

ENERGY CATALYST

Jillian Henderson Innovation Lead - Energy

All-Energy, 10th May 2023

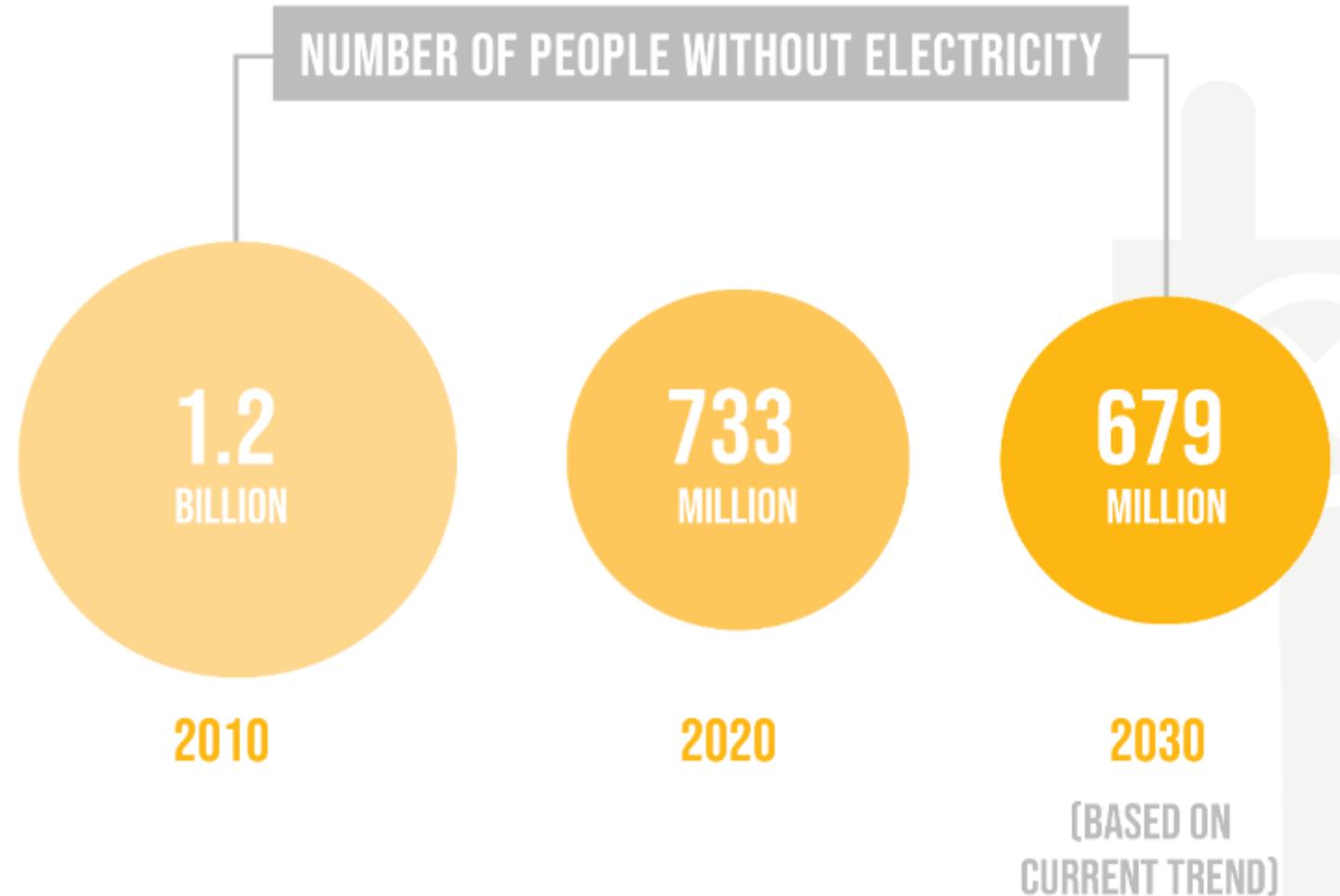


Goal 7: Ensuring access to affordable, reliable, sustainable and modern energy for all.



A sizeable number of people still completely lack access to electricity.

Yet more of the world's electricity is unreliable, erratic and intermittent.



<https://unstats.un.org/SDGS/REPORT/2022/>

Nearly a third of the population use cooking methods that are detrimental to their health.

2.4 BILLION PEOPLE



**STILL USE INEFFICIENT AND
POLLUTING COOKING SYSTEMS**

(2020)

The Energy Catalyst's mission is to accelerate the innovation needed to meet SDG 7 - 'Affordable and clean energy' - by providing financial and advisory support to innovators we help create strategic partnerships, uncover insights and develop business models to improve lives in Africa and Asia.



Energy Catalyst accelerates innovation that enables affordable, reliable, sustainable and modern energy for all.

To improve lives in Africa and Asia, we...



Provide financial and advisory support to innovators from around the world.



Create strategic partnerships with local businesses and communities.



Uncover insights on how to unlock the best outcomes in the countries we work with.

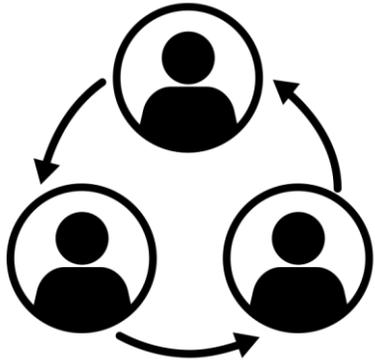


Develop business models that share value and create local benefits.



Energy Catalyst combines three key activities to deliver this vision

Collaboration



Collaboration building to help innovators find project partners

Competition



Open grant calls to develop and demonstrate innovative tech and business models

Acceleration



Business advice, learning from overseas, showcasing and dissemination

Round 10 – applications open until 28th June

Total amount of funding available up to

£10m



3 Strands which you can apply into

Early Stage
£50,000 - £300,000
3 to 12 months

Mid Stage
£50,000 - £1.5 million
Duration 6 to 24 months

Late Stage
£50,000 - £5 million
Duration 6 to 36 months

To be in scope your project must address the following:

Transforming Energy Access

7 AFFORDABLE AND CLEAN ENERGY

Clean Energy

Eligible Focus Countries

Your project must target one or more of the following **ODA eligible** countries:



Sub-Saharan Africa:

Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Eritrea, Eswatini (Swaziland), Ethiopia, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe (may be ineligible from 13 December 2024), Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe

South Asia:

Afghanistan, Bangladesh, India (only as part of multi country projects), Maldives, Nepal, Pakistan, Sri Lanka

Indo-Pacific (ODA eligible ASEAN):

Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Timor-Leste (not officially part of ASEAN), Vietnam

Indo-Pacific (Pacific Islands):

Federated States of Micronesia, Fiji, Kiribati, Marshall islands, Papua New Guinea (PNG), Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu



AYRTON FUND



Department for
Energy Security
& Net Zero



Department for
Science, Innovation
& Technology



Foreign, Commonwealth
& Development Office

£1 billion over 5 years (2021-2026) to support clean energy research, development and demonstration in developing countries.

Thematic challenges:

- > next generation solar
- > sustainable cooling for all
- > modern cooking
- > efficient appliances
- > industrial decarbonisation
- > smart energy systems
- > energy storage
- > hydrogen
- > critical minerals
- > Leave no-one behind



Hertha Ayrton: British scientist. Suffragette. Pioneering physicist, mathematician and inventor

ENERGY CATALYST

Impact to Date

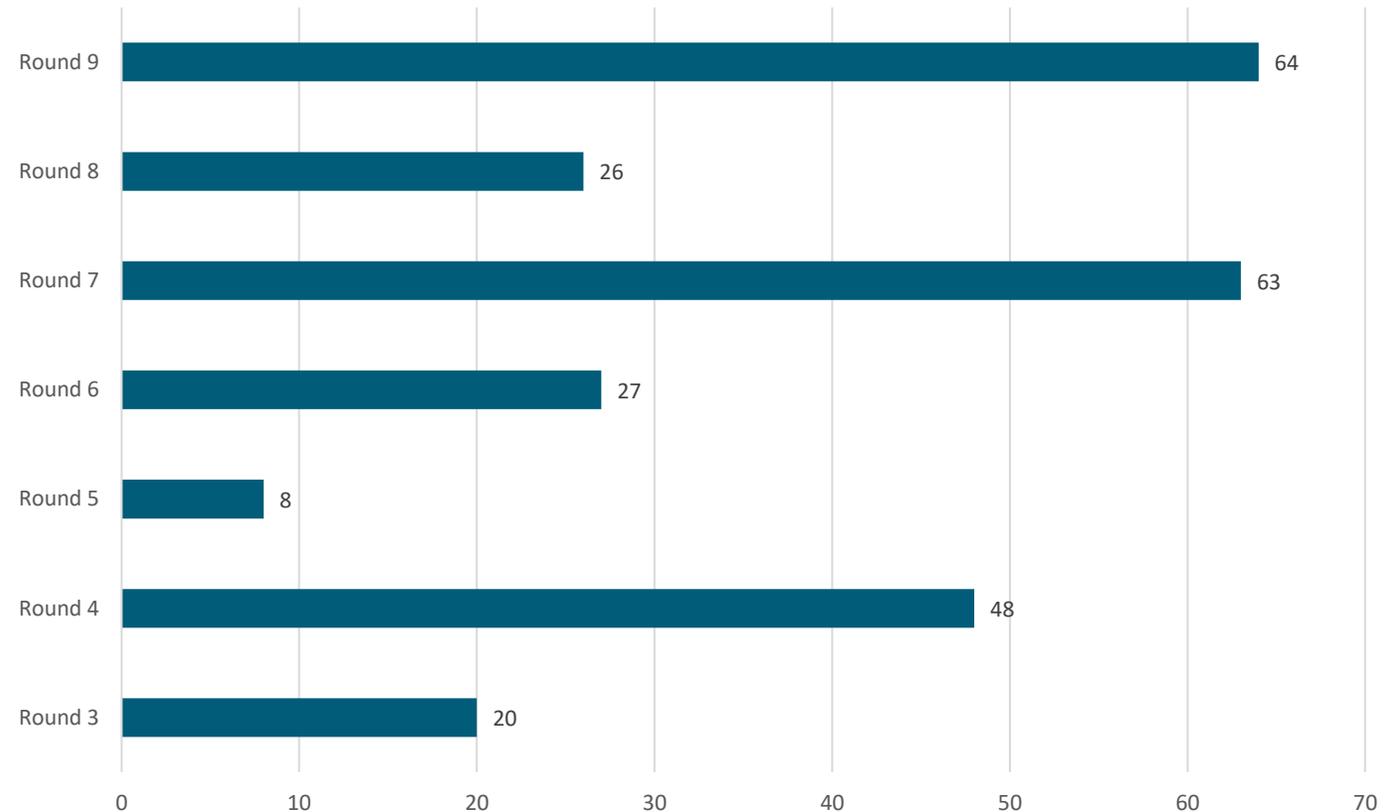


Energy Catalyst has supported 256 energy access relevant projects to date

£119million of this funding is Official Development Assistance to support energy access relevant technologies and business models comprising:

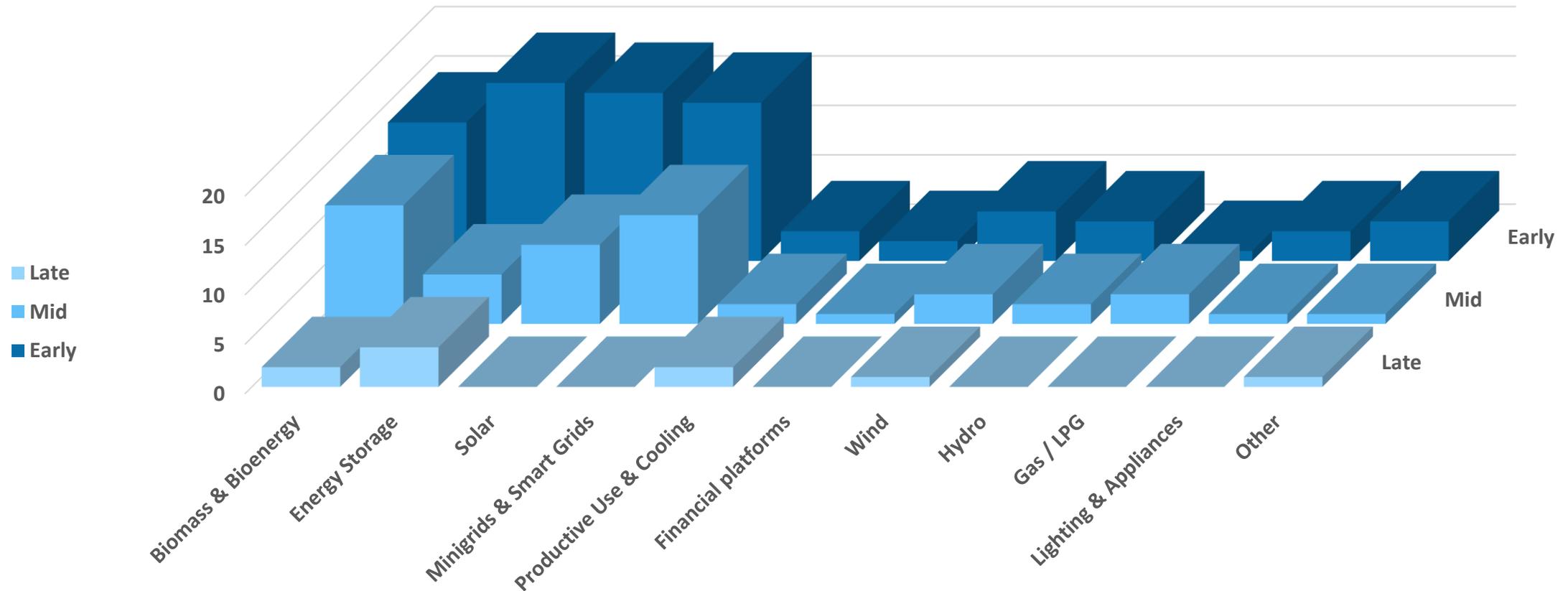
- 256 projects
- Over 400 unique organisations
- Wide range of energy access technologies and themes
- Targeting over 38 countries in Sub-Saharan Africa and South and South East Asia

Total ODA funded projects by round



Biomass, energy storage, solar and minigrid related projects represent the largest segments of the programme

Projects by Technology Category and Stage



Note: Funding has been prioritised toward storage and bioenergy projects

Impact to date

9 Calls



£188m
Committed



£121m
Co-funding



£162m
Private
investment
raised



430+
Projects



1300+
Partners



200+
International
partners



223
new tech
prototyped



122
Business models
tested



179
New patents



£4.5m
Sales



174k
People
impacted



77,000+
end user
connections



£40m
Public sector
funding won



ECAP Wall of Fame

Mandulis Energy 762 followers
 New Year's Joy! Mandulis Energy's CEO Peter BenHur Nyeko has been announced as a speaker at the upcoming Africa Investment Conference 2022 #AIC2022 hosted by the Department for International Trade (DIT) on 20th January 2022. Register here to attend: <https://bit.ly/3i4Sezc>
 #BritishBusiness #Investment #RenewableEnergy #SDG7 #Africa #NetZero #TogetherforourPlanet With thanks to Her Majesty's Trade Commissioner for Africa at the Department for International Trade, Alastair Long

Africa Investment Conference 2022
 29 January 2022
 Maria Knoodt and 25 others 1 comment

MODULARITY GRID 733 followers
Power for All 15,255 followers
 Driving a cheaper #GreenEnergy system: As prices rise, entrepreneur Elizabeth Nyeko is rewriting the energy rule book to help farmers save money with greener, cheaper power using an innovative, decentralized approach <https://buff.ly/3fMAJqy> #SDG7 #PoweringAg



Transforming Energy Access 608 followers
 Congratulations to **Mobile Power** on securing funding from the **Beyond the Grid Fund for Africa** (BGFA) to expand its innovative battery as a service business model to Liberia, to provide short-term rentals of solar-charged batteries for households, electric vehicles, and small businesses to power productive use appliances.
 Support from the Powering Renewable Energy Opportunities programme #PREO, part of the Transforming Energy Access platform, enabled Mobile Power to develop and pilot its multi-purpose MOPPO battery in Sierra Leone, and the company has been successful in leveraging the technology to replicate in other territories and use cases. It is great to see Mobile Power continue to build on the success of the pilot project to unlock new funding opportunities.
 Read more here: <https://lnkd.in/eGVAHrPF>
 Mobile Power #TransformingEnergyAccess IEKA Foundation Foreign, Commonwealth and Development Office Energy 4 Impact The Carbon Trust



GTEC 941 followers
 Great combination with **GTEC** that we start the process of creating the green jobs needed to **#buildbackgreener** **AceOn Group** - our ...see more

Our latest **#BlogPost** covers GTEC's **#BatteryStorage** course running at **Telford College** with support from **AceOn Group** - **#Telford's** own "specialist **#Battery** supplier and manufacturer". Follow the link below for the full story, featuring insight from GTEC MD **Griff Thomas**, AceOn MD **Mark Thompson**, and **Beckie Bosworth** - **#TelfordCollege's** employer engagement manager.
#Renewable #Renewables #Upskill



Institution of MECHANICAL ENGINEERS
 Homepage > News > News article
ARTICLES
Forward Thinkers: From the birth of nuclear power to biomass micro-grids
 16 Feb 2022
 Joseph Flaig



SOURCE: Trailblazing local circular food systems

SOURCE
 A smart, circular approach to food, energy, water and waste to benefit people and planet



£5,510 raised so far
48 supporters

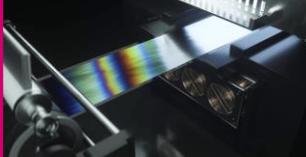
Donate

SOURCE turns food waste into energy, fertiliser and compost to grow healthy crops and create local jobs - in the heart of our cities!

Toby Hammond · 2nd
 Helping smallholder farmers across the world improve their farm productivity with our robust &...
 2h · Edited · 0

Solar radiation is thinly spread across the earth's surface, so to power something like a water pump, you need solar panels with a large surface area. This makes them heavy and expensive which is a major barrier to scaling our impact.

Futurepump has just signed an agreement with UK tech firm **Power Roll Ltd**, who have developed a novel solar film that is 1/5th the weight and a fraction of the cost of silicon PV. Their rollable solar panels will enable farmers across the world to harness the sun's energy without needing a trolley to cart around heavy and cumbersome glass-framed panels.



Can solar film be used to power irrigation pumps?
 energy-now.co.uk · 2 min read

Faisal Ghani, PhD · 2nd
 Scotland's Inventor of the Year, CEO & Founder of SolarisKit Ltd
 Another solar hot water syst This household was previous gas to boil water on the stove water to have a warm shower (for the first time!) u Lower energy bills and lower looking pretty darn awesome

SolarisKit Ltd 1,278 followers
 Another system installed in Kanombe, #Rwanda! This household did not have a hot water system, relying on gas to heat water on the ...see more



SolarQuarter 32,540 followers
 'EPC Company of the Year' award goes to the very deserving **Ariya Finergy** at our recently held 'Africa Rooftop Solar Congress 2022 Awards Ceremony'. Our proud winner is the industry leader in supplying and financing clean energy, storage, and power quality systems. The company continues to redefine the African solar market with its amazing work. Con

Ariya Finergy 814 followers
 Ariya is On the Radar!
 We are honoured as the Daily Nation has highlighted our CEO **Jenny Fletcher** as 1 of 5 **#women** to watch in 2022!

Our team is ready as your **#powerpartner** to bring our unmatched technical expertise and dedicated services across Africa. Let's get started today!

#solar #media #sustainable #africa #womeninenergy #womenchangemakers #renewableenergy #team



Solar Polar Limited 343 followers
 Proud to say we have been recognised as one of the Top Five Businesses Supporting Hospitality Sector Recovery. Thank you, **Hospitality Net**

#solar #solarheat #solarthermal #solarpatioheater #solarterraceheater #netzero #sustainableenergy #hospitality #businessandmanagement #thankyou #sustainability
https://lnkd.in/d74vb8_y

Top Five Business Supporting Hospitality Sector Recovery | By Jonny Voon
 hospitalitynet.org · 5 min read



Powering ahead with new battery storage systems courses - GTEC Training
 gtec.co.uk · 3 min read

Seedrs 28,033 followers
 Congratulations to **WASE LIMITED** for reaching 100% of their crowdfunding target

Backed by **Climate-KIC**, WASE is a super cool company unlocking the power of waste making it a sustainable source of water, energy and fertilisers.

WASE allows drinks, meat, bakery and dairy producers to turn their waste into renewable energy they can use onsite. They are working with some of the highest waste-producing and energy-intensive industries to turn them circular.

Check out the pitch: <https://bit.ly/3FgNif4>

#circulareconomy #sustainability #recycle #waste #investing #climatechange

WASE
 unlocking the power of waste
 Capital at risk

Inclusive Energy 629 followers
 Sustainable Development Goal 7 aims for energy access for all by 2030, but current approaches aren't working fast enough. The market is highl ...see more

CROWDFUNDING
 ching soon at crowdcube.com

Inclusive Energy to Launch on CrowdCube — Inclusive Energy
 inclusive.energy · 1 min read



Archie Watts-Farmer · 1st
 CEO/Co-Founder at Carnot Ltd
 24m · 0

CARNOT 1,409 followers
 1w · 0

Honoured to have participated in the **#EncouragingInnovation** campaign, run in partnership with **ITN Productions Industry News** and **Institution of Mechanical Engineers**. A keynote address from Sir Patrick Vallance celebrates the 175th Anniversary of the iMechE.

Full link to the video can be found below: <https://lnkd.in/dZSgZv8Q>

#engineering #mechanicalengineering #imeche #itn #itnproductions #innovation #innovationculture

FUEL ENERGY
 35% POWER 70%
 35% EXHAUST 30%
 30% COOLING 0%



Gender Quality and Social Inclusion (GESI)

- > Every Energy Catalyst project must outline how the project and innovation will positively impact Gender Equality and Social Inclusion (GESI). Applicants must outline:
 - the disadvantaged groups their project and innovation will support and how they will be engaged
 - how their energy innovation will enable greater gender equality and social inclusion

Female- headed households

Gender parity increases GDP

Diversity in leadership results in higher returns

Products which target end users

ENERGY
CATALYST

Case Studies



Mobile Power

Innovative pay-per-use battery sharing network unlocks clean energy for households, businesses and electric transport in Sub-Saharan Africa

- > Round 6: **£355k** to trial technology in Sierra Leone
- > Two additional grants (£2m) to prove business model and integrate vehicle as a service technology
- > **7.3 million** battery rentals
- > Expanded to **6 countries**
- > **5.5m kg of CO2** displaced
- > **£3m** of private investment raised
- > Increased staff from **35 to 700**

Game changing CRM system to balance financial risk to help companies sell to the poorest customers in Africa and Asia

- > **£224k** grant from round 7
- > Met their partner Givewatts who sell SHS at the brokerage event in **Kenya**
- > Developed and trialled the software in Kenya
- > Eliminated **Kerosene**
- > Increased **study time by 50%**
- > Working in **20 countries**
- > Through their partnerships with companies selling SHS and now cookstoves they are reaching **millions of users a year**



UPYA



SolarisKit



The world's first flat-packable, self-assembled solar collectors for heating.

Bringing sexy back to Solar thermal

- > **£240k** project in 2020
- > Took product from **TRL 4 - 6**
- > CEO named Scotland's inventor of the year 2021
- > **Manufacturing facility** in Dundee
- > Working in 19 countries across **6 continents**
- > Sold more than **1000 units**
- > Net Zero Edge award at COP26
- > Launched on **amazon** and sold out
- > Installations include **Microsoft UK and US** as well as emerging economies

Good News Stories



Paul Andrews, OakTec's founder speaking to Kenya's president Ruto

- > StorTera 1 of 5 companies to be [awarded £32m](#) in government funding to develop longer duration energy Storage
- > [Vittoria Technology and Zonke Energy](#) both winners in Agence Française de Développements Digital Energy Challenge.
- > PyroGenesys featured on the [EXCLUSIVE ESI Africa podcast](#) to discuss global climate challenges, and how bioenergy can offer Africa an abundant and substantial power source.
- > OakTec were invited by the FCDO to showcase at Kenya Innovation Week in Nairobi in December. Met with [president Ruto](#) whilst introducing him to their clean gas engine technologies.

How to get involved (+ dates)



- > Energy catalyst website: <https://energycatalyst.ukri.org/>
- > Online via the B2Match platform: <https://energy-catalyst-networking.b2match.io/>
 - > B2Match is a platform for networking with potential collaborators
- > See the Innovate UK LinkedIn with links to the following online brokerage sessions – speak to Amy

Kenya: 11th May, 11:00 – 12:30

Sierra Leone: 16th May, 11:00 – 13:00

Mozambique: 18th May, 11:00 – 12:30



Zero Emission Generators (ZE-Gen)

Programme mission and summary

Funders:



Transforming
Energy
Access



IKEA Foundation

Mission: accelerate a just transition away from fossil fuel powered generators to clean energy alternatives.

- ZE-Gen is a cross-sector initiative to tackle barriers, accelerate innovation and fund activities to build a thriving, competitive market for renewable-based alternatives.
- Funding secured to-date:
 - £580k in delivery for Design Phase from IKEA Foundation
 - £5m from TEA for accelerator, market intelligence, finance coordination and ecosystem building.
 - **£10m from TEA for funding development and demonstration of innovative technologies and business models.**
 - £50k from CECG for circularity challenge

Delivery:



Research:



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Thank You

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