED MINING LEASE

02 STRATEGIC PARTNERSHIP

Oak Ridge National Laboratory
HREEs & Yttrium

The deposit has attracted a **Strategic Partnership Projects Agreement with the US Department of Energy (DoE) Oak Ridge National Laboratory**, targeting the recovery of **Heavy Rare Earth Elements and Yttrium** for United States critical materials supply chains.

Fig. 2 US DoE Oak Ridge National Laboratory — HREE & Yttrium recovery programme.

● US DEPARTMENT OF ENERGY · ORNL PARTNERSHIP

03 TEMPERON™

Rice University
Carbon Nanotube Fibre (CNTF)

Pure is executing a thermal management downstream strategy in collaboration with **Rice University**, focused on **Carbon Nanotube Fibre thermal management technology** for AI data centre infrastructure, defence, drones and robotics applications.

Fig.3 TEMPERON™ is a trade mark for Pure Resources Ltd thermal management strategy".

● THERMAL MANAGEMENT STRATEGY IN COLLABORATION WITH RICE UNIVERSITY (HOUSTON)

DISCLAIMER

Forward-Looking Statements

Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Pure Resources, are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.

Trade Marks

TEMPERON™ is a trade mark of Pure Resources Limited used in respect of the Company's CNTF thermal management strategy, programme and products. TEMPERON™ supersedes all prior external references to HyperFlux and to the Rice University collaboration. Trade mark applications are being progressed and registration has not yet been granted.

Third Party Research

The results described in this announcement under the heading Extreme heat performance of CNTF fabric were published by researchers at Rice University in the journal Small (2026), DOI 10.1002/smll.202513355. The Company is not an author of, party to, or funder of that study. The research reported was supported by the National Science Foundation, the United States Department of Energy, Shell, the Welch Foundation, the Carbon Hub, a NASA Space Technology Graduate Research Opportunity award and a National GEM Consortium Fellowship. The results relate to CNTF used as a resistive gas heating element and do not constitute a test of any product of the Company. No assurance can be given that the properties reported will translate into a commercially viable thermal management product.