Start Up Energy Transition
Global Innovation Platform

The SET100 List

Compiling the 100 Most Promising Global Energy Start-ups of 2024

Powered by

dena
German Energy Agency

In cooperation with

WORLD ENERGY COUNCIL

About Start Up Energy Transition [SET]

In 2016, the German Energy Agency (dena), identified a strong need to support impactful innovation aimed at accelerating the energy transition worldwide. As such, dena, with the support of the German Federal Ministry for Economic Affairs and Climate Action (BMWK) and industry partners, created SET to establish deep, productive connections between corporate players, the public sector and the world of energy innovation. The goal? To rapidly scale the adoption of clean energy technologies while simultaneously increasing political will and public acceptance.

In 2017, the World Energy Council joined dena as a cooperation partner to expand the reach and leverage of SET. SET continues to enable these connections with it's unique position at the crossroads of the private and public sector. At its core, the **SET platform** is built on three pillars: The **SET Award**, **SET Tech Festival**, and **SET Newsroom**.

Our Vision

"Innovation at the core of our net zero future"

We see start-ups and innovation playing a crucial role in our net zero future. Through the SET platform, we want to give a voice to the innovators of tomorrow to ensure that decision makers place innovation in energy at the top of their agendas, while industry leaders employ innovation as the clear path to their decarbonisation goals. Only then can we reverse climate change, drive the energy transition forward and secure a sustainable future.

Our Mission

"Strengthening the impact that energy innovators have in reaching climate neutrality"

Through our activities, we support, promote, and create opportunities for start-ups in the energy sector to scale-up impact and accelerate the global energy transition in order to reverse climate change.

"The Start Up Energy Transition Award has been instrumental in helping BluWave-ai connect with customers, and investors internationally over the two years we have been selected."

Devashish Paul, CEO & Founder at BluWave-ai (SET Award 2020 Finalist)

The SET100 List

The SET100 list is a compilation of the top 100 SET Award applications. The initiative was first launched in 2017 in collaboration with the World Energy Council with the aim of offering young companies a platform to showcase their forward-thinking solutions.

What is the SET Award?

The Start Up Energy Transition Award is an international competition for start-ups and young companies worldwide working on impactful ideas affecting the global energy transition and climate change. In the last eight years, the award has received more than 3,500 applications from over 100 countries.

"The global impact potential embodied by this year's SET100 finalists is amazing. Highlighting and helping them scale is an honour. We are building on eight years in partnership with dena to redesign energy for people and planet."

Dr. Angela Wilkinson, World Energy Council

"How we transform our energy systems continues to be the best way to combat the climate crisis. Action here is needed now more than ever, which is why innovative energy and climate tech solutions continue to play a central role. So, the SET100 List is invaluable: it spotlights promising start-ups, showcases their great solutions, and helps us track technological trends. The 2024 SET100 List can accelerate the energy transition and help us build a more flexible and sustainable energy system for the future."

Corinna Enders, German Energy Agency (dena)

SET Award 2024

Going into the eighth year, SET is proud to present the top 100 international start-ups from the SET Award 2024 competition. More than 430 start-ups from 75 countries applied in 1 of 5 categories to showcase their game-changing solutions.

The #SET24 Categories

Clean Energy & Storage

Mobility & Transportation

Industry

Buildings & Construction

Quality Energy Access & SDG-7

Methodology

SET designed this process to offer a fair and holistic representation of energy and climate tech transition-related start-ups determined by international and cross-sectional experts within the energy community. To accomplish this, the evaluation occurred in four phases:

Phase #1: Criteria Check

The SET team processed all 400+ applications to determine if they met the minimum eligibility criteria. To participate in the SET Award, start-ups must have met the following criteria:

- The company must not have been founded more than 10 years ago
- There must have been a functioning prototype
- The company must be registered or be in the process of becoming registered and the applicant must be able to present a proof of concept or a client, and/or an industrial/corporate/institutional partner

Phase #2: Early Metrics Model

Start-ups that met the eligibility requirements were then evaluated by the SET specific start-up model built by our partner Early Metrics. The model incorporated the SET Award categories and application information, and measured: growth, impact, adoption, scalability, market penetration, and of course – innovation.

Phase #3: High-level Jury Evaluation

In accordance with the Early Metrics rating, the top third of start-ups with the highest scores were then evaluated by our high-level jury which was comprised of some of the most prominent and influential individuals in the energy sector. On a 10-point scale system per question, each application was evaluated according to their relevance, business model, innovation level, market awareness and potential, capacity to execute their strategies (finances, network, leadership, etc.) and diversity.

Phase #4: Quantitative & Qualitative Score Weighting

The scores from both the Early Metrics SET-specific start-up model and those provided by the high-level jury were then compared, analysed, weighted and combined to produce the SET100.

The SET Award Jury

Corinna Enders
Chairperson of the
Management Board
German Energy Agency

Dr. Angela Wilkinson
Secretary General & CEO
World Energy Council

David Addison
Climate and Net Zero
Innovation Manager
Virgin Group

David Arinze
Off-Grid Energy
Portfolio Lead
Diamond Development
Initiatives

Freerk Bisschop
Venture Partner
Inven Capital

Andrea Canepa
Co-Founder and
Managing Director
Net Zero Insights

Niclas Carlsson
Director of International
Market Development
Swedish Energy Agency

Dr. Antje Danielson
Research Director
MIT Energy Initiative

Dr. Axel Dickenbrok
Investment Director
DACH
InnoEnergy GmbH

Lars Eiermann
Chief Sustainability
Officer
TUM Venture Labs

Stephan Franz
Bilateral Climate and
Energy Partnerships
Leader
GIZ

Thorsten Fritsche
Bilateral Climate and
Energy Partnerships
Director
GIZ

Samuel Gerlach
Senior Innovation &
Development Manager
E.ON

Michael Hackethal
Multilateral Cooperation
on Climate & Energy
Division Head BMWK

Dr. Bracha Halaf
Co-Founder and
Managing Partner
Gravity Climate-Fund

Max ter Horst
Managing Partner
Energy Fund
Rockstart

The SET Award Jury

Iris Jensen
Senior Associate
BayWa r.e. Energy
Ventures

Felix Krause
Partner
Vireo Ventures

Chetan Krishna
Head of Research and
Diligence
Third Derivative

Andreas Kuhlmann
CTO/COO
Christ&Company

Claudius Laskawy
Portfolio Development &
Partnerships
DTCP

Christine Lins
Executive Director
Global Women's Network
for Energy Transition

Morielle I. Lotan
Founder and CEO
MILE Advisory

Raamu Moneyam
Investment Manager
BayWa r.e. Energy
Ventures

Solmaz Moshiri
Head of Commercial for
Digital Services
SSE Distribution Energy

Monique Motty
Project Manager
African Development
Bank

Rolf Nagel
Partner
Munich Venture Partners

Justice Ohene-Akoto
Senior Advisor
JP Partners & Associates

Julia Padberg
Partner
SET Ventures

Aneri Pradham
COO
New Energy Nexus

Aziz S. Rahim
Principal
Siemens Energy Ventures

Kendra Rauschenberger
General Partner
Siemens Energy Ventures

The SET Award Jury

Sarah Roehm
Strategic Venture Capital
Manager
DTCP

Tina Schirr
Executive Director
BusinessNZ Energy
Council

Rona Shedid
Senior Specialist
Partnerships
COP28 UAE

Luis Sperr
Managing Partner
kopa ventures

Robina von Stein
Investor
Contrarian Ventures

Patricia Tatto
Vice President
ATA Renewables America

Marie-Line Vaiani
Secretary General
French Committee of the
World Energy Council

Danijel Višević
Founder & General
Partner
World Fund

Molly Webb
Founder
Energy Unlocked

Dr. Christoph Wolff
Honorary Professor
Economics & Social
Sciences
University of Cologne

David Wortmann
Founder and Managing
Director
DWR Eco

Jane Wu
Managing Director
Venture Cup

SET100 Innovation Spectrum

SET100 start-ups, represented by over 75 countries, are leading the charge in the energy transition and climate tech sectors. Their innovative contributions have not only secured them positions on the SET100 list for 2024, but also highlighted their significant roles in driving climate action forward. **This year's start-ups emphasize energy efficiency, sustainability, and circular economy principles**, underlining their commitment to fostering a resilient energy system. Below we dive into the evolving the maturing climate tech **innovation landscape across five key sectors** we monitor.

The **Clean Energy Generation and Storage** category innovators like Cling Systems' digital infrastructure for battery lifecycle management and H2Site's on-site hydrogen production showcases rapid progress. Along with South 8's safer battery electrolytes, these developments mark a **shift towards comprehensive sustainability across the energy value chain**, aligning with global decarbonization efforts.

This year's SET100 start-ups in this category are tackling challenges head-on, **integrating renewable energy into construction, and enhancing energy systems monitoring**, demonstrating the sector's evolution towards diversification, sustainability, and widespread adoption of renewable energy solutions.

Circular Economy for Batteries | Safety and Efficiency in Energy Storage | Renewable Energy Integration in Materials | Energy Management Software Solutions | Waste-to-Energy Technologies

The **Smart Mobility & Transportation** category start-ups are having a significant impact on the sector's electrification efforts, with those like Roam and Blitz Electric Mobility **expanding electric vehicle (EV) deployment worldwide**. Deftpower is also making strides by developing a **cohesive EV ecosystem** for smoother integration within the mobility landscape. Innovations don't stop there: OtailO leverages AI for smarter fleet management, while Air Cylinder challenges the norm with alternatives to conventional rubber tires.

Efforts from the SET100 in this category high showcase approaches to **reinventing mobility components in a bid to lower carbon emissions, improve efficiency**, and foster a transition to a greener, more interconnected future of mobility.

Enhanced Charging Infrastructure | Electric Mobility Expansion in Emerging Markets | EV-centric Logistics Solutions | Mobility Component Redesign | AI and Big Data for Fleet - Management | Green Hydrogen Catalyst Technologies

SET100 Innovation Spectrum

As the **Industry** sector moves towards a net-zero horizon, SET100 start-ups are **fusing technological innovation with sustainability principles to reshape operating paradigms**. Innovators such as UP Catalysts and Magnotherm are leading the way with converting CO2 into carbon nanomaterials and graphite for applications from concrete to batteries and developing magnetic cooling technologies that significantly reduce carbon emission across the industry, respectively. Aditionally, PH7 Technologies Inc. is revolutionizing **resource recovery** with its closed-loop process, emphasizing the **shift towards circular economy** practices by efficiently recycling metals such as nickel and copper from waste.

Endeavors led by SET100 start-ups in this domain target the core of industrial operations, **slashing carbon emissions in key sectors like agriculture, manufacturing, and energy production.**

> Green Manufacturing Technologies | Sustainable Resource Extraction | Carbon Sequestration - Techniques | SME-Targeted Carbon Footprint Software | Direct Air Capture Technologies

In the **Buildings & Construction category**, SET100 start-ups are leading the way in contemporary, **eco-conscious construction and urban planning**, blending technological innovation with sustainability. QEA Tech leverages AI and drone thermography to enhance energy efficiency, setting a high bar for the sector. These advancements, combined with Ltd's passive temperature regulation materials and Keey Aerogel's innovative recycling of silica from building demolition waste, signal a transformative approach to **energy conservation in construction materials**.

Start-ups in this category are part of a **larger movement towards digitization and advanced surveying in construction**, marking a shift to intelligent, sustainable building practices.

> Integration of Technology in Planning | Advanced Diagnostics and Data-Driven Solutions | Robotics and Sustainable Materials in Construction | Material Innovation for Energy Efficiency

In the **Quality Energy Access and SDG-7 category**, SET100 start-ups are at the forefront of developing unique solutions that promote access to, and the i**ntegration of renewable technologies in diverse sectors and geographies**. Agrisiti transforms agriculture for better food security, and Takachar transforms waste into bioproducts, exemplifying circular economy principles. VIDA's geospatial analytics **streamlines clean energy project deployment**, aiming for precision and impact in renewable investments and projects.

This category's start-ups' focus on innovation and equity, underscore **renewable energy's central role in driving socio-economic transformation.**

> Geospatial Analysis for Energy Project Optimization | Sustainable Urban Farming Solutions | Off-Grid Solar-Powered Applications | Localised Waste-to-Value Conversion | Renewable Water Purification Technologies
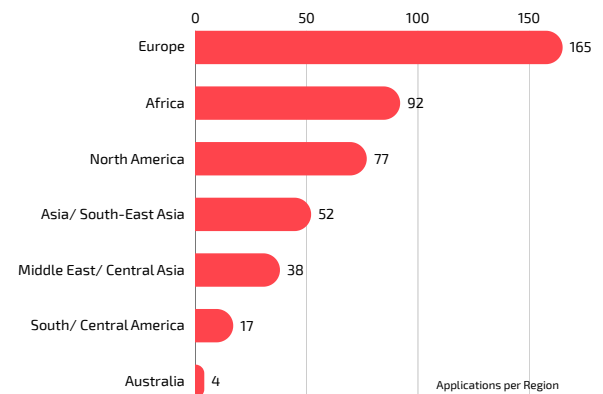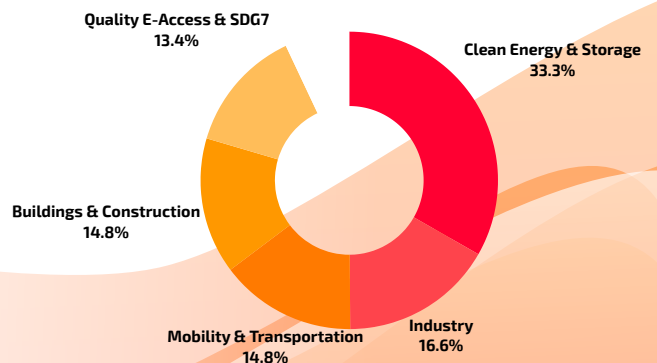
SET100 Metrics 2024

● - Applicant countries
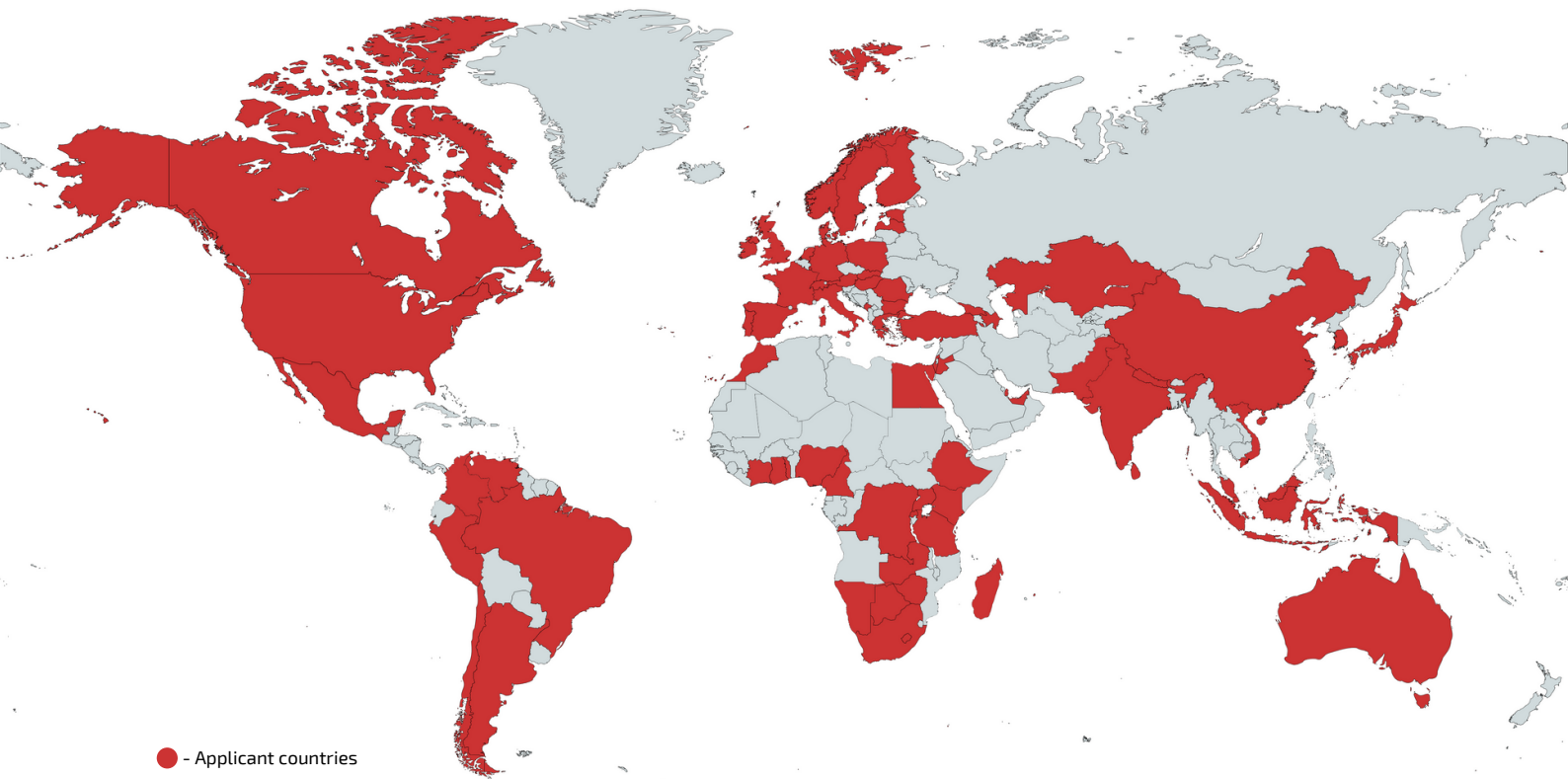
#SET24 key data at a glance

→ More than **430** applications from **75 countries** & **all continents.**

→ **Top 3** submitting **countries:** **USA** (64), **Germany** (52) & **India** (31)

→ **93% of applications in 2024 met the quality standards** and were admitted. In comparison, for **2023** it was **83%.**

→ **41%** of all applications had at least one **female (co-)founder**

Applications per region

Region	Applications
Europe	165
Africa	92
North America	77
Asia/ South-East Asia	52
Middle East/ Central Asia	38
South/ Central America	17
Australia	4

Applications per Region

Applications per category

Quality E-Access & SDG7
13.4%

Clean Energy & Storage
33.3%

Buildings & Construction
14.8%

Mobility & Transportation
14.8%

Industry
16.6%

Category: Clean Energy & Storage

The generation, storage and distribution of renewable energy is the backbone of the energy transition. In this category, we are looking for start-ups developing solutions to decarbonise our most energy-intensive sectors, as well as those accelerating the adoption of new solutions through capacity building.

About:Energy | United Kingdom
The start-up is leveraging battery expertise to advance innovation and sustainability across various sectors. The technology simplifies battery development, cutting time, cost, and risk via a comprehensive database and SaaS platform. Developed by experts from renowned institutions, it serves as the industry's gateway to leading battery research.

ACE Green Recycling | United States
ACE is a battery recycling technology platform that provides proprietary solutions for recycling lithium and lead batteries with zero waste and zero emissions.

ampere.cloud | Germany
Amperecloud offers the operating system for renewable energies that is used by medium-sized and large companies in the energy sector. The software solution covers the entire value chain in energy and storage monitoring, from setting up and storing master data to analysing portfolio performance, CMMS and reporting.

Beem | France
Beem offers a Home Energy Management System (HEMS) that enables users to understand and manage their energy consumption, produce and store their own solar energy.

BiofuelCircle | India

BiofuelCircle digitally transforms the bioenergy supply chain, fostering connections across the Farm-to-Fuel Ecosystem. It optimizes resource use, enhances market transparency, and empowers rural communities. With 850+ businesses and 12,000+ farmers onboard, it operates in 5 Indian states, offering a user-friendly marketplace and supply network services.

BroadBit Batteries | Finland

BroadBit Batteries, a Finnish company, pioneers sustainable battery technology using sodium chloride and locally sourced materials. Their eco-friendly manufacturing eliminates toxic solvents. These batteries serve electric vehicles, electronics, and grid storage, prioritizing long-term energy solutions.

Buyofuel India | India

Buyofuel operates India's premier B2B online marketplace, connecting fuel consumers with a range of biofuels and organic wastes. By facilitating access to sustainable biofuels and organic waste sources, their platform drives growth in India's biofuel sector. Their mission is to advance India's transition to a low-carbon future by promoting the use of locally produced biofuels derived from organic wastes through technology-driven solutions.

Cipher Neutron | Canada

Cipher Neutron pioneers green hydrogen production using revolutionary technology from water. Positioned in the expanding hydrogen market, our AEM electrolyzers offer affordability and sustainability, crucial for the hydrogen economy. With high efficiency, our electrolysers maximize hydrogen output per unit of electricity, driving cost-effective green hydrogen production.

Finalist

Cling Systems | Sweden

Cling Systems is a start-up that helps companies recycle used electric car batteries. Cling Systems is establishing the digital infrastructure and a global service network to dramatically accelerate the circular economy.

Copprint | Israel

Copprint innovates with patented copper inks, revolutionizing manufacturing by offering eco-friendly alternatives to traditional processes. Partnering with industry giants, they lead in PCB, PV, and RFID production, providing cost-effective solutions for sustainable manufacturing. With substantial funding and a robust client base, Copprint aims to disrupt the $70B PCB industry, driving forward the transition to greener practices.

enspired | Austria

enspired optimizes flexible power assets commercially, offering trading services for renewables, flexible demand, pumped storage, and battery storage systems. Pioneering cross-market battery optimization, they manage 300MW of flexibility, becoming a leading independent optimizer in Europe.

everyone energy | Germany

everyone energy, a SaaS start-up established in 2021, tackles the energy advice shortage with automation. Their software analyzes rooftops, assesses technical aspects, and generates detailed solar reports, aiding sustainable business scaling. With experienced founders and notable clientele like Qcells and LichtBlick, they aim to facilitate millions in their energy transition journey.

Fusebox | Estonia

Fusebox offers a VPP-as-a-service with EMS capabilities, empowering energy companies. It addresses utility challenges, enabling swift decision-making amid diverse resources and renewable integration. Customers optimize profitability, access energy markets, and offer innovative services, unlocking new business avenues. The goal is to engage with BRPs, offering SaaS solutions to enhance energy sector presence.

Future Grid | Australia

Future Grid utilizes technology to adapt electricity distribution networks for cleaner, greener energy. Their flagship product, Compass™, provides real-time visibility, allowing businesses to address network issues promptly and support additional capacity for EVs and Solar PVs. Future Grid spearheads decarbonization and net-zero transition, helping distribution businesses leapfrog in their digital journey. Partnering with industry leaders, they serve some of the world's largest distribution businesses.

H2SITE | Spain

H2SITE is a company focussed on hydrogen transport solutions and owns exclusive technologies for membrane reactors and separators. They have built the first membrane manufacturing plant in Bilbao, Spain, and sell their products with a multi-year membrane supply agreement that guarantees hydrogen purity and quantity.

H2 Technologies | Unites States

H2U pioneers next-gen PEM electrolyzers for low-cost green hydrogen production, targeting hard-to-abate industries. Leveraging catalyst innovation, their electrolyzers offer reliability and affordability, halving current costs. Paired with renewables, they facilitate a shift away from fossil fuels, advancing a carbon-free future.

MACLEC | India

MACLEC revolutionizes renewable energy with customizable "Surface Hydro-Kinetic Turbines," recognized by global entities. Deployable in various water streams, these turbines enable cost-effective energy generation and storage. With ongoing projects worth $41M, they introduce a plug-and-play, long-duration bulk energy storage system, offering grid stability and gigawatt-scale power supply at competitive rates for over 50 years.

B5tec | Spain

B5tec, founded in 2017, specializes in revolutionary energy storage technology, notably REDCAP, the Superbattery. With over 25,000 charge cycles or 15 years lifespan, REDCAP is metal-free, non-toxic, and boasts a local supply chain, ensuring sustainability and safety. B5tec's pioneering microfluidics and organic active spices drive innovation towards eco-friendly, high-power energy solutions.

Off The Grid | Canada

The Canadian-made spinning bike by this company harnesses wasted energy, converting it into electricity without batteries or modifications. Users track workouts and environmental impact via a mobile app, while corporate challenges offer eco-friendly rewards. For B2B clients, it's a straightforward well-being and sustainability commitment, enhancing employee health and employer branding.

Over Easy Solar | Norway

Over Easy Solar, founded in 2021, innovates in solar hardware with a focus on rapid development and commercialization. Its business model centers on agile hardware prototyping, transitioning concepts to market-ready products swiftly. Securing significant investments from energy sector leaders, Over Easy Solar aims for rapid scalability and market penetration, driving sales growth and industry impact.

Roofit Solar | Estonia

Roofit Solar Energy manufactures innovative solar roofs that seamlessly integrate solar panels into traditional metal roofing material, offering a 2-in-1 solution for efficient energy generation. Their products are known for their simplicity and speed of installation.

Sahas Urja | Nepal

Sahas Urja is a leading hydropower developer in Nepal. Their projects set national records and prioritize balanced economic growth through sustainable energy generation. Engaging local communities as stakeholders, they operate two projects with 86 MW capacity, with two more under construction and negotiations ongoing for three additional projects, targeting a total capacity of 1000 MWs.

Sakowin | France

Sakowin, founded in 2017, pioneers eco-friendly Deeptech for CO_2-free hydrogen production from methane. Its compact, modular design integrates into existing infrastructure, offering scalable, cost-effective solutions. With €8M+ funding, Sakowin seeks €4M more to drive energy transition, championing sustainability in the hydrogen sector.

Sentrisense | Spain

Sentrisense digitizes and optimizes global power grids, enhancing energy efficiency and environmental sustainability. Our solutions leverage predictive maintenance, smart grid tech, and AI-driven insights for overhead power lines, ensuring efficiency, reliability, and streamlined operations. With scalable solutions and innovative systems, we enable Quick Incident Detection, Early Fault Detection, and Dynamic Line Rating, enhancing grid management and safety for a sustainable energy future.

Solaires Enterprises | Canada
Solaires Entreprises Inc. pioneers a novel solar cell technology, leveraging perovskite for superior energy conversion efficiency. Their thin, lightweight modules generate electricity from both indoor and outdoor light, offering a cost-effective and eco-friendly solution for powering battery-operated devices.

Solar MD | South Africa
Solar MD, established in 2015, leads the African energy storage market with adaptable and customizable energy storage systems tailored to the continent's diverse needs. Their commitment to innovation ensures incorporation of the latest technological advancements, driving growth in Africa's renewable energy sector.

Solfium | Canada/Mexico
Enabling comprehensive energy solutions, the company offers a mobile app for small commercial and residential clients, alongside industrial solar installations. Operating as a managed marketplace, it connects local installers, manufacturers, logistics providers, and financing partners for seamless service delivery and competitive pricing.

Finalist

South 8 Technologies | United States
South 8 Technologies sells LiGas®, a patented liquid gas electrolyte for lithium-ion batteries that solves the inherent "fire and ice" problem in standard liquid electrolytes. This is relevant for cell manufacturers and end users, including electric vehicle OEMs and energy storage providers, as well as a variety of other applications from defence to aerospace.

Stargate Hydrogen | Estonia
Stargate, established in 2021, pioneers affordable green hydrogen technology to combat climate change. Their innovative catalyst, Stardust, enhances electrolysis efficiency in alkaline electrolyzers, making green hydrogen economically viable for industries like steelmaking and chemicals. With €34+ million financing and visionary partners, Stargate drives the mission for a greener, sustainable future.

suena | Germany

suena, a Hamburg-based green-tech start-up, aims to accelerate the energy transition by optimizing and trading large-scale energy storages. Its autopilot system combines market data and battery models to maximize revenue streams, making flexibility profitable for all stakeholders. With a vision for a sustainable energy system, suena is poised to lead the charge towards a greener future.

Suncast | Chile

The Chilean tech firm, utilizes AI for renewable energy assets, serving over 1.7 GW in Chile. Their offerings include Solar & Wind Energy Forecasting, achieving 50% more accuracy than prior methods, aiding effective planning and regulatory compliance. Additionally, Photovoltaic Soiling Forecasting optimizes cleaning schedules, boosting energy production and cutting cleaning costs by up to 50%. These services reduce O&M costs, ensure regulatory compliance, and maximize energy output.

Synergi Solutions | Finland

Synergi's software revolutionizes household electricity management, optimizing EV charging, heating, cooling, and solar usage based on electricity prices. Utility companies can brand our app, making their services digital, cost-effective, and eco-friendly, driving towards a net-zero future.

Terrawaste | Netherlands

Their state-of-the-art hydrothermal liquefaction (HTL) technology enables non-recyclable waste to be converted into perpetual oil, a valuable and sustainable resource. Their unique approach emphasises raw material versatility, in-depth exploration of different plastics, yields of high-quality end products (with significant phenolic content) and a holistic commitment to carbon negativity.

Uali | United Kingdom

The start-up is empowering energy companies with actionable data for strategic decisions, operational optimization, and environmental sustainability. Solutions include predictive maintenance, real-time monitoring, and consumption analysis, driving efficiency and emissions reduction for a sustainable future.

VK Energie | Germany
VK Energie optimizes renewable energy systems, using predictive algorithms and patented heat storage management, ensuring peak performance. With over 100 systems optimized, we boost revenue, cut emissions, and accelerate the transition to a sustainable energy landscape.

Zhejiang Huayou Recycling Technology | China
The company specializes in researching, developing, producing, and selling reused battery products. They acquire retired EV batteries and process them through disassembly, testing, and assembly to meet customer demands. Their range includes batteries for low-speed electric vehicles, forklifts, and home energy storage, offering various product lines to cater to diverse needs.

Zoa Technologies | United Kingdom
Zoa pioneers consumer-centric energy tech, born from the team behind UK's Bulb. Having facilitated Bulb's rapid growth and stellar service, Zoa emerged in 2022 to empower global energy suppliers with consumer-focused solutions. Their platform fosters trust, engagement, and drives the green energy transition, offering a pathway for energy companies to evolve into consumer-centric entities.

Category: Mobility & Transportation

For as long as we have space, we will need to move about in it. Transportation and mobilitycontinues to be one of the most essential but energy-intensive sectors we monitor. This category rewards creative solutions and lateral thinking in a sector that can span the large and the physical to the virtual and the digital.

Aerodymax | Austria
Aerodymax offers an aerodynamic skirt for semi-trailers, cutting fuel consumption and emissions by up to 5%, with a 6-month ROI. Piloted by ABInBev and Jost-Group for over 100k km, achieving 4.9% fuel efficiency, it's set to expand with Coca-Cola, Kuehne Nagel, and Schwarzmuller. Developing a Trailer Underbody System to streamline components, meeting regulatory standards and reducing costs and emissions for trailer OEMs and operators.

Beev | France
Beev is an all-in-one solution for the electric revolution, offering a wide range of electric cars from global brands to choose from, with leasing options from 3 to 60 months and no down payment. They offer a hassle-free charging facility, decision support tools such as detailed car comparisons and a Total Cost of Ownership (TCO) calculator, as well as a fleet management tool for organisations looking to transition their fleet to electric.

Blitz Electric Mobility | Indonesia
Blitz is the first and largest EV logistics enabler in the Asia-Pacific region. Companies from various industries are private labelling our services and integrating our logistics tech stack, operations and EV fleets to improve delivery efficiency and margins.

Deftpower | Netherlands

Finalist

Deftpower is building the industry's most advanced technology platform that recalibrates EV drivers, their cars, charging points and the grid in a sustainable ecosystem. They deliver a flexible platform for mobility service providers that puts the driver at the centre of all charging decisions - with full transparency and control over pricing and flexibility.

Epic Charging | United States

Epic Charging develops a leading Operating System for scalable Electric Vehicle (EV) charging. Their state-of-the-art software integrates with over 200 EV models and all open protocol EV chargers, setting an industry benchmark. Epic's business model focuses on providing seamless charging solutions for charge point manufacturers, resellers, installers, and end-users. They qualify for government incentives and excel in adapting to evolving software needs, ensuring effortless EV charging at scale.

FLEXeCHARGE | Denmark

FLEXeCHARGE aims to revolutionize sustainable mobility by integrating EV charging seamlessly with the grid. Their FLEXeCHARGE Platform offers commercial charging station operators a vendor-independent solution for intelligent grid connection and renewable energy utilization. Over 20 charge point operators have chosen FLEXeCHARGE to manage loads, reduce costs, and ensure grid stability, aligning with their vision to lead in grid integration software for EV charging ecosystems.

Global Air Cylinder Wheels Incorporated | United States

GACW develops, designs, tests and manufactures proprietary ASW (Air Suspension Wheel) technology that improves wheel performance in many industries worldwide and reduces the environmental damage caused to the by the use and disposal of rubber tyres.

ionysis | Germany

ionysis pioneers catalyst coated membranes (CCMs) for hydrogen fuel cells and electrolysers, crucial for decarbonizing transportation and industry through green hydrogen. Utilizing hydrocarbon (HC) materials instead of perfluorinated sulfonic acids (PFSA) offers higher operating temperatures, simplified recycling, and mitigates environmental risks. With development contracts exceeding €1M and a pilot production line underway.

Meredot | Latvia

Meredot pioneers wireless charging for EVs and robotics, enhancing efficiency and sustainability. Versatile solutions cater to various applications, from scooters to logistics robots. Pilot projects with partners demonstrate real-world impact. Meredot envisions a future of accessible clean mobility and automation, shaping innovation in wireless charging technology.

MinervaS | Italy

The start-up develops state-of-the-art energy conversion systems. MinervaS is active in the fields of automotive drives and stationary applications and utilises the power of IoT, digital twin and machine learning technologies for monitoring, control and diagnostics.

Finalist

OtailO Returns | Israel

OtailO is changing the way retailers handle returns by using AI and circular economy to perform real-time calculations on each return and send it to the most optimal, profitable and sustainable next shelf. The solution reduces returns, carbon emissions and protects retailer margins like never before.

Finalist

Roam | Kenya

Roam electrifies motorbikes and buses, focusing on the huge East African market where motorbikes and buses are often the preferred and sometimes the only means of transport available. Roam is actively working towards a future where all Africans can be mobile in a sustainable, unfragmented public transport sector.

Sealence | Italy

The start-up develops, manufactures and markets technological solutions for the marine sector, in particular DeepSpeed, the electric ship propulsion system based on a highly efficient outboard jet, which is already patented in 51 countries worldwide.

Vioma Motors | India

Vioma pioneers E-mobility, tackling EV range anxiety by offering in-house designed vehicles with innovative features. Their energy regeneration system and metal-air battery pack revolutionize sustainability and affordability in transportation. With 11 patents filed and Thunderbolt released in 2024, Vioma promises a lineup of high-performance bikes and a retro smart car in 2027, aiming to redefine mobility and remove barriers in the EV industry.

Wattson Smart Charging | Spain

Wattson offers ultra-fast off-grid EV chargers for sites with inadequate grid capacity. Their service provides rapid charging, giving EVs 100 km range in under 5 minutes. They offer solutions for car-sharing, taxis, rental car agencies, and delivery depots, ensuring operational efficiency and self-serviceability.

volvero | Italy

volvero revolutionizes vehicle sharing with a user-friendly app. Owners set sharing terms while drivers choose vehicles and terms. Powered by AI, the platform ensures security and transparency, replacing paperwork with smart contracts. Built-in insurance covers all vehicles and drivers, promoting efficient, sustainable, and safe vehicle sharing.

Category: Industry

Industry accounts for a staggering one-third of global greenhouse emissions and is one of the most challenging sectors for decarbonisation. Nevertheless, innovation here represents one of the biggest, most important, and most profitable ways for companies to decarbonise.

Carbonstop | China
Carbonstop is China's first corporate carbon management software and consulting firm. Their key services include designing and implementing enterprise (bespoked and Saas) carbon inventory systems, developing IT solutions for carbon measurement, reporting and calculating carbon footprint, designing and developing consumer-facing carbon data management tools.

Solid World | Estonia
Solid World serves as the financial backbone for energy asset funding, transforming GO-s into tradable commodities to enhance capital flow. With $2.2M AUM in two markets and plans for five more, partnerships with industry leaders, and rapid growth at over 30% MoM, it aims to target $3T in climate and energy assets.

Elephantech | Japan
The company revolutionizes electronic circuit manufacturing by integrating metal inkjet printing and electroless copper plating, significantly reducing environmental impact. This innovative method minimizes material waste and wastewater, offering a sustainable solution to traditional manufacturing practices.

etalytics | Germany
etalytics pioneers advanced energy intelligence solutions using cutting-edge AI, notably etaONE®. Focused on industries like data centers and automotive, it optimizes energy systems in real-time, cutting costs, and reducing CO_2 emissions. Founded by AI and energy system experts, Etalytics drives sustainable energy management, shaping a greener future.

Greenly (Offspend) | France

Greenly is a company that offers a technological solution that makes carbon footprint analysis easier and more financially accessible to democratise carbon accounting for SMEs and empower them to make climate commitments.

guane enterprises | Colombia

Guane specializes in AI and optimization software for energy planning, market analysis, and forecasting. Its solutions, like Thori, merge Fourth Industrial Revolution tech with energy transition needs, offering tailored tools for decision-making. Unique features include local context adaptation, scientific support, and a multidisciplinary team.

InPlanet | Germany

The start-up aids tropical farmers in CO2 removal through enhanced rock weathering (ERW). ERW accelerates the natural process of CO2 removal from millions of years to less than a decade by grinding and spreading specific rocks on farmland. This approach offers co-benefits like reduced chemical pesticide and fertilizer use, increased yields, and higher farmer incomes.

Finalist

Magnotherm | Germany

Magnotherm Business Model works with permanent magnets and magnetic cooling: The technology, based on solid magnetocaloric materials, magnets and water, has the potential to revolutionise the way the world provides low temperatures, increasing efficiency by up to 40% and completely eliminating refrigerant gases from the cooling cycle, thereby completely eliminating direct greenhouse gas emissions.

NAM Technology | Israel

NAM introduces a new-to-the-industry heat pump solution that removes technical barriers of HVAC equipment including heat pumps. Current systems lack efficiency in large gap of temperatures (for example, in heating water from ambient temperature to 70 degree of Celsius in hospitals). Their energy loss is based on unwanted freon evaporation in maximum capacity settings.

Ndustrial.io | United States

The multidisciplinary firm integrates Silicon Valley innovation with industrial expertise to enhance factory efficiency globally. Trusted by mission-critical facilities, it offers energy intelligence solutions reducing Energy Intensity by 30%, while maintaining productivity. Providing comprehensive services, from software to electrification infrastructure, it advances the low-carbon industrial economy.

OCTAVIA CARBON | United States

Octavia Carbon is the first Direct Air Capture (DAC) company in the Global South. They are developing DAC technology that captures CO_2 directly from the atmosphere and aim to permanently remove one million tonnes of CO_2 from the atmosphere by 2030 to support global efforts to achieve net zero.

pH7 Technologies | Canada

Finalist

pH7 utilises a closed-loop process that employs organic, inorganic and electrochemical processes to increase the supply of critical metals by recovering metals from materials destined for landfills. This disruptive process significantly reduces wastewater, prevents hazardous chemicals from entering the environment and reduces CO_2e emissions to zero, while enabling the recovery of critical metals such as nickel, copper, platinum and iridium.

Pix Force | Brazil

Pix Force specializes in AI-driven visual inspection automation, employing machine learning and deep learning for image interpretation. Its award-winning solutions offer faster, more accurate, and cost-effective results compared to human inspection. Recognized for innovation, Pix Force has topped the 100 Open start-ups ranking for five years and received awards for best start-up in Computer Vision and Artificial Intelligence in Brazil.

Qlayers | Netherlands

Qlayers, a Dutch innovator, develops robotic solutions for coating industrial structures efficiently and safely. Their technology minimizes overspray, enhancing productivity and safety for coating contractors. Qlayers aims to revolutionize surface functionality by mimicking nature's microstructures, like sharkskin, to reduce drag and improve energy efficiency in various industries, from wind turbines to aviation.

TreaTech | Switzerland

TreaTech pioneers the circular economy by converting waste into valuable resources. Using patented catalytic hydrothermal gasification technology, TreaTech transforms diverse waste streams into clean water, minerals, and renewable gas. This sustainable approach addresses immediate needs for renewable energy while mitigating long-term environmental impact, offering a dual solution for current and future challenges.

UNDO Carbon | United Kingdom

UNDO pioneers enhanced rock weathering, removing CO_2 via natural processes. Backed by Microsoft and Stripe, it spreads crushed silicate rock on farmland, sequestering CO_2 for millennia. Enhancing soil fertility and food security, UNDO offers businesses reliable carbon removal credits for their journey to net zero.

UP Catalyst | Estonia

Finalist

UP Catalyst is a clean tech start-up focussed on converting CO2 into carbon nanomaterials and graphite for a vast range of applications from electric car batteries to concrete and biomedicine. They effectively remove CO2 from the atmosphere and turn it into a commercially viable product instead of storing it.

Category: Buildings & Construction

Our built environments consume lots of energy, whether through their construction, the materials used, or the significant chunk that is wasted in keeping them warm or cold. This category rewards those creating the comfortable, cost-effective, energyefficient buildings of the future.

Airteam Aerial Intelligence | Germany
Airteam, powered by AI, transforms aerial drone data into precise 3D, CAD, and BIM models. This empowers photovoltaic designers, roofers, and contractors to efficiently measure, plan, and inspect buildings in 3D, saving about 90% of measurement time compared to traditional methods like tape measures and lasers. With accuracy down to 1cm, Airteam's 3D measurements and inspections outshine satellite images.

ClimateView | Sweden
ClimateView aids cities in transitioning to net-zero emissions. With cities contributing 70% of global greenhouse gas emissions, ClimateView offers a science-based methodology and digital platform to guide cities through complex climate transitions. Partnering with Swedish governmental agencies, they provide tools for over 80 cities, primarily in Europe, to execute and monitor climate action plans. Their objective is to empower city leadership with data-driven decision-making tools to accelerate the transition to net-zero emissions.

CORKBRICK EUROPE | Portugal
CORKBRICK EUROPE pioneers sustainable building solutions, harnessing cork's unique properties for versatile, eco-friendly construction. They introduced sustainable dynamic structures and furniture, envisioning a world where individuals shape their environments. With a diverse, gender-balanced team, they drive innovation, aiming for positive societal impact through flexible, modular building systems.

Easy Housing | Netherlands/Uganda
Easy Housing, a circular and climate-resilient building solution based on locally sourced, sustainable timber, provides affordable housing in African countries, offering scalability and flexibility while achieving a 250% reduction in CO2 emissions per home through carbon-storing timber, thereby aiding climate mitigation and adaptation efforts.

Element Zero | Australia

Element Zero pioneers a novel, low-temperature mineral processing platform for decarbonizing mining. Integrating ionometallurgy and electrochemistry, it shifts to renewable energy for green metals and zero-carbon cement. Its modular, scalable process enables cost-competitive metal production, tackling industries contributing 17% of global CO_2 emissions, worth over $1 trillion. No green premium costs for customers due to process simplicity.

Empower Equity | United States

EMPEQ's Fast Site Survey™ app offers actionable insights on existing equipment. With one photo, it digitizes specifications, centralizes data, and provides insights like remaining useful life and energy-efficient alternatives, speeding up site surveys and energy audits by 50-80%. Nearly 1,000% year-over-year SaaS MRR growth showcases its value proposition, attracting diverse customers like Siemens, Johnson Controls, the US Department of Energy, and the US Air Force.

FibreCoat | Germany

The innovative coating technology offered can be seamlessly integrated into existing spinning lines, facilitating the production of affordable, high-performance fibers with advanced properties. It aims to make high-performance materials accessible to all, while also reducing energy consumption and utilizing natural and recycled materials for sustainability.

Hyperion Robotics | Finland

Hyperion specializes in delivering innovative solutions merging digital design, robotics, and concrete formulas to meet clients' needs. Their focus on low-carbon, efficient infrastructure spans globally. Utilizing digital parametric technologies allows late-stage project adjustments, enhancing productivity, safety, and sustainability. They prioritize early collaboration for improved designs and long-term sustainable client relationships, fostering innovation.

Keey Aerogel | France

Finalist

Founded in 2015 and headquartered in Habsheim, France, with a team of 12, this start-up transforms building demolition waste into valuable insulating silica aerogels. This circular approach minimizes waste and meets the demand for eco-friendly building materials. Currently capable of producing 1000m3, they plan a 15x increase over three years, illustrating their commitment to scaling sustainable solutions. Their primary goal? Drive down aerogel costs to boost adoption within the construction sector, significantly reducing its carbon footprint.

Pionierkraft | Germany

Since 2019, Pionierkraft has led local energy sharing in Munich, aiming to revolutionize solar energy in communities. Their flagship product, Pionierkraftwerk 2.0, combines top-notch hardware and software for efficient energy sharing. Nationwide since November 2021, exponential growth seen. In 2022, partnerships with 50+ installers and €3M+ orders solidified their position in Germany's renewable energy landscape. Dedication to sustainable energy solutions at core.

QEA Tech | Canada

`Finalist`

QEA Tech conducts detailed building envelope energy audits using drones, thermography, and proprietary AI-based software. Their solution identifies energy losses and GHG emissions, aiding decarbonization efforts. They've audited over 500 buildings globally, offering fast, non-intrusive, and cost-effective assessments.

SolCold | Israel

`Finalist`

SolCold's innovative technology aims to cool objects using sunlight radiation, reducing carbon emissions and mitigating urban heat islands. The company's participation in the Climate First accelerator demonstrates its commitment to climate solutions.

Thermosphr EO Solutions | Germany

Thermosphr employs two cutting-edge technologies to enhance energy efficiency. Firstly, it utilizes model predictive controls (MPC) to calculate temperature fluctuations in each zone. This enables real-time adjustments of HVAC equipment in response to changes in weather conditions. Additionally, its technology is founded on thermal dynamics principles.

viboo | Switzerland

Heating and cooling buildings emit a third of global CO2. Viboo offers predictive control algorithms via cloud software to heating equipment makers. These algorithms learn a building's thermal behavior in a week and forecast temperature changes, resulting in 20-40% energy savings. Manufacturers enhance product energy efficiency at minimal cost. End-users access the service via smartphone or web app.

Vizcab | France

The 360° Building carbon platform offers comprehensive services, from carbon budgeting to reporting, including regulatory accounting. It prioritizes developers, optimizing carbon/cost strategies for maximum ROI. Unlike competitors focused solely on engineering, it utilizes a 12M datalake, simplifying data science and machine learning. Emphasizing cooperation, it has developed an API strategy to connect the entire construction industry ecosystem.

Category: Quality Energy Access & SDG-7

In this category, we reward start-ups who are looking to the future and working with and empowering the communities that are most impacted by climate change. We are looking for innovations that will make energy services for all a reality.

Finalist

Agrisiti | Nigeria
The Agritech company focused on building and implementing sustainable, energy efficient hardware food production systems and for digital and on-site education of students on agroecology initiatives. Their equipment is solar-powered to help users grow food sustainably while ensuring that the waste produced is processed in their connected biogas plant.

Agrotech Plus | Kenya
ATP disrupts Kenya's fossil fuel economy by offering solar-powered farming systems to 10 million smallholder farmers. With a PAYG model, ATP provides affordable access to clean energy services, reducing agri-energy costs by 20%-40%. Their innovative approach not only lowers tariffs but also creates community-level jobs, making solar power accessible to low-income and off-grid customers. Through services like solar-powered irrigation and cooling, ATP is revolutionizing farming practices across Africa.

Airborne Power Technologies | Tanzania
Airborne Power Technologies pioneers innovative airborne turbine technology to provide sustainable energy solutions in remote African regions. Established in 2022, they utilize buoyant structures to capture high-altitude winds, addressing energy scarcity for over 600 million Africans. With minimal environmental impact and reduced operational costs, their turbines offer flexibility and affordability.

Avris Environment Technologies | India
Avris specializes in eco-friendly 'in situ' biological treatment for food waste, focusing on bulk waste generators like industries, hotels, and schools. Their solution aids in decentralized waste treatment and is endorsed by the National Green Tribunal for its innovative approach. Covered by the Resilient Cities Network, their impact extends to social aspects, such as addressing food waste management challenges faced by urban communities and contributing to environmental sustainability.
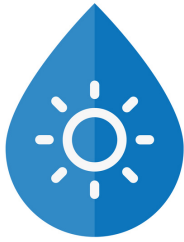
Boreal Light | Germany

Boreal Light specializes in renewable energy solutions for water treatment. They design and produce affordable solar water desalination systems for off-grid communities worldwide, delivering high-quality drinking, irrigation, fish farm, and sanitation water from saline and polluted sources. Fully solar-powered, their systems are praised for simplicity, affordability, and global presence.

Dosy | Egypt

Dosy strives to empower women in Egypt by encouraging scooter and bicycle riding through accessible training and job opportunities. By promoting environmentally-friendly transportation alternatives and reducing reliance on gas-powered vehicles, Dosy aims to alleviate pollution and traffic congestion while fostering economic empowerment and combating climate change.

Eenovators | Kenya

Eenovators leads the way in sustainable technology and nutritional empowerment in Kenya. They are introducing an innovative extrusion food processing plant fueled by Solar PVT, dedicated to manufacturing protein-fortified snacks for children. Prioritizing community investment, the start-up focuses on employing women and youth, contributing to socio-economic upliftment. Their initiative aims to enhance the well-being of Kenyan children and promote environmentally conscious industrial practices.

FiberMart Trading Company | Ethiopia

Specializing in sustainable, reliable, and affordable kiosks, Fibermart aims to create jobs in the African market. Their strategy involves building and operating an extensive network of energy kiosks across Ethiopia, offering clean energy products and services to households and businesses. They prioritize accessibility through financing and payment solutions, invest in research and development for continuous improvement, and foster strong partnerships with suppliers and distributors to create mutual value.

Koolboks | France

The start-up focuses on revolutionizing refrigeration in Africa with innovative climate tech. Our off-grid fridge, powered by solar and ice battery tech, offers continuous cooling. They prioritize affordability with a flexible lease-to-own model using PAYG tech, eliminating upfront costs. Units also feature USB charging, addressing SME needs for cooling, lighting, and phone charging.

PAM Africa | Nigeria

PAM Africa is a clean-tech enterprise in Africa, offering affordable energy solutions powered by solar and other clean sources. With a focus on innovation, PAM Africa ensures accessibility and affordability of energy across the continent. It operates through two divisions: PAM Solar, providing solar panels and batteries, and PAM Innovations, offering scientific research and innovative technology to enhance energy access and promote sustainability in Africa.

Solarworx | Germany

Solarworx is a German manufacturer of off-grid solar solutions, which include solar home systems, DC appliances and DC MESH grids. Their solutions are all modular, interoperable and Pay-go enabled to increase affordability for the end customer. They work B2B with local installation partners and are currently in over 10 countries in Sub-Saharan Africa, with key markets in Nigeria, Cameroon, Zambia. They have electrified over 25,000 people with their solar solutions.

Finalist

Takachar | India

The start-up is addressing the challenges associated with crop and forest residues (biomass) by developing portable systems for on-site conversion into higher-value bioproducts. By targeting rural areas where transportation costs are high and burning residues is common, the model aims to unlock the benefits of the bioeconomy for local communities. Through the production of biofuels and fertilizers without external energy/chemical input, the model promotes self-sufficiency in rural bioeconomies, reducing reliance on vulnerable supply chains.

Ubabio Eco-Solutions | Nigeria

Ubabio Eco-Solutions is a Nigerian social enterprise offering affordable biomass energy and organic fertilizers from recycled waste. They engage communities for sustainable waste management and cleaner energy practices, benefiting 100,000+ people, promoting inclusive growth, and environmental stewardship.

Finalist

VIDA | Germany

VIDA is a map-based geospatial data software designed to contribute to the achievement of the SDGs, in particular SDG 7. They enable their users in areas such as electrification, healthcare and agriculture to channel investments, assess locations and monitor impacts. VIDA integrates various data streams such as satellite imagery, survey data, sensor data. Based on this information, funders work with private sustainable energy developers to identify and implement solar energy solutions.

Legal information

Authors:

Deborah Bartel

Niklas Feierabend

Akanksha Ranjan

Rolli Vogel

Image sources:

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