

# Industrial Energy Transformation Fund Phase 3: Spring 2024 window

Further pitch presentations not shown at briefing event

[www.ktn-uk.org](http://www.ktn-uk.org)



Department for  
Energy Security  
& Net Zero

Supported by



Innovate  
UK

## Green Hydrogen Gas Applications SAS

Engineering company start up in France

3 senior experts in energy transformation

Màrges, France

Develop projects around renewable energies; offshore production of electric energy (wind and tidal), green hydrogen and green ammonia

[peter.bamberg@ghyga.com](mailto:peter.bamberg@ghyga.com)

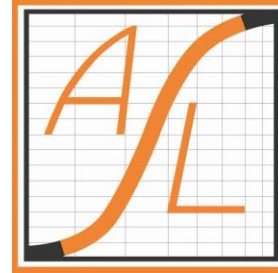
Phone: +33785408560

Your logo



<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"> <li>• Technological and managerial expertise</li> <li>• Current projects on green hydrogen &amp; ammonia</li> <li>• Tidal turbines or Archimedes screws</li> <li>• Wind turbines or ENERKITE wind system</li> <li>• Alkaline or PEM electrolyser</li> <li>• Concentration of all equipment on a upcycled Oil&amp;Gas platform</li> </ul>	<p><b>What's innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"> <li>• TRL between 4 and 8 for considered equipment</li> <li>• Wind and tidal stream kinetic energy sources exploitation</li> <li>• Offshore platform recycling is new</li> <li>• Electrolysis, storage and transport are standard</li> </ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"> <li>• Energy Efficiency</li> <li>• Industrial transformation</li> <li>• Green energies (H<sub>2</sub>,NH<sub>3</sub>, Methan)</li> </ul>	<p><b>What partners are you looking for?</b></p> <ul style="list-style-type: none"> <li>• Wind and tidal power test sites</li> <li>• General engineering companies</li> <li>• Territories interested in deployment of green energy</li> <li>• Partnership for project submission to HORIZON Europe calls</li> </ul>

# Atomising Systems Limited



We are an SME (~80 Employees) based in Sheffield, South Yorkshire.

We produce metal powders (Steels, Nickel base, Cu base) with 2 gas atomisers and 2 water atomisers. We also sell bespoke atomising equipment to others, at a variety of scales – 5kg melt up to 500kg a minute.

Tom Williamson, [TW@Atomising.co.uk](mailto:TW@Atomising.co.uk), 0114 2626200



***What expertise do you have to offer?***

- **Industrial site** – Powder manufacturing
- **Delivery of R&D projects** – Project leader on an IETF funded project, worked on other Innovate, EU and SMART grant projects.
- **Technology provider** – Atomising (gas, water, centrifugal, ultrasonic and others) of metals (Fe, Ni, Cu base in Sheffield, Al, Mg, and others for customers)
- **Supply of powder**

***What's innovative about it and where has it been deployed previously?***

- History of innovation in atomiser design and energy efficiency improvements
- Cutting edge of atomising technology

***Which IETF theme does your expertise relate to?***

- Energy Efficiency
- Resource Efficiency

***What partners are you looking for?***

- Research Centers
- End Users

B4T

### Organisation details

8x FT

Eastleigh, Hampshire

Hydrogen & Shore Power Energy Systems Technology in UK

Water Utilities and Maritime

Alex Barter

07970-222007

[alex@b4tgroup.co.uk](mailto:alex@b4tgroup.co.uk)



<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"> <li>• Access to Industrial sites with Water Utilities</li> <li>• Design and manufacture of sensors, software and datacomms</li> <li>• Design &amp; test of Green Hydrogen systems</li> <li>• Digital Twinning including data collection, analysis and visualisation</li> </ul>	<p><b>What's innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"> <li>• Our Data Systems (digital twinning etc) TRL7 are deployed in Shore Power and Hydrogen Production. We have adopted a unique Air Quality and impact on communities' outcome as our central goal</li> <li>• Our Green hydrogen production systems are TRL4 in Water Utilities, We have adopted consumer outcomes as a central goal.</li> </ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <p><b>Feasibility and engineering studies</b> for Green Hydrogen Systems in civils – use case = building Havant Thickett Reservoir</p> <p><b>Deployment of mature energy efficiency</b> scaling our digital systems (TRL 7) in live environment delivering automated, realtime decarbonisation, pollution and commercial reporting</p>	<p><b>What partners are you looking for?</b></p> <p>Electrolysis components  Hydrogen refueling systems  Gas Logistics</p>

## KoSAW for Impact

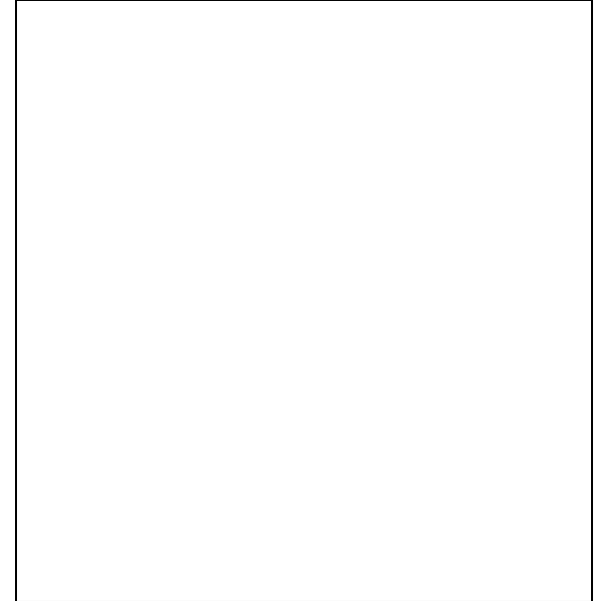
KoSAW for Impact is a not-for-profit entity that is a clearing house for technologies that support the conservation and sustainability of soil, air, water and wildlife habitat.

We are a small nucleus comprised of engineers and associated members of Indigenous Communities.

We are located in Alberta, Canada.

Presently, we are conducting research and development projects for dispatchable power generation

Darrell Kosakewich  
Executive Director  
KoSAW for Impact  
10 Montjoy Avenue  
Camrose, AB, CAN T4V2L4  
Mob: 1780.678.9155





<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"><li>• Technology provider – We have developed a system whereby existing and retired fossil fuel fired baseload power generation can be reconfigured to be emissions free and available 24/7 under one roof without the need of renewables for generation</li></ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <p>Our system is comprised of one which employs sensible heat, latent heat and thermochemical heat to replace existing fuel/energy inputs required for power generation. Currently, the system is under development for a demonstration site on First Nations land.</p>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Energy Efficiency</li><li>• Deep Decarbonization</li><li>• Baseload and Dispatchable power generation</li></ul>	<p><b>What partners are you looking for?</b></p> <p>We are seeking stakeholders in governments and industry to provide support for demonstration sites that are existing and available for reconfiguration.</p>

EY

Large professional services organisation with over 21,000 employees in the UK

Global Grants, Credits & Incentives team of 150 in the UK

UK HQ in London – global presence

Providing business services, including supporting companies to assess and access grants and incentives

Charlotte Haigh

[Charlotte.Haigh@uk.ey.com](mailto:Charlotte.Haigh@uk.ey.com)

07900 757476



<p><b>What expertise do you have to offer?</b></p> <p>EY's UK Grants, Credits and Incentives team is a group of 150 engineers, scientists and professionals dedicated to helping clients access public funding, with a strong focus on grants and other incentives designed to support energy transitions, decarbonisation, innovation and hydrogen production projects.</p>	<p><b>What's innovative about it and where has it been deployed previously?</b></p> <p>Our team is able to support projects from concept development through to application support, and also any due diligence stages required to access funding. We have a high success rate in previous rounds of SIETF and IETF.</p>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Energy Efficiency; and</li><li>• Deep Decarbonisation</li></ul>	<p><b>What partners are you looking for?</b></p> <p>We would like to meet organisations that are considering applying, and would like help to assess eligibility and chances for success (including across portfolios of projects); as well as those seeking support to draft and submitting applications.</p>

# Hive Composites Ltd

## Organisation details

- 15 employees, £3m turnover
- Based Loughborough, Leicestershire
- We develop innovative composite materials, processes and products for the energy and infrastructure sectors
- Extensive prototyping and testing facilities in our technical centre

**Peter Hansen CEng MIMechE**  
**Director**

Tel: +44(0)7941 818 320

[p.hansen@hivecomposites.com](mailto:p.hansen@hivecomposites.com)



**COMPOSITES**

Hive Technical Centre  
Unit 2, Wymeswold Business Quarter,  
Burton Lane, Wymeswold,  
Loughborough, Leicestershire,  
LE12 5BS.  
United Kingdom.



## What expertise do you have to offer?

Thermoplastic composite pipe technology – spoolable, lightweight, recyclable

- Technologies are urgently required that enable industry to switch from fossil fuels to hydrogen and deliver a decarbonised industrial and domestic sector.
- We have designed, prototyped and are currently testing and qualifying our own TCP for hydrogen distribution
- Diameters of 2” up to 8” spoolable – larger if non-spoolable
- Incorporates hydrogen permeation barrier – various technologies
- Prototyping capability for winding trial sections, tape coating line

### Testing capability

- Hydrogen permeation, exposure and rapid gas decompression testing
- Pipe burst testing, cycling pressure, constant pressure, spooling trials
- Large scale universal test machine (up to 150kN)
- Bespoke structural test frames
- NDT inspection
- Fitting/joint designs
- Sensor technologies for condition monitoring and inspection

## What’s innovative about it and where has it been deployed previously?

- Thermoplastic composite pipes (TCP) can be manufactured in lengths exceeding 2km and can be spooled onto a drum, then unspooled for rapid installation.
- TCP are attractive due their ease of installation and lower embedded CO<sub>2</sub>. Thermoplastic materials are also recyclable at end of life.
- Hive has both H<sub>2</sub> TCP IP/technology and testing capability for H<sub>2</sub> products – an enabling technology for the deployment of hydrogen networks
- Has lower embedded energy than other TCP products.
- Currently going through a comprehensive test programme with DNV under a DESNZ project in the Industrial Fuel Switching programme
- Will be installing demonstration pipes at FutureGrid, Spadeadam in May24
- Currently TRL 5/6 but TCP in general is widely used in O&G sector
- Industrial sector –any that needs hydrogen distribution

## Which IETF theme does your expertise relate to?

- Energy Efficiency
- Deep Decarbonisation

## What partners are you looking for?

- Industrial decarbonisation projects to demonstrate our novel TCP
- Projects looking to develop hydrogen distribution networks
- Projects where some further development and testing of our pipe solution can be performed – added innovation

**Industrial Energy Pioneers Ltd**

Organisation details

Size of organisation: **SME**

Location of organisation: **London, Sheffield and Cardiff**

What does your organisation do?: **An engineering consultancy specialising in energy efficiency and decarbonisation for manufacturing industries.**

Your contact details

**Dr Abhishek Asthana**

**[a.asthana@iep.technology](mailto:a.asthana@iep.technology)**

**07824896669**

**[www.iep.technology](http://www.iep.technology)**

Your logo



<p><b>What expertise do you have to offer?</b></p> <p>Expert Energy Engineers with 20+ years experience</p> <ul style="list-style-type: none"> <li>• Feasibility Studies</li> <li>• Engineering/FEED Studies</li> <li>• Turnkey Deployment Projects</li> <li>• Full project support including: <ul style="list-style-type: none"> <li>• Project delivery</li> <li>• Grant applications</li> <li>• Claims</li> <li>• Continued monitoring and reporting</li> </ul> </li> </ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"> <li>• Experience of 250+ Industrial Energy Efficiency and Decarbonisation Projects</li> <li>• <b>6 Completed/Ongoing IETF Projects</b></li> <li>• <b>2 Completed IHRS Projects</b></li> <li>• <b>100% success record with IETF &amp; IHRS (8/8)</b></li> <li>• Expertise in waste heat recovery and utilisation, power generation, fuel switching, process optimisation</li> <li>• TRL 7 to 9</li> </ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <p>Both:</p> <ul style="list-style-type: none"> <li>• Energy Efficiency</li> <li>• Deep Decarbonisation</li> </ul>	<p><b>What partners are you looking for?</b></p> <p>Looking for Industrial partners with large energy footprint looking to apply for IETF grant.</p>

# FREE AIR BATTERY (FAB)

Onsite electrical energy storage 1 to 1,000 MWh  
for Industrial & Commercial users

Sherwood Power is a North East based SME  
a solution provider for renewable electricity  
generation and storage to improve energy  
efficiency and decarbonisation through the  
electrification of everything

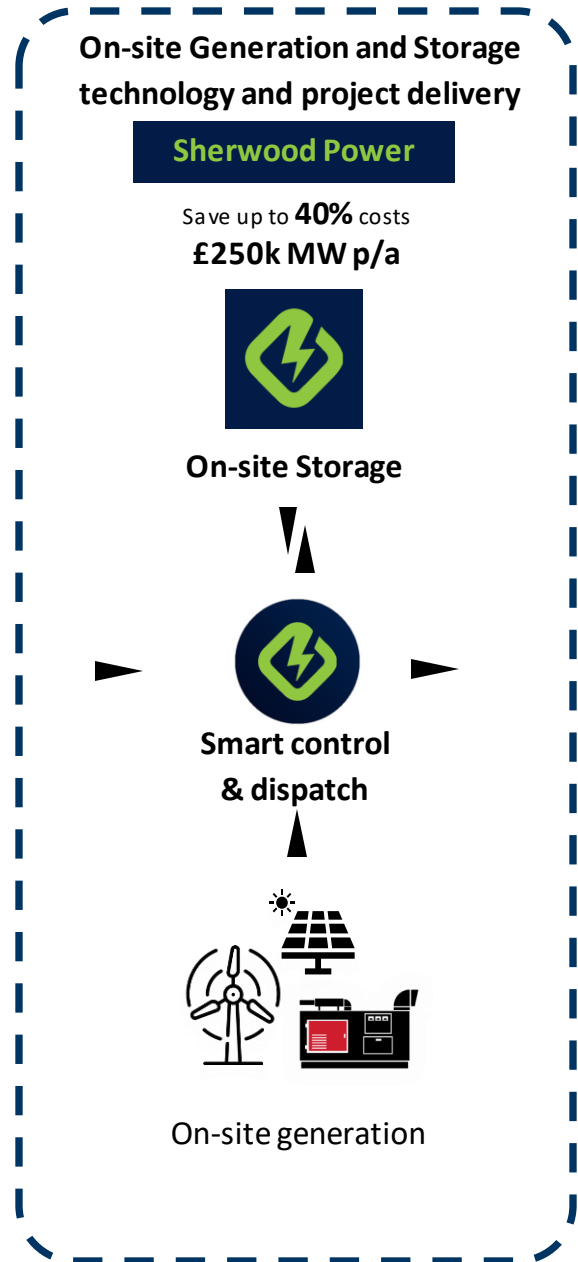
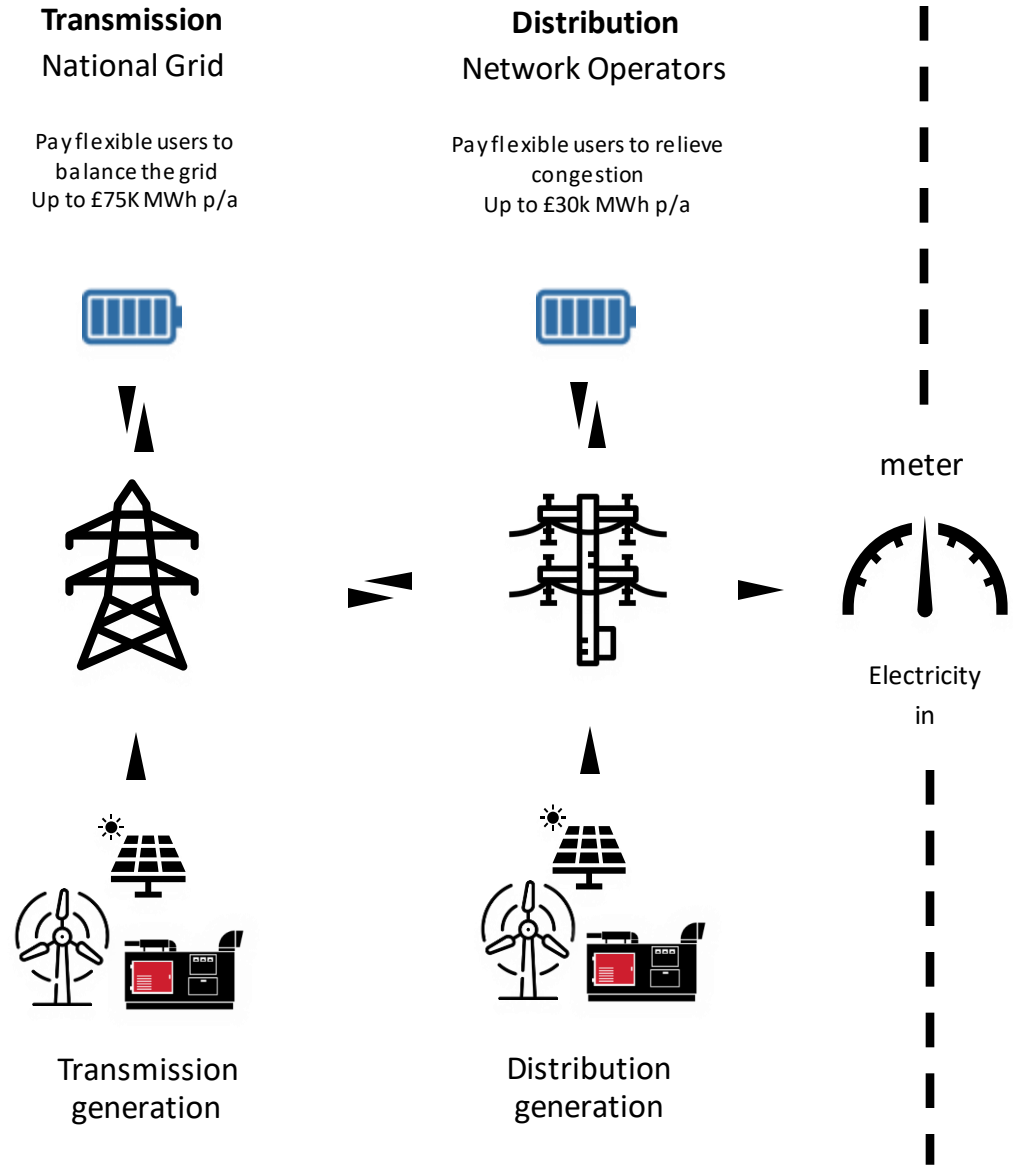
Contact: Alex Hunter  
Email: [alexh@sherwoodpower.co.uk](mailto:alexh@sherwoodpower.co.uk)



**SHERWOODPOWER**  
BALANCING ENERGY



# Market Solution On-site generation and storage



**TRL level 7**  
Primary focus Cold storage distribution, deployed at North East manufacturing site, system stores electricity as compressed air & heat energy (99%) to time shift when electricity is made & consumed

- Distribution property
- Commercial property
- Manufacturing
- Processing sector
- Public car charging
- Commercial vehicle charging

**Flexible Partners**  
Wanting to reduce electricity CO<sub>2</sub> content & cost and/or onsite low carbon generators

Wyld Networks

### Organisation details

30 Staff

Based in Cambridge UK and Brighton UK

Providing Connectivity for the Internet of Things via  
Satellite

Eric Hewitson

[eric.hewitson@wyldnetworks.com](mailto:eric.hewitson@wyldnetworks.com)

X @wyldnetworks

+44 (0)7771 962 177



<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"><li>• Satellite IoT – connecting sensors directly to low earth orbiting satellites</li><li>• Wyld Connect: Modules, modems and terminals</li><li>• Wyld Fusion: IoT network management platform?</li><li>• Other</li></ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"><li>• Unique multi satellite provider, multi sensor technology and platform</li><li>• Applicable in O&amp;G, renewables and utilities</li><li>• In trials with Chevron USA – cloud evaluation partner</li></ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Connectivity for sensors in remote locations</li><li>• Low power, low cost,</li></ul>	<p><b>What partners are you looking for?</b></p> <p>Sensor manufacturers Corporates looking to solve data and sustainability challenges Data analytics platforms</p>

Blue Marble Corporation Limited UK

Size: 1  
Location: United Kingdom  
Focus & Activity: Technologies for Climate & Sustainability

28 Watford Road, Northwood,  
Middlesex, HA6 3NT  
+917042410709  
+917290001774  
[adayal@me.com](mailto:adayal@me.com)



*Blue Marble*

## Manufacturing Technology Centre

### Company Details

- Over 900 staff and over £100M p.a. turnover.
- Located in Coventry with sites in Oxford and Liverpool
- The MTC is a Research and Technology Organisation (RTO), part of the High Value Manufacturing Catapult.
  - Focused on solving difficult problems for manufacturing sectors to enable growth and sustainability.
  - The adoption of new manufacturing technologies and solutions for competitive advantage.

### Contact Details:

[Shan.Dulanty@the-mtc.org](mailto:Shan.Dulanty@the-mtc.org)

[www.the-mtc.org](http://www.the-mtc.org)



**What expertise do you have to offer?**

- Advanced Manufacturing Technologies and planning
- Modeling and Simulation
- Additive design and Manufacture
- Advanced Laser processing
- Digital Tools and Architectures
- Systems Engineering

**What's innovative about it and where has it been deployed previously?**

- The MTC has delivered innovation across a variety of Sectors including:
  - Aerospace
  - Power and Energy
  - Agri tech and food
  - Built Environment

**Which IETF theme does your expertise relate to?**

- Energy efficiency in Electrification, Hydrogen and Nuclear Sectors
- Deep Decarbonisation in materials processing and circular economy.

**What partners are you looking for?**

- MTC can support proof of concept and business case through modeling and simulation
- MTC can enable higher functionality of equipment through design, Additive Manufacturing and surface micro modification.

## ESB Energy Business Solutions

For over 90 years we have provided our customers with safe, reliable energy. As part of Ireland's Electricity Supply Board, we brought the transformative power of electricity to the most remote parts of the country.

Since 1927 our business has grown from electricity generation, transmission, distribution and supply, into a total energy Company. Today, we deliver our energy expertise and technology to over 120 countries around the world.

We have invested over £3 billion in the UK's energy infrastructure since 1992. From the Corby and Carrington Power Stations, to the Galloper Offshore Wind Farm and the Tilbury Green Power Plant, we have worked tirelessly to bring efficient, renewable energy online.

Email us at

[smartenergyservices@esbenergy.co.uk](mailto:smartenergyservices@esbenergy.co.uk)

Visit us at [www.esbenergy.co.uk](http://www.esbenergy.co.uk)



Through a collaborative approach we offer a range of energy solutions for large energy users with a focus on engineering, project management and assets using scalable models.



## What's innovative about it and where has it been deployed previously?

- Our partnership with Transport for London has driven sustainable change by creating a next-generation charging infrastructure for Electric Vehicles.
- At the world-first £120m greenhouse project, ESB Energy was responsible for providing an innovative energy solution. This included the installation of the largest installed capacity of heat pumps in the UK. The open-loop heat pump solution transfers heat from the nearby water recycling centre to the greenhouses, with the additional benefit of cooling the facility's treated water outflow before it is returned to the environment.
- Ongoing projects will bring even more sustainable energy solutions online over the coming years.

## Which IETF theme does your expertise relate to?

- Energy Efficiency
- Deep Decarbonisation

## What partners are you looking for?

Universities & Colleges  
Manufacturing  
Transport & logistics  
Retail  
Data centres



TAE Power Solutions

### **Organisation details**

250+ employees

UK (West Midlands) + offices in Prague/Ljubljana

Development and manufacture of battery energy management solutions for the stationary storage and e-mobility markets

### **Your contact details**

Peter Scanes; Head of Research  
and Collaborative Projects

[pscanes@tae.com](mailto:pscanes@tae.com)



<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"><li>• Technology provider for battery energy storage and UPS system development and integration.</li><li>• Uses TAE's patented "ACi" technology for high system efficiency and improved battery life</li><li>• Design, manufacture and system supply</li></ul>	<p><b>What's innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"><li>• "ACi" based system is currently at TRL6, for commercial and grid scale deployment</li></ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Energy Efficiency</li></ul>	<p><b>What partners are you looking for?</b></p> <p>Industrial organisations seeking to improve energy efficiency through the utilization of on-site battery energy storage, electrified power management</p>

Satelytics



## Organisation details

40 People+ HQ: Perrysburg, Ohio, UK: Oxfordshire / Cheshire

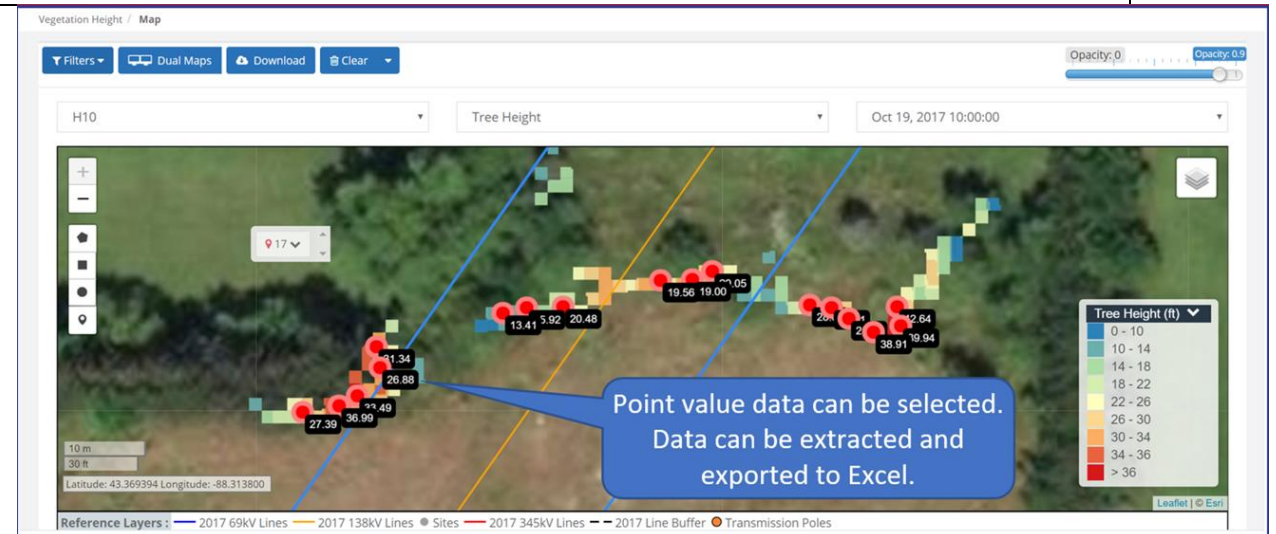
Satelytics is a software company producing geospatial analytics for early detection, location and quantification of our customers' most pressing challenges. Protecting Assets and Infrastructure:- Reducing Risk, Optimising Operational Efficiency and Maximising Revenue

Paul Rollason

Satelytics

[Paul.Rollason@satelytics.com](mailto:Paul.Rollason@satelytics.com)

07779 080853



## What expertise do you have to offer?

- Technology provider – Using Satellite Imagery & AI to replace manual inspections / helicopters / drones - for the monitoring of Electricity, Gas, Water, Mining, Forestry, Oil & Gas - Assets / Infrastructure.
- Possible new uses?

## What's innovative about it and where has it been deployed previously?

- Provides surveillance for huge areas of infrastructure in less than 1 hour / results in a few hours / 40+ Analysis (simultaneously)
- US / Global: Electricity, Gas, Water, Oil & Gas, Mining, Forestry, Agriculture

## Which IETF theme does your expertise relate to? – “Deep De-carbonization”

### Our Algorithms



## What partners are you looking for?

- Environmental Consultants, Arborists
- Suppliers to Electricity and Gas Utilities
- Asset Management Contractors
- Water Industry Suppliers
- Waste-water Industry Suppliers
- Suppliers to Oil and Gas
- Suppliers to Mining

## Urbanomy

### Organisation details:

- Size of organisation: *20 people*
- Location of organisation: *Offices in London & Paris*
- What does your organisation do?

### Strategic Energy & Climate Consulting:



**Decarbonisation Pathways:** We develop clear strategies and practical pathways for organisations to achieve their decarbonisation goals



**Climate Strategies:** We support organisations on topics such as climate risk (resilience and adaptation), regulations, reporting / disclosures, life cycle analysis and biodiversity.



**Energy Masterplanning:** We model and evaluate energy systems and technologies to support the development of low- or zero-carbon districts and communities.

Benjamin Mousseau, CEO and Co-Founder  
[Benjamin.Mousseau@urbanomy.io](mailto:Benjamin.Mousseau@urbanomy.io)  
+44 7824 863 512



Shirin Shah, Decarbonisation Principal  
[Shirin.Shah@urbanomy.io](mailto:Shirin.Shah@urbanomy.io)  
+44 7765 336 594



## What expertise do you have to offer?



Decarbonising  
Industrial  
processes



Net Zero  
pathways



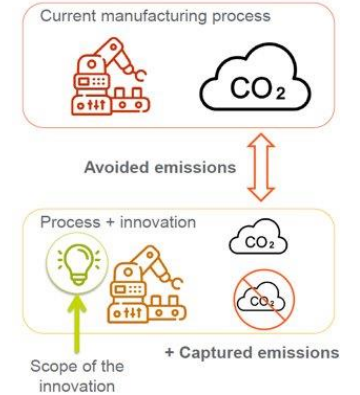
Energy  
Masterplanning

## What's innovative about it and where has it been deployed previously?

Client: 

EIT engaged Urbanomy to develop a carbon and sustainability assessment methodology for technology start-ups, covering:

- Sustainability aims and impact
- Environmental sustainability
- Social sustainability



## Which IETF theme does your expertise relate to?



**Energy Efficiency** – We are experts in advising on optimal energy systems that focus on efficiency improvements and reducing carbon overall intensity.



**Deep Decarbonisation** – We can advise on the deployment of technologies that contribute to the decarbonisation of industrial processes.



**Electrification** – We can assist in the shift to electrified processes.

## What partners are you looking for?

We are looking to work with organisations in the manufacturing sector.

Some particular focus areas include:



Automotive



Food & Drink



Pharmaceutical

ena development consultants

SME

Xanthi, Greece

Communication and Dissemination Use cases, IPRs and Exploitation, Market Analysis, Business Plan, LCA, s-LCA, Social Acceptance Analysis, ESG reports, Field surveys, Replication of results.

Mr Manolis Tsantakis

manolis.tsantakis@enateam.gr

+30 6944 83 51 51

Greece

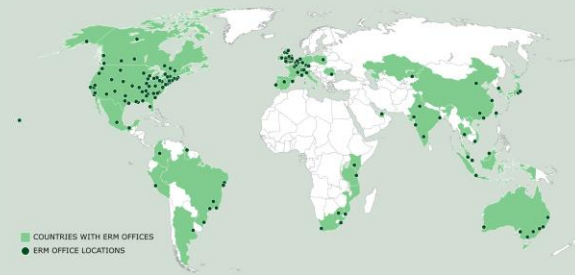


<p><b>Expertise</b></p> <p><b>Proposal writing stage:</b> Project’s pathways towards impact; Measures to maximize impact – Communication, Dissemination and Exploitation; IPRs management; Pathways to impact table: C &amp; D &amp; E measures; Target groups definition; Work package description; Critical risks for implementation; Business case or business plan.</p> <p><b>Implementation stage:</b> Communication &amp; Dissemination Plan, Communication Pack Development, Day-to-day communication, Events organization, Use case monitoring, IPRs and Exploitation Strategy, Market Analysis, Business Plan, LCA, s-LCA, Social Acceptance Analysis, ESG reports, Field surveys, Replication of results.</p>	<ul style="list-style-type: none"> <li>• Pilots / use cases monitoring</li> <li>• Dissemination</li> <li>• Exploitation</li> <li>• Business plan</li> <li>• LCA, s-LCA</li> <li>• Social sciences and humanities</li> <li>• Behavioural analysis</li> <li>• Social acceptance analysis</li> </ul>
<p><b>IETF theme relevant</b></p> <ul style="list-style-type: none"> <li>• Energy Efficiency</li> </ul>	<p><b>Seeking roll as a Partner for tasks:</b></p> <ul style="list-style-type: none"> <li>- IPRs</li> <li>- Commercial exploitation</li> <li>- Dissemination</li> <li>- LCA, s-LCA</li> <li>- Social Sciences and Humanities</li> </ul>





Will France  
Will.France@erm.com



**8000+**  
Professionals

**40**  
Countries & territories

**Climate change consulting Leader**  
Verdantix Green Quadrant 2023

**150+**  
Offices

**50+**  
Years of experience

**#1**  
Sustainability service provider – HFS 2022

## We are the world's largest pure play sustainability consultancy

Founded in 1971, we are the largest advisory firm in the world focusing solely on sustainability, offering unparalleled depth and breadth of expertise.

## What expertise do you have to offer?

• Strategic support



• Application writing



• PMO services



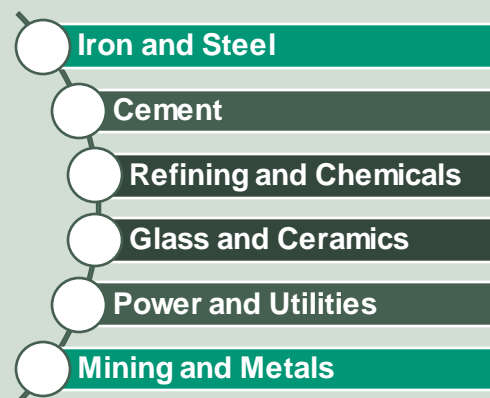
## What have we done before?

- We have secured >€1.2bn across Europe and the UK since 2014.
- We have successfully supported clients in previous iterations of IETF
- Other UK experience includes IFS, Cluster Sequencing, NZHF and Hydrogen Supply competitions.



## Which IETF theme does your expertise relate to?

We can provide support across all IETF themes, with expertise in:



### Equinor – UK Strategy support

- Assessed the potential of hydrogen and CCS at a UK level
- Mapped out potential CO<sub>2</sub> and hydrogen off-takers in the Humber cluster
- Blueprint for the H<sub>2</sub>H Saltend flagship project



### Scotland CCUS roadmap

- Examined the CCS potential across Scotland, examining opportunities for industry, blue hydrogen production, carbon removals, and power CCS.
- Detailed techno-economics of the costs of decarbonisation.
- Strategy advise to the Scottish Government for implementation.

### ieaghh Assessment of carbon capture technologies

- Engaged with over 15 carbon capture technology providers.
- Computed the economics of carbon capture in industry and power generation.
- Assessing the air quality implications of carbon capture technologies.

### UK Industrial decarbonisation net-zero pathway

- Assessed the technology required for achieving net-zero in industry by 2050, including CCS, hydrogen and electrification
- Modelled over 150 industrial sites in the UK and interviewed over 30 stakeholders
- Developed best in class techno-economic data on industry

### Phillips 66 Humber Refinery

- Support with the development of carbon capture project
- Development of the Gigastack project, green hydrogen for refining
- Assessment of market opportunities for hydrogen



### Humber Industrial Cluster Plan

- Developing the regional strategy for the largest industrial cluster in the UK (over 14 MtCO<sub>2</sub>/year)
- Building a techno-economic tool and designing pathways to net-zero by 2040.
- Investigating the market and policy challenges for CCS and hydrogen uptake.

Sheffield Hallam University

### Organisation details

Size of organisation: 250+ employees

Location of organisation: Sheffield

What does your organisation do? -

### Your contact details

Sheffield Hallam University,  
Sheaf Building,  
Room 4104 (Dr Mukesh Goel)

[Mukesh.goel@shu.ac.uk](mailto:Mukesh.goel@shu.ac.uk)

Your logo

**Sheffield  
Hallam  
University**

**What expertise do you have to offer?**

**Extensive knowledge of Aspen plus  
Experience in Technoeconomic  
analysis/Feasibility studies  
working knowledge of Life cycle analysis**

**What's innovative about it and where has it  
been deployed previously?**

- **Development of Energy-Efficient Waste Treatments.**
- **Investigation on H<sub>2</sub> production, bio-oil, and biochar from wastes.**
- **Simulation on decarbonisation/Techno-Economical Assessment.**
- **Energy mapping from food processing industries**

**Which IETF theme does your expertise relate to?**

- **Energy Efficiency**
- **Deep Decarbonisation**

**What partners are you looking for?**

Industries interested in **Technoeconomic analysis/Feasibility studies**

## On-Site Energy Ltd

We work with energy-intensive manufacturers to reduce CO2 and energy costs through the design and delivery of innovative energy projects. We are not a technology vendor, instead we review the full suite of technologies and choose a holistic solution that will have the best result on CO2 emissions and the P&L. £20m of projects delivered, £70m in pipeline for 2024.

12 employees (soon to be 15)

<https://on-site.energy/>

On-Site Energy Ltd, 1 Old Hall St, Liverpool, UK, L3 9GH.

George Salter

[gs@on-site.energy](mailto:gs@on-site.energy)

07760 724906



<p><b>What expertise do you have to offer?</b></p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• Industrial site – Energy-intensive manufacturing sites</li> <li>• Support Services – Project design, project delivery, asset management and maintenance</li> <li>• Technology provider – N/A</li> <li>• Our team has a strong background in identifying and delivering innovative energy technologies for industrial manufacturers.</li> </ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <p>Although we are not a technology vendor, we do work closely with innovative technology providers including onsite hydrogen generation (not through electrolysis), HVAC, mechanical energy generation.</p>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"> <li>• Energy Efficiency</li> <li>• Deep Decarbonisation</li> </ul> <p>We deliver both energy efficiency and decarbonisation projects.</p>	<p><b>What partners are you looking for?</b></p> <p>Our service is tailored towards energy intensive manufacturing industries/companies (Chemical, Food, Automotive, Pharma, Data Centres, hard-to-abate) with an annual spend of &gt; £1.5m on energy.</p>

Pluss Advanced Technologies B.V.

### Organisation details

Size of organisation            9 FTE

Location of organisation    Netherlands 'S Hertogen Bosch

What does your organisation do?

- Research & Development,
- Production and distribution of Phase Change Materials.

### Your contact details

Pluss Advanced Technologies B.V.

Helftheuvelweg 11

5222AV 'S Hertogen Bosch

Netherlands tel +31850604828

pcm@plussat.eu

Your logo



<p><b>What expertise do you have to offer?</b></p> <p>e.g.</p> <ul style="list-style-type: none"><li>• Industrial site –Construction, post harvest, energy, wholesale and retail</li><li>• Support Services –Tailormade products for specific industry needs.</li><li>• Technology provider – Thermal energy storage using PCM</li></ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"><li>• TRL 7 and higher</li><li>• Industrial sector Buildings, datacenter coldstorage, warehouses, etc.</li></ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Studies</li><li>• Energy Efficiency</li><li>• Deep Decarbonization</li></ul>	<p><b>What partners are you looking for?</b></p> <p>Developers, building design consultants, heatpump manufacturers, retailers, wholesalers, transportation companies, cold storages.</p>



## CoolSky Ltd

CoolSky is a:

- Micro Organisation
- Based in Northern Ireland but serving all of the UK and Ireland
- We specialize in Design, Specification and Research & Development in Solar Thermal and Renewable Heating Technology?

### Contact Details

Kathy McVeigh  
Managing Director  
CoolSky Ltd  
42 Milecross Rd, Newtownards  
BT23 4SR  
Email: [kathy.mcveigh@cool-sky.co.uk](mailto:kathy.mcveigh@cool-sky.co.uk)  
Tel: 07912650226



## What expertise do you have to offer?

e.g.

- Heating for manufacturing operations such as food processing, textiles with a high heat demand.
- CoolSky provides System specification, design, supply and installation with a partner organization.
- The Technology offered is solar thermal heating and hot water production for industrial process heat.

## What's innovative about it and where has it been deployed previously?

- Solar Heat for Industrial Processes (SHIP) is a developing technology with proven case studies globally – (see [IEA SHC || Technology Position Papers \(iea-shc.org\)](https://www.iea-shc.org/technology-position-papers) ). Projects have rarely been implemented within the UK. Each project will be innovative, specifically designed for the process, temperature requirements and application and can include aspects such as storage. Solar Heat is often integrated and combined with other heating technologies and is easily retrofitted.

## Which IETF theme does your expertise relate to?

- Solar Thermal Heat relates to Deep Decarbonisation and enables a CO2 free heat supply with subsequent reduction in emissions and fossil fuel usage. Together with expertise in solar and renewable energy, CoolSky can design bespoke controls to suit each application or project.

## What partners are you looking for?

- Manufacturers with a requirement for heat/hot water.
- Specifiers

## Q Sustain Ltd.

Size of organisation: 5

Location of organisation: Manchester, UK

Q Sustain Ltd is an independent award-winning specialist SME consultancy to the built environment, offering strategic support, design, consultancy and project management of whole turnkey schemes from concept to commissioning across many sectors:

- Building Services Engineering
- ICT & Smart Stations
- Energy Efficiency Technical Studies
- Project Management Services
- Sustainability
- Low Carbon Technology
- Air Quality
- ESG

With a well-established track record within large strategic sustainable developments, such as in the rail industry and large public sector clients such as Network Rail and Oxford City Council, Q Sustain is able to deliver key deliverables with ambitious first of a kind sustainability achievement.



Your contact details:  
Azhar Quaiyoom  
Director, Q Sustain Ltd.  
[azhar@qsustain.co.uk](mailto:azhar@qsustain.co.uk)  
+44 7804 877887

**What expertise do you have to offer?**

We are specialists in built environment sustainability providing expertise in Energy Efficiency and Decarbonisation feasibility projects along with Project Management in Low Carbon large scale projects. We have developed an App and dashboard that can be used to capture and calculate embodied carbon in construction projects normally ignored, and thus obtain whole life carbon values to help projects offset to whole carbon neutral projects.

**What's innovative about it and where has it been deployed previously?**

- TRL - 7
- Industrial sector – Built sectors

**Which IETF theme does your expertise relate to?**

- Energy Efficiency
- Deep Decarbonisation

**What partners are you looking for?**

We are looking to partner on projects that can use our expertise on sustainability and carbon calculations (embodied and operational) on medium to large scale decarbonisation projects.

CFMS Service Ltd

- CFMS is based in the Bristol and Bath Science Park and has 35 employees.
- We provide technical digital engineering expertise and compute helping organisations design, manufacture and operate better solutions, faster.
- We specialise in advanced multi-physics, process optimisation, autonomous robotics, AI, and engineering collaborative virtual environments and compute through access to our secure, on-site high performance data centre.

Olivier Ayache  
olivier.ayache@cfms.org.uk



**What expertise do you have to offer?**

- System and process modelling enabled by our on-site, secure data centre reducing
  - Gantry movements, earth movement using transport vehicles, warehousing factory size, robotic and conveyors needed
- Access to a secure, on-site data centre to enable optimisation & modelling

What's innovative about it and where has it been deployed previously?

- TRL 7+
- Industrial sector:
  - Aerospace factories
  - Rail construction sites

**Which IETF theme does your expertise relate to?**

- Energy Efficiency
  - By optimising workflows and reducing the distance goods travel, energy usage is reduced

**What partners are you looking for?**

- Partners who wish to:
  - Make use of a data centre to carry out secure collaborative work & use of compute
  - Optimise their factory processes to reduce energy using CFMS's expertise in this domain

## Spooner Industries Limited

Thermal Process Equipment Manufacturer and Technology Supplier.

Size of organisation SME – 160 staff

Location of organisation - Ilkley, West Yorkshire

What does your organisation do?

Spooner Industries design and manufacture thermal equipment for industrial processes around the world. This includes ovens and dryers for food, technical coatings on paper, card and metallic substrates.

We compliment this with emission abatement solutions to eliminate VOCs or odours .

We support industry by offering 90 years of knowledge and experience to identify ways to improve efficiency of Thermal Systems, saving & recovering energy and providing ways to reduce carbon fuel use and environmental impact.

Your logo



Your contact details

David Cassingham

Sales & Marketing Director

dcassingham@spooner.co.uk

## What expertise do you have to offer?

- **Support Services** – Full Process design, detailed Electrical controls and mechanical design, CAD, project management and delivery.
- **Industrial site** – Fabrication and R&D Test Facility
- **Technology provider** – Ovens, Dryers, Thermal Oxidation. Hybrid or Multi-fuel systems (Gas, Electric Etc.). Hydrogen Fired systems.

## What's innovative about it and where has it been deployed previously?

- Every Site and System we encounter is unique and requires a bespoke application of technology.
- Switching of energy sources whilst in production.
- **TRL 6 – 9** - depending on product and industry.
- **Industrial sector** – All sectors using thermal processes for Baking, Curing, Drying and/or require emission abatement.

## Which IETF theme does your expertise relate to?

- **Studies** – Equipment and process inspections identifying energy saving or efficiency opportunities in thermal processes across an industrial site.
- **Energy Efficiency** – Optimization and upgrades to use lower carbon energy where feasible or recover energy for re-use elsewhere in the Plant.
- **Deep Decarbonisation** - development of electric and hybrid systems and deployment of hydrogen fuelled equipment.

## What partners are you looking for?

We would like to work with Manufacturers and Industrial Process owners that wish to deploy technology to decarbonize and improve efficiency of their Thermal Systems and/or reduce fugitive emissions.



Stoli Chem

Organisation details:

Size of organisation: Small (10)  
Location of organisation: Midlands, UK  
What does your organisation do?  
Flow chemistry from gram to kiloton.  
Equipment and process development

Dr Nikolay Cherkasov,  
[n.cherkasov@stolichem.com](mailto:n.cherkasov@stolichem.com)



<p><b>What expertise do you have to offer?</b></p> <p>Technology provider: Multipurpose &amp; Scalable Flow Reactors</p>	<p><b>What's innovative about it and where has it been deployed previously?</b></p> <p>Lab scale – commercial Pilot scale – close to commercial Production (kiloton+) – to develop &amp; test</p>
<p><b>Which IETF theme does your expertise relate to?</b></p> <p>Energy Efficiency - Improve Yield, Throughput, Quality - Reduce Energy and Waste</p>	<p><b>What partners are you looking for?</b></p> <p>Chemical Manufacturers: Agrochemical Fine Chemical Contract Manufacture</p>



- **About your company**

- **Who are you?**
  - Veolia
- **What is your business?**
  - Veolia is aiming to become the benchmark company for ecological transformation. As the UK leader in resource management, we provide a comprehensive range of waste, water and energy management services designed to build the circular economy and protect the environment.
- **Are you an SME, Large business or research organisation?**
  - Large business

- **Contact details**

- **Ross Winkworth**
- [ross.winkworth@veolia.com](mailto:ross.winkworth@veolia.com)
- **07827273803**

WATER



WASTE



## 1. The services you can offer?

1. Identification, development, studies & delivery of energy saving projects
2. Project management of deep decarbonisation and/or energy efficiency projects
3. Design, Build, Operate & Maintain

## 3. Examples of projects we can support in relation to the IETF

- (O&M) of low carbon systems and infrastructure
- Heat exchangers to capture waste heat
- Heat recovery systems including steam temperatures
- Equipment upgrades, e.g. burner, economisers, chillers, VSD's, AHU, LTHW etc
- Control system upgrades
- Fuel switching (hydrogen, NG, biomass, biogas, waste energy, waste fuel)
- Carbon capture and storage

## 2. Successful supported funding applications

1. Public Sector Decarbonisation Scheme (PSDS) securing over £85M to date.
2. Heat Networks Investment Project (HNIP) and Green Heat Network Fund (GHNH) combined over £20M

## 4. The partners/services you seek?

3. Partner in Solvent Cluster Local Industrial Decarbonisation Plan
- Industrial sites looking to identify potential eligible projects
- Industrial sites requiring support on IETF project applications and delivery
- Technology providers looking for O&M support in IETF applications

UKRI – ISIS Neutron and Muon Source

### Organisation details

Size of organisation - 300+ Scientists/Engineers

Location of organisation - Harwell Campus, Oxfordshire

What does your organisation do? Advanced materials analysis using neutron scattering

### Your contact details

Dr Graham Appleby

e: [graham.appleby@stfc.ac.uk](mailto:graham.appleby@stfc.ac.uk)

P: 07564 837 534

w:

<https://www.isis.stfc.ac.uk/Pages/home.aspx>

Your logo



ISIS Neutron and  
Muon Source

<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"><li>• UK National Lab at Harwell Campus</li><li>• Technology provider – materials characterization using radiation scattering, diffraction, spectroscopy, tomography</li><li>• 100+ materials science experts interested in collaborating with new partners</li><li>• Funding opportunities and project delivery</li></ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"><li>• Neutrons can penetrate heavy objects and are sensitive to light elements</li><li>• TRL 1 – 9</li><li>• Battery development</li><li>• Photovoltaics characterization</li><li>• Structural integrity of welds</li><li>• NDT of complex objects</li></ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Energy Efficiency</li><li>• Deep Decarbonisation</li></ul>	<p><b>What partners are you looking for?</b></p> <p>Industry developing batteries, photovoltaics, advanced fusion technology, advanced fission technology, with problems to solve using advanced materials analysis techniques</p>

## SSE Energy Solutions

SSE Energy Solutions are a localised energy infrastructure investor and operator.

Our **Whole Systems Thinking** approach accelerates the transition to net zero and creates a more resilient and sustainable energy system for industry and places.

SSE plc are investing £9M a day on low carbon infrastructure via our **Net Zero Acceleration Programme**

Maria Brucoli  
Head of Research and Innovation  
[maria.brucoli@sse.com](mailto:maria.brucoli@sse.com)



**What expertise do you have to offer?**

- Invest, develop, build and operate energy infrastructure assets
- Energy and Heat as a service models
- Behind the Meter distributed energy and storage
- Private wires and private energy networks
- Low-carbon heating and cooling solutions
- Digital and flexibility platforms

**What's innovative about it and where has it been deployed previously?**

- Deep experience in developing and delivering large complex projects for a variety of industrial clients.
- Dedicated Innovation team works closely with industrial and academic partners.

**Which IETF theme does your expertise relate to?**

- Energy Efficiency
- Deep Decarbonisation

**What partners are you looking for?**

- Industrial sites considering an Energy Partner to tackle decarbonisation challenges with.



## PETRONAS

Established in 1974, PETRONAS is a Fortune 500 National Oil Company for Malaysia with presence in more than 100 countries, 2022 revenue of ~USD83B.

Around 50,000 employees

Head Quarters: PETRONAS Twin Towers Malaysia

PETRONAS is transforming into a company offering cleaner solutions and lower carbon energy, with strong commitment on Net Zero Carbon Emissions (NZCE) target by 2050.

**Dr Geetha Srinivasan**, CChem, CSci, FRSC, FHEA  
Principal Scientist R&D Chemistry,  
PETRONAS  
Room no: 2.009, David Keir Building, Stranmillis Road,  
Belfast BT95AG  
United Kingdom  
Telephone: 0044 (0)2890971253

**PETROLIAM NASIONAL BERHAD (PETRONAS)**

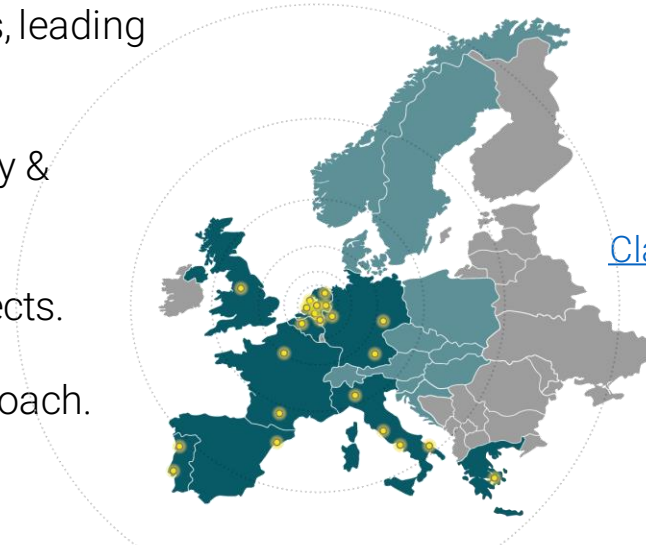


<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"><li>• Technology Provider – Clean Hydrogen Production and Refueling Station</li></ul>	<p><b>What’s innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"><li>• TRL6</li><li>• Sarawak, East Malaysia</li></ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Deep Decarbonisation</li></ul>	<p><b>What partners are you looking for?</b></p> <ul style="list-style-type: none"><li>• Industries looking into hydrogen for decarbonization and transportations</li><li>• Renewable Powers</li></ul>

# PNO CONSULTANTS LTD



- ✓ European market leader in funding and innovation services
- ✓ Extensive client base of high-tech SMEs, Multinational Enterprises, leading Universities and Research Centres.
- ✓ Active across all industry sectors including ICT, Clean Tech, Energy & Environment, Life Sciences & Healthcare.
- ✓ €1 Billion of public funding attracted each year for innovation projects.
- ✓ Service across the entire grant acquisition process – holistic approach.
- ✓ Client driven and tailored approach.



## CONTACT

**Dr Claire Flanagan**

Senior Innovation Consultant  
UK team (Manchester office)

[Claire.Flanagan@pnoconsultants.com](mailto:Claire.Flanagan@pnoconsultants.com)



**35+**

years of  
experience



**8**

countries  
with offices



**2K+**

organisations  
supported



**10K+**

parties in  
network



**€1Bn**

total project  
value

## Entropic Solutions Ltd

1-5 people

Based in the north-west of England

Entropic Solutions manages research, R&D, and business development projects in the water and energy sectors, with a particular focus on green gases and net zero.

Alison Ireland  
Managing Director  
[alison@ai-randm.com](mailto:alison@ai-randm.com)  
+44 (0)7973 404560

ENTROPIC  
SOLUTIONS  
WATER + ENERGY CONSULTANCY

<p><b>What expertise do you have to offer?</b></p> <ul style="list-style-type: none"><li>• Large-scale commercial bakery</li><li>• Hydrogen technology experience &amp; expertise</li><li>• Project management and delivery</li><li>• Industrial decarb feasibility experience in food &amp; drink sector</li></ul>	<p><b>What's innovative about it and where has it been deployed previously?</b></p> <ul style="list-style-type: none"><li>• Bakery and bread decarbonization has not been tackled so far via a hydrogen fuel-switch solution in the UK. We want to investigate a solution which can align with the future trajectory for the UK gas grid, and also link backwards to the supply chain (wheat drying and farming), as well as forward (logistics), and we want to establish what technologies can impact scopes 1,2 and 3 emissions.</li><li>• In Austria, Bilfinger has built an electrolysis plant to power fuel cell trucks and bakery for supermarket chain, MPREIS.</li></ul>
<p><b>Which IETF theme does your expertise relate to?</b></p> <ul style="list-style-type: none"><li>• Deep Decarbonisation</li></ul>	<p><b>What partners are you looking for?</b></p> <ul style="list-style-type: none"><li>• Technology partner – energy system modelling</li><li>• Technology partner - hydrogen &amp; electricity storage</li></ul>

**What we do:** we are a sustainable energy solutions **technology provider** deploying our proprietary **advanced gasification technology, a form of Advanced Conversion Technology** with specialist development capability to convert waste and biomass-based feedstocks into advanced energy vectors efficiently and cost-effectively

**Medium enterprise:** a rapidly growing innovative and emerging technology company, UK based

**Theme we address:** deep decarbonisation

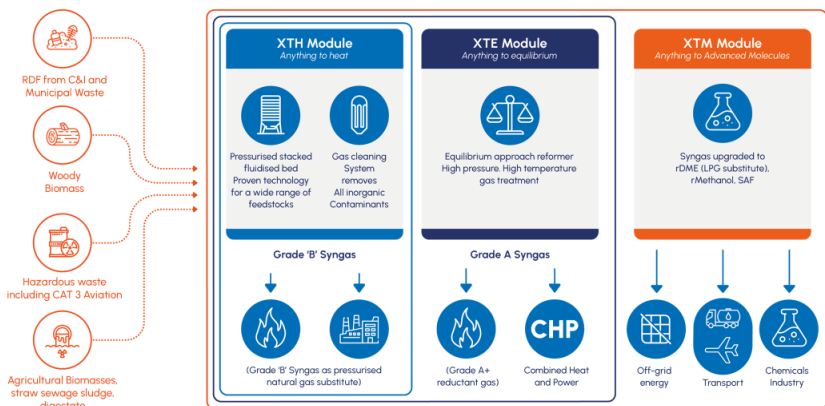
**Partners we're looking for:** industrial clients looking for industrial fuel switching solutions



Amna Bezanty  
[Abezanty@kew-tech.com](mailto:Abezanty@kew-tech.com)

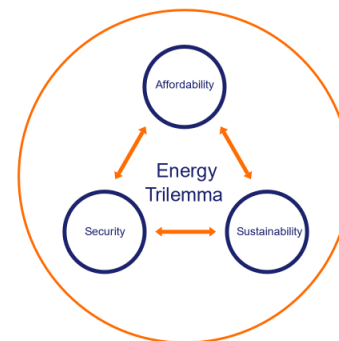
Sandish Kaur  
[SKaur@kew-tech.com](mailto:SKaur@kew-tech.com)

**Our technology: unique high-pressure module solution for low risk & cost-effective energy applications**

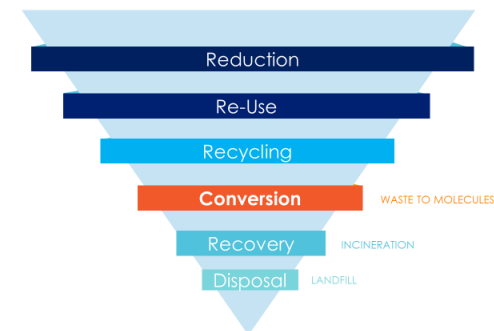


- ✓ Large target customer market
- ✓ Pathway to wide basket of energy molecules including advanced fuels and chemicals
- ✓ Future proofing infrastructure through the energy transition
- ✓ Commercial scale validation at our flagship Sustainable Energy Centre
- ✓ Carbon capture ready

We are at the heart of two major parallel market (r)evolutions



The Energy 'Trilemma'



Creating a 'circular' waste hierarchy (our focus: keeping chemical energy as chemical energy)

Delivering a world beyond fossil fuels



**£50m invested in our commercial-scale R&D Facility**

**Unique validation of our technology credentials :**

- ✓ Unparalleled technology performance validation and optimisation at our Sustainable Energy Centre – our full scale plant (template for our module design)
- ✓ Unique 'live-environment' to engage key stakeholders
- ✓ 'Live' R&D projects will produce DME, F-T Liquids and hydrogen from waste
- ✓ Two dedicated CCU demonstrations to support our Net Zero credentials (one delivered in 2022 and one in 2024)
- ✓ Real world operator training 'live' environment and remote monitoring



## Epcon Evaporation Technology AS

EPCON supplies turnkey MVR evaporation and heatpump plants within several industries based on Mechanical Vapor Recompression. We are also a system integrator and optimize the client's ROI with our custom-made solutions.

25 staff

HQ in Trondheim, Norway

UK contact:

Martin Blindheim

Energy Growth Partners Limited

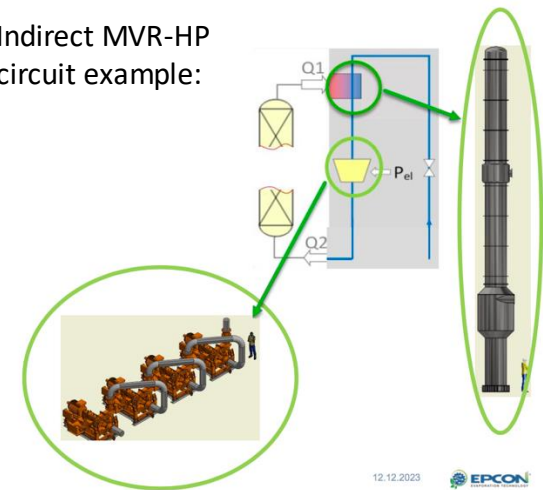
[mb@energy-gp.com](mailto:mb@energy-gp.com)

07769 741 519



[www.epcon.org](http://www.epcon.org)

Indirect MVR-HP  
circuit example:



12.12.2023



## What we offer:



- Technology provider + services for Mechanical Vapour Recompression (MVR) evaporators, heat recovery solutions and heat pumps
- Heat source 50-200°C, supply 60-210°C
- Pharma, chemicals, food & ingredients, pulp & paper, other thermal industrial processes

## What's innovative, and where it is deployed:

- TRL 9 – proven in many operational plants in the Nordic region, Ireland, North America...
- Evaporation plants and MVR heatpumps
- Nordic #1 in MVR with 38 years experience
- Tailored for max Coefficient Of Performance
- Scalable up to 100 MW energy output

## IETF themes:

- Energy Efficiency: For example replace 4.8 MW boiler with 620 kW electric multi-stage MVR heat-recovery (utilise process waste heat in distillation); 7.7 COP
- Deep decarbonisation: Replace gas boiler, or incorporate heat recovery in CCS amine cycle

## Partners we are looking for:

- Site operators
- On-site heat source >50°C and use <210°C
- Evaporation, heat pump, replace boiler, CCS
- IETF or not; many projects have good ROI
- Projects with energy output > 2.5 MW