



The Hawley Award for Engineering Innovation

A £5000 prize for Engineering Innovation that helps to achieve Net Zero Carbon

Applications are invited for the Hawley Award, established in 2006, which is awarded annually for the most outstanding Engineering Innovation that delivers demonstrable benefits to the environment, specifically helping to achieve Net Zero Carbon by 2050. **The deadline for applications for the 2026 Award is 9th February 2026.**

The award is by the Worshipful Company of Engineers, a London Livery Company (www.engineerscompany.org.uk), via the Engineers Trust (www.engineerstrust.org.uk).

To be eligible for the award, the application must be made by:

- A candidate who is resident in the UK and is at least a graduate member of preferably a Professional Engineering or Scientific Institution, but may be recognised as a senior member of an associated profession.
- An early career stage engineer or scientist, in academia or industry, typically within 10 years of starting a professional career.
- An individual candidate who has personally produced an engineering innovation. Exceptionally, a small team may be considered where the innovation has a highly multi-disciplinary nature.

The Innovation will:

- Have demonstrable benefits in the drive to achieve Net Zero Carbon by at least 2050.
- Arise from work undertaken after the award of a post-graduate degree from a recognised UK university or during study for a post-graduate degree. Work undertaken for a BSc or MEng will not be eligible.
- Have at least reached a stage where a prototype has been developed or a proof of concept demonstrated, and there is an expectation that the technology will be developed for commercial use. The results of laboratory-based research will not, of themselves, be sufficient to qualify for the Award.

The Prize

The Award comprises a cash prize of up to £5,000, an engraved medal and a certificate, which will be presented at the Worshipful Company of Engineers Annual Awards Dinner in June 2026. The funds are to be used in furtherance of the winner's career, such as for educational or overseas

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Secretary to the Trustees: Emma Bould CEng, FIMechE

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travel purposes. The winner will be expected to submit a short report, which may be published, on how the money has been used.

The Process

Written submissions (by email to Hawley.award@engineerscompany.org.uk) should be made **by the 9th of February 2026**, by completing the attached form (copy available at: www.engineerstrust.org.uk), accompanied by a report of no more than 1,000 words in English, together with diagrams, if appropriate. The submission should demonstrate how the development has, or would, make positive improvements to the achievement of Net Zero Carbon by at least 2050, and must be certified by a director or senior manager of the organisation to endorse that the candidate did make the contribution claimed.

Following the receipt of submissions, a shortlist of candidates will be selected, and individuals will be required to attend an interview (via Zoom) on **either March 3rd or March 6th, 2026. They will** then make a 15-minute presentation, followed by questions posed by the Award Interview Panel. The winner will be notified after all presentations have been assessed, and the award will be presented at the Company's Annual Award ceremony in London on **the 3rd June 2026**, when the winner will be invited to dine with the Company.

The Company will require the right to publish the winning submission in its in-house journal and to provide it to sponsoring organisations.

Previous Winners

2025: Mr Hugo Garcia: Garcia's work has developed a rapid, energy-efficient process for turning tree resin into Amber. This process in Nature takes millennia. Tree Resin captures a significant amount of Carbon Dioxide. Furthermore, harvesting resin from a tree encourages the tree to absorb even more carbon dioxide from the soil. The resin can be used as a substitute for glass, and manufacturing resin alternatives into glass requires 30% less energy than standard glass production. Moreover, the resin is antibacterial, and it has applications in the medical sector. Garcia's invention produces a glass substitute from tree resin, changing the economics of resin extraction. This makes it profitable, thereby facilitating a sustainable economic basis for resin extraction. The invention applies worldwide to any region where resin-producing trees are cultivated. Amber is stable and will not break down, releasing the Carbon within.

2024: Dr Francisco Garcia is a Senior Lecturer in Chemical Reaction Engineering at the School of Engineering, The University of Edinburgh. Over the last five years, he has developed pioneering hollow fibre-based adsorption technology for on-board carbon capture in marine applications. The breakthrough in Dr Garcia's research has been the development of pioneering hollow fibre-based technology. This uses a highly effective CO₂ adsorbent material within a high surface area volume ratio hollow fibre-based reactor. The reactor can be flushed, and the emissions can be stored on-board for later processing or storage. The potential of this technology enables tighter marine emission control legislation. Through this technology, the UK can further consolidate its emission control leadership during the transition towards 100% renewable energy.

2023: Barney Shanks of Seratech. Barney is a PhD researcher at Imperial College, London, who along with fellow researcher Sam Draper developed a novel way to capture waste CO₂ and use it in the manufacture of a carbon-negative cement replacement material.

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2022: Dr Alalea Kia (Imperial College London, Dept of Civil and Environmental Engineering). Founder of Permia which aims to increase permeable infrastructure adoption. Her development of a next-generation climate change resilient permeable pavement (Kiacrete) to mitigate urban flooding will address some of the long-standing challenges with conventional systems. Kiacrete has been successfully deployed in London for two years. The award will be used to further test in the extreme monsoon and drought conditions of India.

2021: Joint Winner – Dr Elena Dieckmann (Dyson School of Design Engineering, Imperial College), Co-founder and Innovation Lead of Aeropowder, for her development of the world's first feather based thermal packaging material under the brand name **Pluumo**. Cleaned and processed into a unique textile, before being covered in a biodegradable film for ease of handling, it delivers excellent insulation performance while lessening our impact on the environment.

2021: Joint Winner – Mr Pierre Paslier (Dyson School of Design Engineering, Imperial College), Co-founder and Co-CEO of **Notpla**, for his innovative development of sustainable packaging made from seaweed as an alternative to single-use plastic. Applications include: an Ooho capsule for liquids, a Notpla coating, and a Notpla film. These were tested in pilot trials including edible drink sachets at a London Marathon event.

2018: Robert Edwin Rouse (University of Cambridge) combined his passion for engineering with his love of the marine environment by designing a device for assisting in cleaning the oceans. His invention extracts marine and fluvial plastic pollution through integrated, commensal technologies and is timely and important in tackling single use plastics that reach the sea. Attached to a ship, one unit with a processing area of 6m² can remove up to 120 tonnes per year.

2017: Dr Amrit Singh Chandan (of **ACELERON**) for his work on **NuCycle - Lithium Ion Battery Processing to Assess Viability for Reuse**. ACELERON transforms perceived end-of-life lithium ion battery waste, using a comprehensive testing and grading process; upcycling them into repurposed battery packs. Each cell processed saves 50 kg CO₂ and is 50% cheaper than a new Li-ion cell.

2016: Solveiga Pakštaitė (of **Design By Sol Ltd**) developed “Bump Mark: the bio-reactive food expiry label”, a patent-pending food expiry labelling innovation, invented by Solveiga while studying at Brunel University London. It is currently being developed at Central Research Laboratory, in Hayes, West London, supported by U+I, Brunel University London and HEFCE. It is a bio-reactive solution calibrated to experience decay at the same rate as the food it is labelling to provide accurate, real-time indications of the product's freshness. It will enable radical reductions in premature disposal of food by providing a more accurate indication of its “safe-to-use-by” date.

2015: Alister Smith, of Loughborough University has developed “**acoustic emission monitoring for landslide early warning**”, a means of early warning of landslides through detecting accelerations of slope movement, continuously and in real-time, by quantifying slope deformation behaviour using acoustic emission monitoring. Field trials in the UK, Italy and Canada have demonstrated proof of concept and discussions have started to commercialise the approach. This has made a significant contribution to the ALARMS (Assessment of Landslides using Acoustic Real-time Monitoring Systems) project, led by Professor Neil Dixon at Loughborough University.

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2014: Dr Thomas Povey, working at the Thermofluids Laboratory, University of Oxford he studied the heat transfer of cooking pans and as a result of his research has developed a striking new pan design which is very much more efficient than conventional pans when cooking on gas stoves. Pans manufactured to be suitable for consumer use outperform conventional pans by up to 40% in terms of overall efficiency. The pan has an integral external heat exchanger which extracts otherwise waste heat from the hot plume, resulting in greater efficiency of energy transfer to the contents of the pan. In addition to penetrating the hot waste gas, the heat exchange acts to stabilise the flame giving rise to improved flow of hot gas over the gas-washed surfaces of the pan. In a collaboration with Lakeland (UK) and Nordicware (USA), the pan was launched as a consumer product in July 2014.

2013: Caroline Hepburn for her work on “Online measurement of siloxanes by Fourier Transform Infrared (FTIR) spectroscopy: A new tool for enhancing engine protection during energy production from biogas”, the 2013 Hawley Award goes to Caroline Hepburn, of Cranfield Water Science Institute. Biogas from sewage contains siloxanes which damage the CHP engines used for energy generation. Activated carbon beds are used to remove the siloxanes, but current monitoring techniques delay warning of bed saturation and siloxane breakthrough for up to six days. Caroline has developed the use of FTIR to monitor siloxanes, which provides immediate results, resulting in significant cost savings in engine maintenance and repair.

2012: Mr Christopher Vagg, of Bath University, working with Ashwoods Automotive Limited, for his development of a driver advisory tool that reduces consumption in light commercial vehicles

2010: Mr Robert Matthews, conducting research for the Aquatest Research Programme at the Water and Health Research Centre, University of Bristol, for developing a low-cost device to help to improve the effectiveness of water-quality testing.

2009: Helen Bailey, of Aggregate Industries, for her paper on the use of waste vegetable oil as a bitumen replacement in asphalt mixtures.

2008: Mr John Robinson, for a paper that described a low cost and environmentally beneficial solution to the treatment of oil contaminated drill cuttings, of particular value to offshore oil and gas platform operations.

2007: Dr William Mayes of Newcastle University, for a paper on the use of wetlands for the treatment of highly alkaline leachates.

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Any questions:

Contact the Hawley Award Manager via Hawley.award@engineerscompany.org.uk

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