



Energy Efficiency support programmes for industry

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Overview: A competition which identifies and accelerates deployment of new energy efficient technologies (and processes) to UK industry

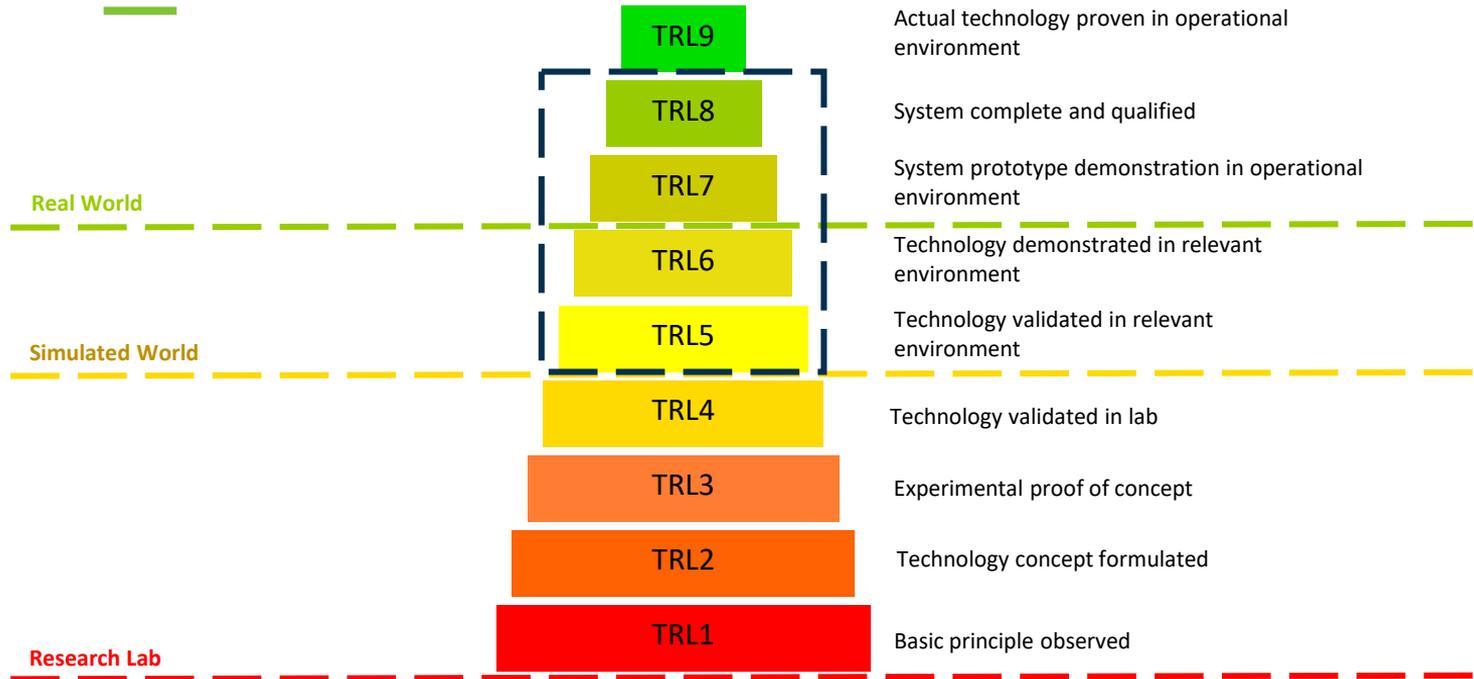
Key Objectives:

1. **Strengthen the global competitiveness of UK industry** while simultaneously delivering decarbonisation targets
2. **Deploy industrial EE technology demonstration projects** by working with project partners to mitigate risks
3. **Commercialise innovative industrial EE technologies (and processes)** through incubation support
4. **Unlock large scale private sector investment** in EE technologies

Key Information:

- **Programme value:** £9.2 million
- **Technology / sector neutral**
- **Timeline:** 4 Years (2017-21)
- **Phase 1:** £2.7 million awarded leveraging £3 million in private sector investment
- **Phase 2:** £4.7 million available
- **Over 40 applications** in total

The funding supports technologies at TRL 5 – 8 to move towards TRL9 and commercialisation



Technologies which are TRL 9 in other geographies, or other sectors, may also be considered for support

Seven innovative energy efficiency projects were selected to receive investment through the first phase

- **Low carbon multi-component cements for UK concrete applications** led by the Mineral Products Association (MPA) alongside industrial partners Hanson Cement, Forterra Building Products, and Building Research Establishment (BRE).
- **Development and trialling of *Exergyn Drive*TM for low-grade waste heat recovery** led by Exergyn alongside their industrial partner, a global engine manufacturer.
- **PRISMA Energy Storage (Peak Reduction by Integrated Storage and Management of Air)** led by Innovatium alongside industrial partner Aggregate Industries and research partner Birmingham University.
- **Replacing hot water cleaning with electrolysed cold water** led by Ozo Innovations.
- **Development and demonstration of an automatic steam boiler blowdown system** led by Spirax Sarco UK.
- **Energy efficient leachate treatment** led by LAT Water alongside industrial partner Viridor Waste Management.
- **Novel de-watering solutions within corrugated case medium (CCM) manufacture** led by Innventia alongside industrial partner, DS Smith.

Example from the Paper & pulp sector: RISE Innventia + DS Smith

Novel de-watering solutions within corrugated case medium (CCM) manufacture led by RISE Innventia alongside industrial partner, DS Smith.

- This project aims to demonstrate an enhanced ‘dewatering’ approach to CCM manufacturing in the paper and pulp industry.
- Contaminants in process water will be identified and removed, leading to improved drying rates following the removal of CCM from paper machines.
- This will deliver energy savings of approximately 10% when compared to existing drying processes, with potential on-site fuel savings of 80 million kWh annually, and strong potential to scale in the industry more widely.
- This improvement in the process water quality and the enhancement of the dewatering process would lead to other potential energy savings opportunities around the paper making process.

Initial TRL: TRL6

Targeted final TRL: TRL 8 - 9

Estimated energy and carbon savings: The project has estimated that there could be a 10 per cent reduction in direct energy consumption (for the site).

Example of waste water treatment: LAT water

Energy efficient leachate treatment: Led by LAT Water alongside industrial partner Viridor Waste Management.

- Demonstration of a Low Temperature Ambient Pressure Technology (LAT) process to treat a high ammonia content leachate stream on a landfill site.
- Process utilises heat recovered from hot flue gases from on-site biogas generators to drive the leachate treatment process.
- Thermal energy savings of > 25 per cent expected compared to existing technologies. Also reduces transport carbon emissions.
- Replication potential in many sectors, including paper.

Industrial Heat Recovery Support programme

Overview: IHRS is a competition which is designed to encourage and support investment in heat recovery technologies. This means **recovered waste heat** can be used in many ways, including:

- within the same industrial facility
- by another end-user (e.g. a heat network)
- by converting the waste heat to power

Key Objectives:

1. Helping businesses of any size to identify and invest in opportunities for recovering and reusing heat that would otherwise be wasted.
2. Increase industry confidence to invest in technologies to recover heat from industrial processes
3. Increase deployment of such technologies in England and Wales

Key Information:

- **Programme value:** £18 million
- **Technology neutral**
- **Scope:** All industrial sectors that fall into SIC 10 – 33 category, including data centres

Next application deadlines: Phase 1 and Phase 2: 31st July 2019 & 30th September 2019

Please get in touch with the IHRS delivery partner, ICF, at ihrsprogramme@icf.com

IHRS is split into 2 phases and can be funded from 3 different entry points

Phase 1

Conceptualise and define the areas where your business could reuse waste heat; assess costs and benefits

Phase 2

Delivery stage: detailed design, procurement, construction, commissioning, operation start-up and monitoring and evaluation

Feasibility study and preliminary engineering (Phase 1)

Preliminary engineering only* (Phase 1)

Detailed design and delivery (Phase 2)

IHRS funding awarded so far:

Phase 1: ~£220k awarded

- Iggesund Paperboard
- Speciality Steel UK Limited
- Wienerberger Limited
- John Wainwright & Co. Limited
- Advance Tapes International Limited
- Basell Polyolefins UK Limited

Phase 2: ~£350k awarded:

- Karro Food Limited
- Yeo Valley Farms Limited
- Solutia UK Limited

Approx £3.8m left for phase 1, and £13.3m for phase 2



Coming next: Industrial Energy Transformation Fund

BEIS are consulting on the Industrial Energy Transformation Fund (IETF).

- A £315 million fund intended to support businesses to:
 - cut their bills and emissions through increased energy efficiency
 - transition to a low carbon future through the use of lower carbon energy and processes
- Objectives: Should it focus on near-term carbon emission reductions?
- Should it promote particular technologies?
 - Long term tech eg CCUS & Hydrogen
 - Mature tech eg motors and WHR
 - New low carbon processes & products eg low carbon cement, steel? paper??
 - Tech scale up eg EAF.
- Should it support feasibility, engineering design, or capital funding?

Consultation is closed now, but feedback should still be welcome



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