# Horizon Europe - Sustainable Energy Consortia Building Event

#### Housekeeping

- To avoid background noise all <u>participants will be muted</u>, and cameras will be off.
- We will allow delegates to unmute themselves and share their cameras during the breakout rooms.
- Please use the chat to introduce yourself. Please note due to GDPR we cannot share the chat.
- Please also use the Q&A function to submit your questions.
- Register in the <u>Networking Platform</u> for post-event networking

https://sustainableenergyhorizon.meeting-mojo.com

If you have any technical problems, please use the chat to seek advice from the host (Michael Foster)





Time (UK timings)		Speakers
09:30	Welcome, introduction and aims of the day	Belen Rebollo - Innovate UK
09:40	UK Participation in Horizon Europe & UK Guarantee	Conall McGinley - Innovate UK
	Getting ready for Horizon Europe and finding the right partners	
10:10	Q&A	
10:25	BREAK	
10:30	Pitching session	Belen Rebollo - Innovate UK
11:00	Breakout rooms: - A break out room for each pitcher (6) - NCP room - (Conall)  Networking rooms:	Belen Rebollo - Innovate UK
	- LEADERSHIP - SYSTEMS - ENERGY EFFICIENCY	
11:45	Wrap-up	Conall McGinley & Belen Rebollo - Innovate UK
12:00	CLOSE	







## Innovate UK KTN – European Programmes Activity and support



Belen Rebollo-Garcia Knowledge Transfer Manager

belen.rebollo-Garcia@iuk.ktn-uk.org





We support UK organisations in **engaging with International R&I initiatives** (i.e. Horizon Europe and EUREKA, among them) and help shape future funding priorities by:

- Organising consortium building activities / events in selected topics
- Offering "Travel Grants" to attend European brokerage events
- Managing international collaboration platforms
- Engaging with International Partnerships and Technology Platforms
- Providing sector specific advice on market opportunities and project impact

We work closely with the National Contact Points, Innovate UK Edge and the FCDO / Science Innovation Network.



#### **Our Network**









#### **Our Outputs**

66%

introduced by KTN go on to collaborate

42%

reach outcomes faster (1-2 years) 60%

increased
investment in
R&D direct
result from
KTN
engagement

£100m

per year increased investment in R&D



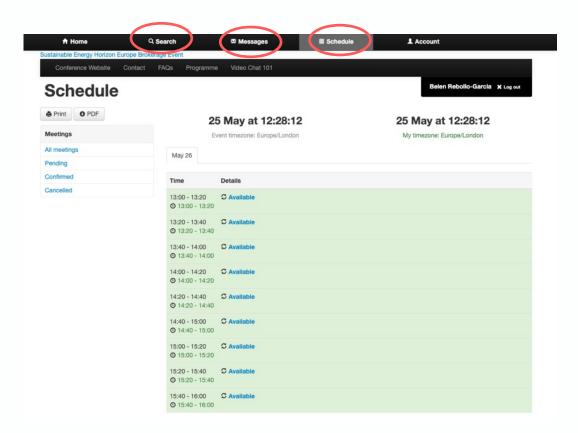
#### Post-Event Networking Platform: how to.....

#### How to....:

- ✓ Register and then Log in
- ✓ SEARCH for other delegates
- ✓ SCHEDULE 1:1 Meetings MESSAGE

Sustainable Energy Horizon Europe Brokerage Event Following our upcoming Horizon Europe brokerage webinar on the topic of sustainable energy, we invite attendees to sign up for 1-2-1 networking meetings afterwards. By signing up to this Meeting Mojo page, you will be able to create a profile for yourself, exchange messages and organise online meetings with each other. The online meeting slots will be open from 1PM - 4PM on Friday 26 May, and you can continue to exchange messages with other attendees beyond this time. Full details on how to sign up follows below Use this website on your computer or mobile internet device. Please log in to access your account. If you have forgotten your password, click here to reset. Once you have logged in, you can use this online tool to set up meetings and manage your schedule. Use of this website Check our FAQ guide which contains instructions on how to use the meeting system. Log in and click Account to update your company and personal details. These can include a brief profile, a logo and a personal portrait (.jpg or .png, max filesize 1Mb). Change your password and/or email preference here if required. The more details you include, the easier it will be for other attendees to find and research your company and request meetings with you. Go to Schedule to manage your availability. Click the toggle icon on the times you wish to be unavailable for meetings. It is important that you do this so as to avoid receiving meeting requests for inconvenient times. You can also print your schedule directly from this page using the 'Print' link. 1. Click Search in the menubar to view and search company listings. You can use the search tool on the left of the page to refine your selection, or order by date of entry using the selection tool above the listing. The search is hierarchical, so the second category you select will be a subset of the first. If you then wish to start a new search, please click Reset on the Search tool before starting again 2. Click 'Book Meeting' on your chosen participant's entry, then follow the on-screen instructions. You can include a message with your request, and invite your colleague(s) to the meeting if they are available. The online system sends an email to you and your meeting partner(s) every time you request, confirm or cancel a meeting and you will also receive email requests from other participants. Messages are also displayed in your Messages area. To view and respond to your pending meetings, return to the homepage when you have logged in, or select 'pending meetings' on your Schedule page. Not getting emails from this scheduler? Emails are sometimes filtered by your provider, corporate IT or application settings. Messages you have sent, or received from other participants, can be viewed in your Messages area when you log in. If you need assistance please check our FAQ guide. If you do not find the answer there please email; Michael foster@iuk.ktn-uk.org or contact us on

https://sustainableenergyhorizon.meeting-mojo.com







## Horizon Europe Sustainable Energy



**Conall McGinley UK NCP Energy** 





# Horizon Europe Energy Opportunities in 2023 and 2024 26th May 2023

Conall McGinley
UK National Contact Point – Horizon Europe Energy &
Global Innovation Lead - Energy

Clean Growth and Infrastructure Sector Team Net Zero Domain





## Here's what I'm covering.

UK Research and Innovation

Innovate UK

Horizon Europe funding opportunities





## UK Research and Innovation

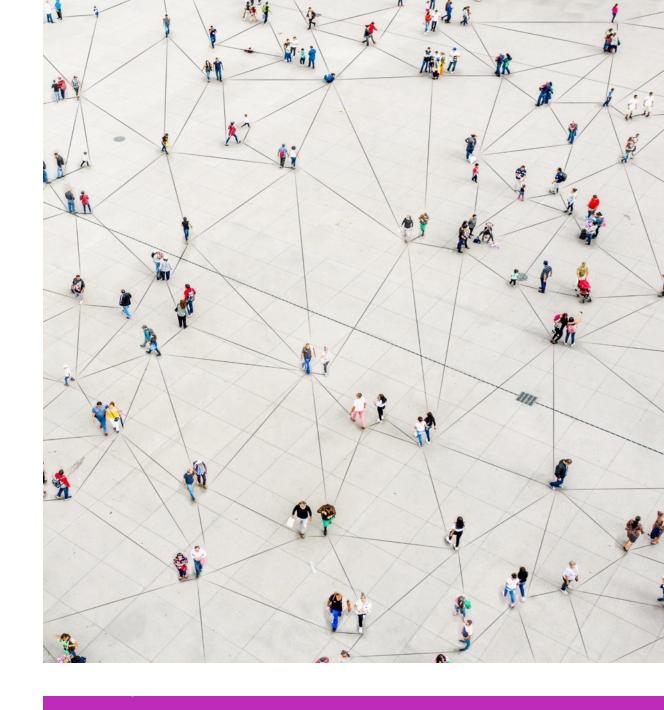




- We are the UK's innovation agency
- We support business-led innovation in all sectors, technologies and UK regions
- A key delivery body of the Government's Innovation Strategy

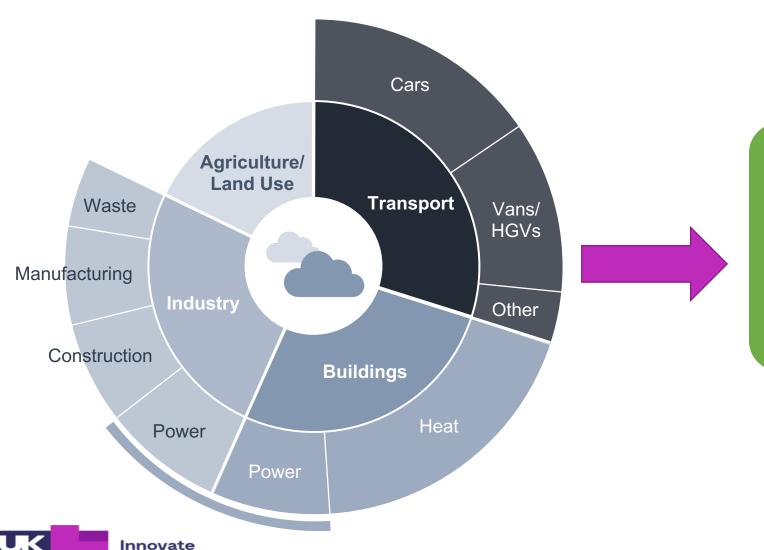
## **Our Mission**

To help UK businesses grow through the development and commercialisation of new products, processes, and services, supported by an outstanding innovation ecosystem that is agile, inclusive, and easy to navigate.





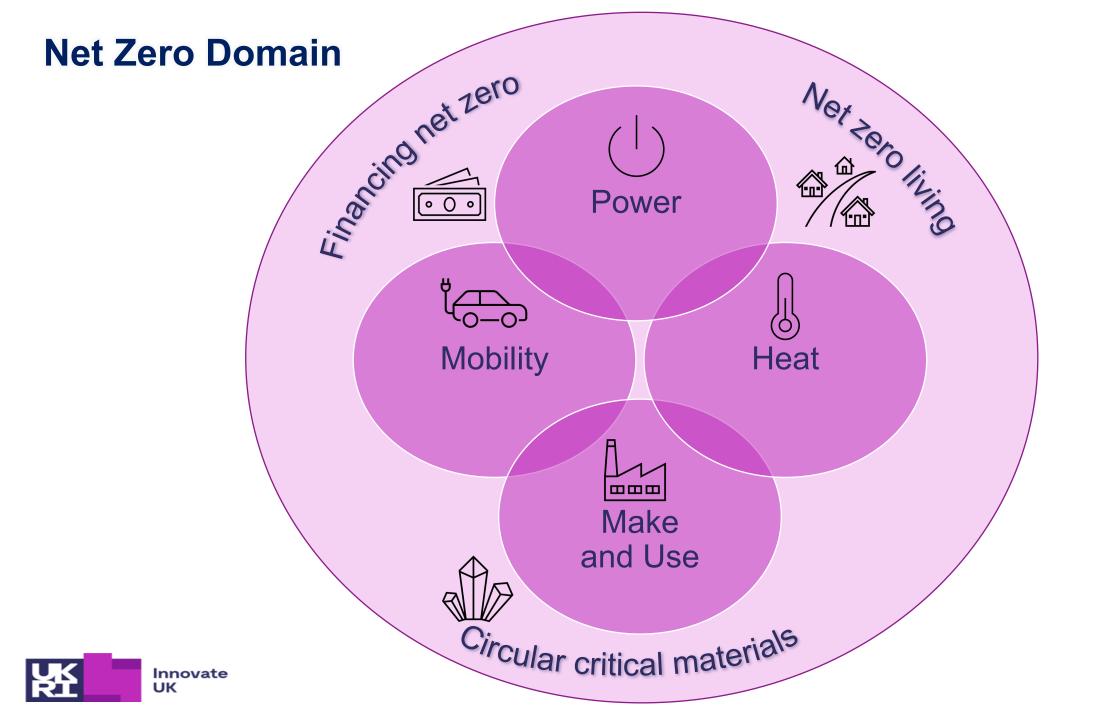
## **Current UK emissions**



Proportions approximate

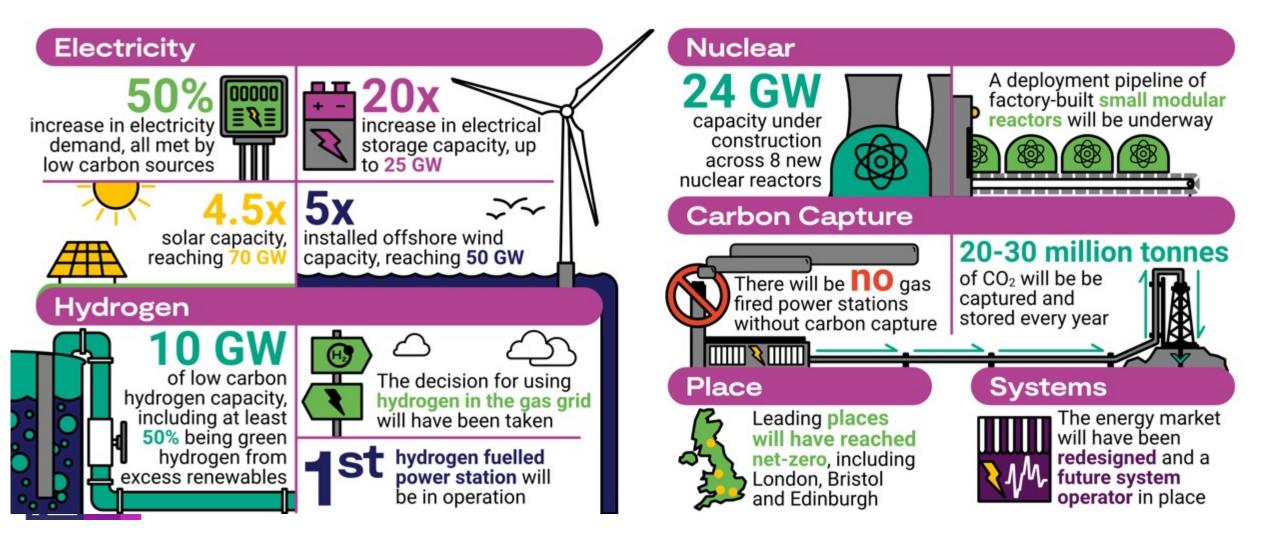
#### **Net Zero Framework**

- Heat
- Make & Use
- Mobility
- Power

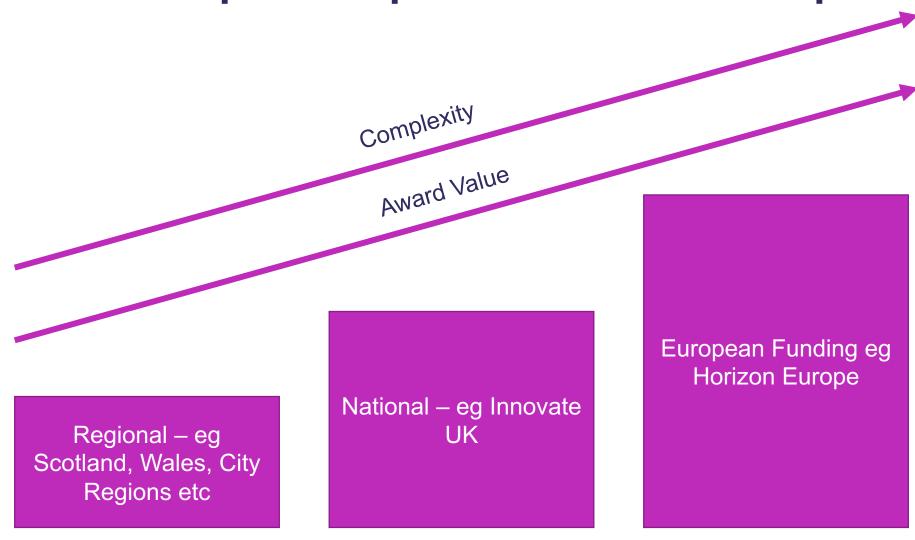


## **Power** – by 2035

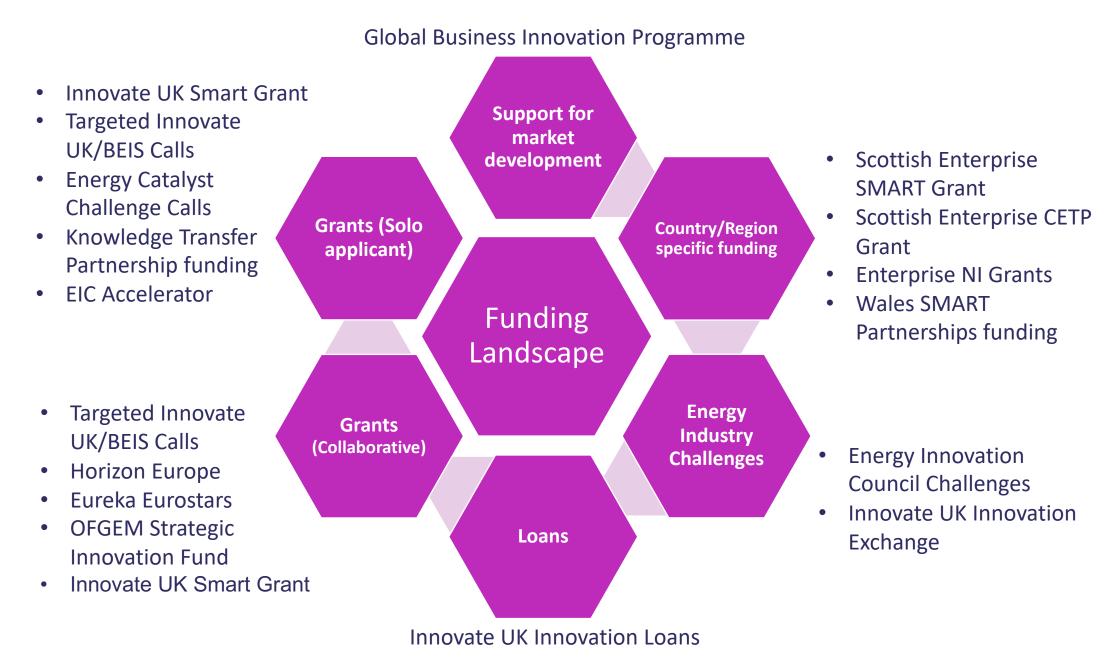
Every part of our economy will need new energy vectors to fuel vehicles, heat buildings and power industry. This shift underpins all other decarbonisation activity and opens global markets to new solutions and supply chains



## Horizon Europe – one part of a wider landscape



## **Funding Landscape**





## **Horizon Europe**

## Horizon Europe National Contact Points (NCPs)

Team of country based, sector specific, advisors to support everyone to successfully participate in EU Framework Programmes

- Raising Awareness of the programme
- Finding the right Topic
- Identifying the best ways to find partners
- Navigating the portal
- Developing the proposal
- Answering questions
- Supporting you to succeed!





### What is Horizon Europe?

€53.8bn

€24.9bn

Pillar 1
EXCELLENT SCIENCE

**European Research Council** 

Marie Skłodowska-Curie Actions

Research Infrastructures



Pillar 2

GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

luster

- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- · Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre



Pillar 3
INNOVATIVE EUROPE

€13.4bn

**European Innovation Council** 

**European innovation ecosystems** 

European Institute of Innovation and Technology

#### WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation and spreading excellence

Reforming and Enhancing the European R&I system



## **UK success in Horizon - Energy**

- The equivalent sector in the Horizon 2020 programme was "Secure, Clean and Efficient Energy" with a budget of €4.99bn
- The UK attracted **€410m of this** equivalent to 8%
- 441 unique UK participants involved in 491 projects
- Of the 441 successful applicants
  - 285 were businesses
  - 58 Universities
  - 29 public agencies
  - 15 Research Centres
  - 54 were miscellaneous
- Horizon Europe has benefited both major corporations, small businesses and micro-businesses in all regions of the UK.
- Top two areas benefiting from this funding were London and Scotland



Net EU Contribution by Country/Region



#### Case Study – IMPRESS

- Co-ordinated by Scottish partner, IES
- Focused on development of innovative prefabricated components that help increase energy efficiency and reduce the cost of façade retrofitting
- Aimed to develop three different prefabricated panels for buildings:
  - polyurethane based insulated panel with improved thermal performance and light radiation
  - thin, lightweight pre-cast concrete sandwich panel, with optimum thermal and weathering resistance
  - lightweight pre-cast concrete sandwich panel incorporating Phase Change Materials (PCM)
- EU contribution €4.5m
- 17 partners, 7 countries represented





## Can UK applicants still apply to Horizon Europe?

- UK organisations are fully eligible to:
  - Apply for funding from the EU
  - Coordinate proposals
- However, if UK org's proposal is successful and Association is not confirmed before the point that UK org signs its "Grant Agreement" then UK org is not eligible to:
  - Receive funding from EU
  - Coordinate a proposal
- UK org would then receive funding via the UK Government Guarantee instead of the EU
- If UK associates -> business as usual
- If UK does not associate —> new guarantee introduced for successful proposals for which a grant agreement is signed before 31 March 2025 (for calls which are open to "Third Country Participation")



## The fundamentals of Horizon Europe

- Must apply as part of a consortium representing at least three member states/associate countries
- Projects generally last 2-5 years
- Projects must advance cutting-edge innovation at a European level
- Projects must benefit all Europeans
- Innovation Actions (IAs) are focused on higher TRL activity
- Research & Innovation Actions (RIAs) are focused on lower TRL activity
- Proposal preparation can take 6-12 months





## Why European collaboration is important

- Solve global grand challenges through collaborative R&I
- Collaborate with world leading organisations to enhance UK capabilities
- Access cutting edge technologies, infrastructure, talent & markets
- Influence standards, regulations and research policies
- Ensure that UK direction of travel doesn't diverge so much that we're 'going it alone'
- Collaborative relationships frequently become transactional ones exports
- Creating UK jobs, growth and stronger supply chains



## **Funding Opportunities in 23/24**

Call Title	Number of funding calls	Budget (€)
Energy Systems	14	117.5m
Built Environment and Low Carbon Heat	14	105m
Solar	10	99m
Batteries	8	52.5m
Low Carbon Fuels	6	67m
General/Technology-agnostic	4	65m
Offshore Wind	4	64m
Carbon Capture, Utilisation and Storage	4	34m
Wave & Tidal	3	52m
Geothermal	3	32m
Hydro	2	16m

#### **Upcoming opportunities - Batteries**

#### 2023 : 3 topics. 1 call. 05/09/2023

- New Approaches to Develop Enhanced Safety Materials for Gen 3 Li-Ion Batteries for Mobility Applications
- Advanced materials and cells development enabling largescale production of Gen4 solid-state batteries for mobility applications
- Creating a digital passport to track battery materials, optimize battery performance and life, validate recycling, and promote a new business model based on data sharing

#### 2024 : 7 topics. 2 calls : 18/04/2024 & 05/09/2024

- Advanced materials (e.g. sustainable non-Li batteries with European supply chains for stationary storage + Post-Li-ion technologies for mobility applications (Gen5) + Size and weight reduction of cells and packaging of battery systems)
- Design and manufacture of battery cells (e.g. sustainable high throughput production process for stable Li metal anodes)
- Battery systems for stationary storage applications (e.g. multi-physical and virtual accelerated testing for ageing assessment)
- End-of-life management: collection, sorting, dismantling and recycling
- Sustainability (e.g. development of technical and commercial solutions to optimise circularity, resilience and sustainability of the European battery value chain)



#### **Opportunity Example - Batteries**

Deadline: 18/04/2024

Type of call: IA

HORIZON-CL5-2024-D2-01-02: Non-Li Sustainable Batteries with European Supply Chains for Stationary Storage (Batt4EU Partnership)

#### **Expected Outcome**

- Stronger, more resilient, more competitive European economic base adapted to green and digital transitions, reducing strategic dependencies for critical raw materials by promoting a circular economy
- Orientation of European industry towards zero waste (holistic, material and energy efficient recycling processes)
- Safe technologies to improve recovery efficiency, increase quality and purity level of recycled materials

#### Scope

- The proposal is expected to develop and integrate new advanced pre-treatment concepts enabling more efficient and safer recycling technologies and to make substantial improvements to the environmental and economic sustainability of processes and the circular economy.
- The proposal should address the following pre-treatment concepts: more efficient and accurate sorting of batteries at component level; advanced pre-treatment methods including physical, mechanical, dry, thermal and aqueous pre-treatment methods; design of processes for the recovery and reclamation of anode materials; and electrolyte recovery through the development of sustainable and safe processes for the recovery of lithium salts.



### Upcoming opportunities - Global leadership in renewable energy

2023 : **16 topics. 05/09/2023** 

- Development of near zero-emission biomass heat and/or CHP including carbon capture
- Innovative components and configurations for heat pumps
- Advanced exploration technologies for geothermal resources in a wide range of geological settings
- Smart use of geothermal electricity and heating and cooling in the energy system
- Development of next generation advanced biofuel technologies
- Development of microalgae and/or direct solar fuel production and purification technologies for advanced aviation and /or shipping fuels

2024 : **39 topics. 3 calls : 16/01/2024 and 05/09/2024** 

- Alternative equipment and processes for advanced manufacturing of PV technologies
- Demonstration of improved intermediate renewable energy carrier technologies for transport fuels
- Improvement of light harvesting and carbon fixation with synthetic biology and/or bio-inspired/biomimetic pathways for renewable direct solar fuels production
- Innovative applications/integration of geothermal heating and cooling in industry
- Development of hydropower equipment for improving techno-economic efficiency and equipment resilience in refurbishment situations



### Opportunity Example – Energy Supply

**HORIZON-CL5-2024-D3-01-10:** Next generation of renewable energy technologies

#### **Expected Outcome**

- Project results are expected to contribute to all of the following expected outcomes:
- Available breakthrough and game changing renewable energy technologies enabling a faster transition to a net-zero greenhouse gas emissions EU economy by 2050.
- Knowledge and scientific proofs of the technological feasibility of the concept including the environmental, social and economic benefits to contribute to R&I strategy and policy forecast.

#### Scope

- The proposal is expected to address high-risk/high return technology developments for game changing renewable energy technologies.
- It could cover catalyst development, dedicated renewable energy storage systems, integration of renewable energy technologies into a single energy generation system, heating & cooling systems, fuels production systems, solar driven chemical processes, hybrid electricity generation solutions between different renewable energy sources, direct utilization of renewable energy sources.



Deadline: 16/01/2024

Type of call: RIA

#### **Upcoming opportunities – Energy Use**

#### 2023 : 5 topics. 1 call : 05/09/2023

- Innovative uses of life cycle data for building management (Built4People)
- Solutions for identifying vulnerable buildings to improve their resilience (Built4People).
- Demonstrate pathways to decarbonising the built environment through technological, social and policy innovation (Built4People).
- Accelerate and promote innovation in construction and renovation of the built environment with local value chains (Built4People)
- Support the creation of an accessible and inclusive built environment

#### 2024 : 8 topics. 2 calls : 18/04/2024 & 05/09/2024

- Low-disturbance renovation processes through the integration of prefabricated solutions for energy-efficient buildings
- Smart grid ready buildings
- Alternative heating systems for efficient, flexible and electrified heat production in industry.
- Industrialisation of sustainable and circular deep renovation flows (Built4People)
- Robotics and other automated solutions for assembly, renovation and maintenance in a sustainable built environment (Built4People)
- BIM-based processes and digital twins to facilitate and optimise circular energy renovation (Built4People)
- Design for adaptability, reuse and deconstruction of buildings, in line with circular economy principles (Built4People)
- Digital solutions for participatory design, planning and management of buildings, neighbourhoods and urban districts (Built4People)

### Example opportunity – Energy Use

HORIZON-CL5-2024-D4-02-03: BIM-based processes and digital twins for facilitating and optimising circular energy renovation (Built4People Partnership)

Deadline: 05/09/2024 (likely to change)

Type of call: IA

#### **Expected Outcome**

- Reduction in the time and costs of building construction and renovation.
- Increased reuse and recycling of building materials.
- Improved performance of buildings (energy, sustainability, living environment, and accessibility).
- Improved interoperability with existing BIM and digital matching solutions.

#### Scope

- The proposal is expected to address the development and integration of BIM and Digital Twin based solutions to support the full building life cycle. It is expected to support optimal, adaptable and reversible building design for energy efficiency, circularity and sustainability.
- The proposal should enable tracking of building materials and products, and support cost-effective deconstruction, reuse, recycling, and recovery of building materials.
- It should integrate building monitoring data into an interoperable digital twin for automated and optimised monitoring and management of building performance and preventive maintenance.
- The proposal should also enable interoperability, quality and integrity of building data throughout the life cycle by providing appropriate data access to all life cycle actors.

#### Upcoming opportunities - Energy systems, grids and storage

#### 2023: 6 topics. 10/10/2023

- Increasing the efficiency of innovative static energy conversion devices for electricity and heat/cold generation
- Integration of renewable gases, other than hydrogen or methane, and which have not access to gas grids and interfacing with electricity and heat sectors
- System approach for grid planning and upgrade in support of a dominant electric mobility (vehicles and vessels) using AI tools
- Digital tools for enhancing the uptake of digital services in the energy market
- Creation of a standardised and open-source peer-to-peer energy sharing platform architecture for the energy sector
- Components and interfacing for AC & DC side protection system AC & DC grid: components and systems for grid optimisation



## **Funding Tips**

The landscape for energy innovation funding is complex:

- Define "triggers" and match opportunities to your R&D interests
- Balance risk through a portfolio approach
- Shape the future by being proactive and connected
- Make your application problem-centric
- Take advantage of support that is available through:
  - Regional National Contact Points
  - Innovate UK EDGE
  - KTN





## Thank You

Download the Plan for Action







Innovate UK











## BREAK



Option of watching UKRI video on experiences from Horizon 2020 and Horizon Europe UK grantees

https://www.youtube.com/watch?v=gdxHQ\_7VRFg&list=PLkjB0VcEl5P\_zFLV 2oKywwXzZ4Vz2I8Zu

Innovate UK

KTN



**Innovate UK KTN** exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.

#### **Cross-Sector Expertise**

Agrifood

Biotechnology

Chemistry

**Creative Industries** 

Design

Digital

Electronics

Energy

Geospatial

Health

**Industrial Maths** 

Infrastructure

Manufacturing

Materials

**Photonics** 

Quantum

Robotics & Al

Security & Defence

Sensors

Space

Transport

Water



Innovate UK **KTN** 

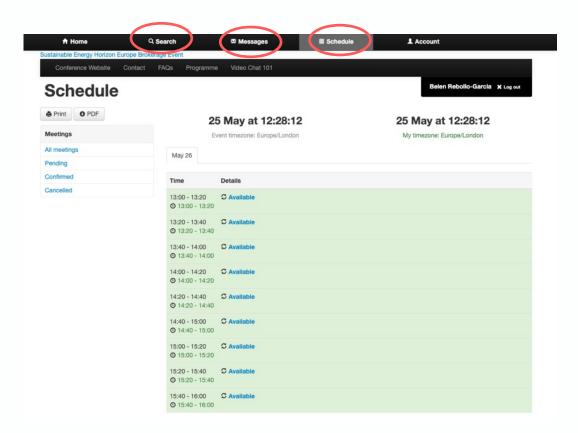
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https://sustainableenergyhorizon.meeting-mojo.com





# Running order for pitches

Organisation	Speaker
Eco-HumanTropolis Clean Energy	Noris Rosario
Element Energy	Andrew Flagg
GenComm	Pau McCormack
Ingine	Jeff Lee
Institut de Recherche Technologique Jules Verne	Julio Cesar De Luca
Scottish European Green Energy Centre	Richard Buxbaum





Sustainable Energy Horizon Europe Brokerage Call, Low Carbon Aerodynamic Clean Energy Renewable Turbine Generator Solutions:

#### **Proposed Approach & Experience**

I understand we need to current practices and mindsets to meet 100% Net Zero Targets. We have shortfalls with Renewable Technology Sustainability, Powering Capabilities, and Capacity performance with Wind Turbine Generators and very few Carbon Capture Decarbonisation solutions. The good news is we have room for improvements, using future, advanced technologies.

For the past 3 to 4 year's, I have researched renewable technology shortfalls, identified Renewable technology problems, R&D, game changing, revolutionary, solutions, to improve current renewable technology dilemmas. Following R&D we have now resolved the following renewable technology dilemmas use advance aerodynamic technologies. We do not have reliable, affordable, accessible, secure, sustainable, efficient, controlled 24/7 clean energy Turbine Generator capabilities, capacity performance until now.

We bring to Humankind and Planet Earth the world's first real future advanced "Low Carbon Capture Renewable Clean Energy Aerodynamic Turbine Generator Advances 24/7 undisrupted, Transformative Holistic Technologies Capabilities"

#### **Partners**

We seek HVAC, AC cooling partners, Smart Air Pump Heating Partners, Air Motor, Electro Magnetic Alternators, Stator, Motor Engineering, and Manufacturing Partners.

### **Organisational Capabilities**

The skills we bring is the ability to think outside the box, we bring vision, real renewable sustainable solutions and a change to current practices. We bring the capabilities of emerging dual use technologies, science and engineering to assemble and develop the silver bullet of Smart Low Carbon Renewable Clean Energy Turbine Generator Technologies.

#### **Administrative Information**

The Organisation is a Ltd planning on seeking Partners Noris Rosario

n.rosario@eco-humantropoliscleanenergyexchange.net Phone number: 07599486005

**United Kingdom** 

HORIZON-CL5-2023-D3-02 Global leadership in renewable energy
HORIZON-CL5-2023-D3-03 Energy Systems, Grids & Storage
HORIZON-CL5-2023-D4-02 Highly energy-efficient and climate neutral European building stock



#### **Proposed Approach & Experience**

<u>Element Energy</u>, an ERM Group company, is a **strategic consultancy** focused on the **low and zero carbon energy sector**.

We provide support to consortia through key stages of **developing funding** applications as well as **Grant Agreement preparation**.

We also support project implementation through our role as **Coordinator**. We are involved in **27 projects through our UK entity** and **10 projects with our French entity** across FP7, H2020 and Horizon Europe. E.g:

- <u>H2Accelerate Trucks</u> (HORIZON-JTI-CLEANH2-2022-1)
- <u>ZEFER</u> (H2020-JTI-FCH-2017-1)

#### **Partners**

Element Energy is able to support existing consortia seeking Horizon Europe funding or projects already receiving funding.

#### **Organisational Capabilities**

Element Energy can offer:

- Extensive experience in **Horizon Europe processes** in a dedicated team supporting funded project management (consortium management, reporting, funding management and compliance).
- Sustainable energy sector expertise to support project delivery and effectively interface with beneficiaries, funding agency and external stakeholders.

#### **Administrative Information**

Andrew Flagg | Principal Consultant Project Manager andrew.flagg@element-energy.co.uk +44 20 3206 5174

Element Energy Ltd (UK) – PIC: 996127921

ERM France (FR) - PIC: 886455647

Consultancy supporting funding applications, grant preparation and in role as Coordinator / technical support.

# Truly sustainable Green Hydrogen GEOH2

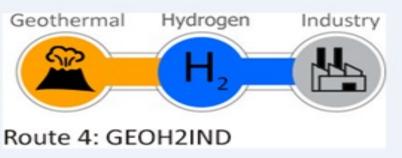
The major technical and financial barriers for green hydrogen production

- 1. Overcoming the intermittency of supply from renewables such as wind, bio and solar
- 2. Securing a competitive cost of electricity supply to ensure the green hydrogen is economically competitive with alternative fuels.
- ✓ A cost competitive price can be achieved with the use of geothermal electricity and geothermal heat in combination delivering cost competitive Hydrogen production
- ✓ Our research to date has indicated that the unit cost of hydrogen production by geothermal electricity is more competitive than wind and solar energy.

Hydrogen is the catalyst driving Europe's energy transition. Optimising this journey through valorization of the hydrogen supply chain, production, storage and use is key to creating a successful hydrogen Europe.'

Extensive development and demonstration skills & experience in innovation driven Hydrogenewables GenComm, GreenH2 and SMARTH2





Partners needed along the Green H2 value chain from R&D through to production, storage and use.

### Deliver the 1<sup>st</sup> GEOH2H<sub>2</sub> Hydrogen Valley

- GenComm Website <u>nweurope.eu/gencomm</u>
- LinkedIn GenComm
- Twitter @GenComm CH2F
- Community Hydrogen Forum CH2F communityh2.eu
- Hydrogen Ireland website hydrogenireland.org

Contact Paul McCormack

paulmccormack@belfastmet.ac.uk

## **HORIZON-CL5-2023-D3-02-10** for INGINE Wave Energy Converter



#### 1. Proposed Innovative Approach:

- Affordable & Reliable Wave Energy Converter(WEC)
- Onshore-based WEC device, No Subsea Cabling
- For remote islands and coasts

#### Track Records:

- Seal of Excellence, Horizon 2020 programme in 2016
- Marine Energy Alliance award by Interreg in 2020
- TAP TRL evaluation by EMEC in 2021
- Energy Catalyst winner in Round 9, Innovate UK 2022

#### Potential Partners?

- Test facility operators containing Dry/ Wet tank test facilities for PTO and Control System of Wave Energy Converter in France, Portugal, Ireland and/or Spain.
- Specialist engineering company who has expertise in marine plant design Engineering, collaborating with the testing facilities in France, Portugal, Ireland and/or Spain.

#### 3. Capabilities& Technological advancement

- 1/10 scale Dry and Wet tests experiences
- Developed real-time SCADA monitoring system
- Improved higher efficiency by MPPT control
- Tested performances with simulations
- Feasibility Studies done on sites in Canada, France,
   Vietnam, Indonesia, and Sri Lanka



#### **Administrative Information**

#### Contact us:

- Jeff LEE (Director)
- jeff@inginewave.co.uk
- +44(0)7769 652237
- Thurso, Caithness, Scotland
- Inginewave.co.uk
- PIC: 916875914
- Linkedin.com/in/jeff-lee-703b59
- linkedin.com/company/37432935

## HORIZON-CL5-2023-D3-02-14: Digital twin for forecasting of power production to wind energy demand

#### **Proposed Approach & Experience**

**IRT can offer:** Intelligent composite blade for operational optimisation

- Blade thermo-mechanical simulation and modelling reduction
- Prototyping of instrumented blade scaled down
- Digital Twin of instrumented blade + Reduced modelling for quasi-real time health state follow-up for condition monitoring and predictive maintenance
- Blade DT can be integrated in the global wind energy farm for full Energy versus **OPEX Optimisation**

Since 2015 – 18 EU projects (about 8M€) with one Coordination

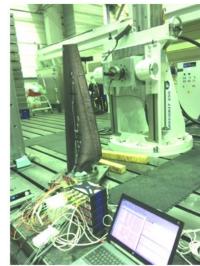
#### **Organisational Capabilities**

Building of 7000m<sup>2</sup> with more than 4000m<sup>2</sup> of Workshops for:

- Composite team for manufacturing developments to TRL7
- Additive Manufacturing team WAAM expertise
- Robotics for Industrial floor mobility, automated assembly of large parts, dismantling, cable robot for large parts handling, etc...
- Monitoring of manufacturing processes and atructures (SHM), data science, Al. etc..
- Simulation team process and structural modeling, DT, open-source, etc...

More than 20M€ in assets for Manufacturing and Robotics





#### Administrative Information – RTO non profit organisation

Institut de Recherche Technologique Jules Verne

Planning on being partner

PIC - 948805210

Julio Cesar DE LUCA, PhD

European Projects Technical Leader – R&D Direction



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WWW.IRT-JULES-VERNE.FR/EN







**JULES** 

## **Application Support for Sottish Businesses**





#### Proposed Approach & Experience Scottish European Green Energy Centre (SEGEC)



SEGEC (part of Scottish Enterprise) have been supporting Scottish companies to apply for European Research and Innovation funding since 2009. We have provided free and impartial advice and guidance to companies who have successfully applied for large scale Horizon 2020 and Horizon Europe green energy projects.



In addition to supporting companies apply for European funding, Scottish Enterprise (a Economic Development Agency) is Scotland's lead partner and funder in the Horizon Europe Clean Energy Transition Partnership

#### **Partners**

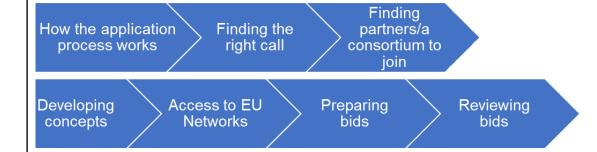
If you are a Scottish organisation interested in finding out more about Horizon Europe or the Clean Energy Transition Programme please get in contact.

As well as supporting application we can also help identify potential Scottish partners for your consortia.

We work together with other partners including Horizon Europe NCPs, UKRI EDGE and UKRI to help Scottish companies benefit from the opportunities available through Horizon Europe.

#### **Organisational Capabilities**

SEGEC help companies build knowledge about Horizon Europe, the benefits and processes, how to identify opportunities supporting companies throughout the application process



#### **Administrative Information**

Richard Buxbaum

Richard.buxbaum@scotent.co.uk / segec@scotent.co.uk Tel: (0)1414686035

#### **SEGEC** website

https://www.scottish-enterprise.com/support-forbusinesses/funding-and-grants/europeanfunding/scottish-european-green-energy-centre-segec



Clean Energy Transition partnership website <a href="https://cetpartnership.eu/">https://cetpartnership.eu/</a>



## **Breakout Rooms**

## - Pitch presenters (Name of organisation)

Organisation	Speaker
Eco-HumanTropolis Clean Energy	Noris Rosario
Element Energy	Andrew Flagg
GenComm	Pau McCormack
Ingine	Jeff Lee
Institut de Recherche Technologique Jules Verne	Julio Cesar De Luca
Scottish European Green Energy Centre	Richard Buxbaum

## - Networking breakout rooms

Destination 3 Call: Sustainable, secure and competitive energy supply Sub-call: Global leadership in renewable energy

Sub-call: Energy Systems, Grids & Storage

Destination 4 Call: Efficient, sustainable and inclusive energy use Sub-call: Highly energy-efficient and climate neutral European building stock -LEADERSHIP

-SYSTEMS

-Energy Efficiency

- Energy UK NCP Room

- "Plenary Room"



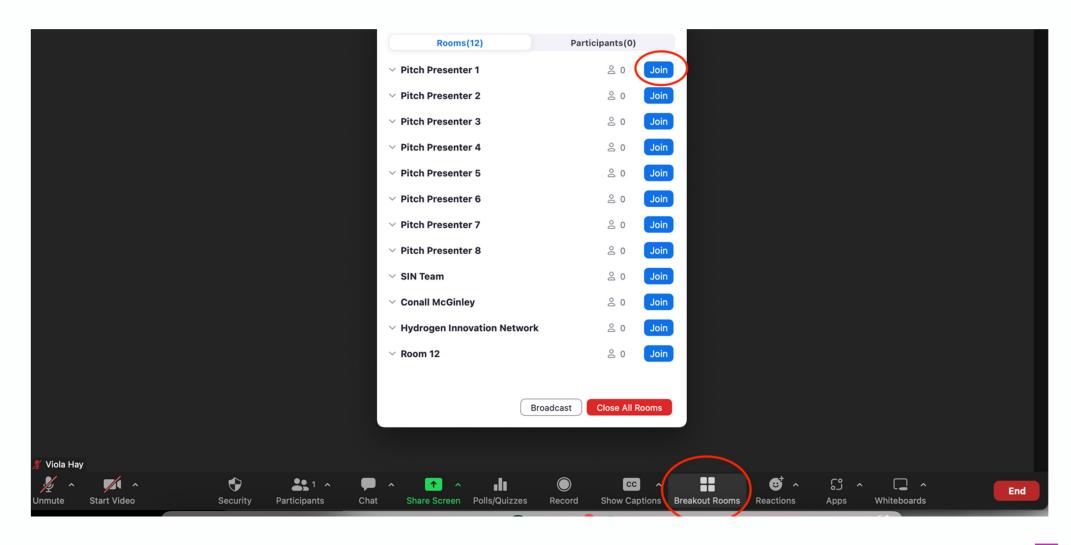
## How does it work?

- About 30 minutes for Breakout room discussions.
- You select which breakout room you'd like to join (pitch presenters stay for the 1<sup>st</sup> 15 min in their room)
- You can move around and go to more than one breakout room (pitch presenters only after the 1st 15 min min).
- Opportunity for networking and engaging in new collaborations.
- If you drop out, you can join the webinar again in the main room and we can help you join breakout rooms of interest to you.

PLEASE NOTE: BREAKOUT ROOMS ARE NOT BEING RECORDED.

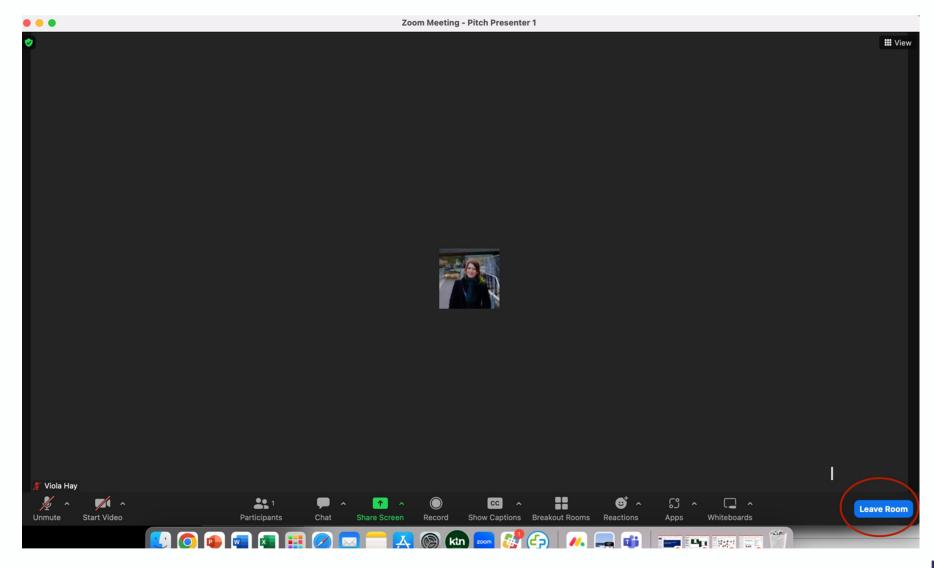


## How to JOIN a breakout room





## **How to LEAVE a breakout room**







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## **Horizon Europe**

Horizon Europe is an opportunity for all types of UK organisations (including businesses and academia) to get funding for research and innovation. For UK businesses this is an opportunity to collaborate with partners with the right expertise to expand markets and accelerate innovation across Europe and internationally.



**Programmes** related to European **Programmes** 

View all our programmes →



Horizon Europe is an opportunity for all types of UK organisations (including businesses and academia) to get funding for research and innovation.

UK Horizon Europe Hub <a href="https://ktn-uk.org/programme/european/">https://ktn-uk.org/programme/european/</a>

https://eufunding.ukri.org/subscribe







https://sustainable-energy-week.ec.europa.eu/sustainable-energy-days en



# Innovate UK – European Programmes Activity and support



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