Start Up
Energy Transition
Award | Tech Festival | Network

#SET100

START UP ENERGY TRANSITION

The Top 100 Start-ups of 2020

Supported by:

Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag

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A MESSAGE FROM OUR LEADERSHIP

"Going into our fourth edition of the Start Up Energy Transition (SET) Award, we are proud to have created a global platform which engages start-ups, energy sector stakeholders, policy makers, private sector partners, academics and students to work together towards a carbon neutral future and celebrate innovation.

This marks yet another edition of SET that has seen substantial jumps in the numbers of both start-up applications as well as the number of countries represented. This is a testament not only to the need for a response to the imminent threat of climate change, but also to the rise of start-ups focusing on innovation in energy as a direct response. We are delighted with the scope and quality of the innovative proposals that we have received.

Andreas Kuhlmann
Chief Executive
German Energy Agency (dena)

"The global energy transition has entered a new era of accelerated and disruptive technological innovation, and the rise of the social impacts agenda. As it promotes new action on humanising energy transition, the World Energy Council is connecting energy transition start-ups, agile giants and investors, from within and beyond the energy sector, with the shifting needs of diverse energy societies.

Partnering with dena, we collaborate to systematically identify and promote the most promising new energy systems transition ventures across the world. The Start Up Energy Transition Award presents a unique platform to highlight and promote the next generation of responsible business energy leaders."

Dr. Angela Wilkinson
Secretary General & CEO
World Energy Council

SET 2020

THE SET100 LIST

The SET100 is an annual compilation of the 100 best start-ups of the Start Up Energy Transition Award. It contains the most innovative and promising start-ups that make the energy transition a fundamental component of their innovation. SET100 was first launched in 2017 with the aim of offering young companies a platform to showcase their forward-looking designs. The SET100 list offers a comprehensive collection of companies, represented both geographically and across all sectors of the clean energy field.

WHAT MAKES IT UNIQUE?

One of the major challenges of the energy transition is that of working with a system that has been built on fossil fuels. The energy transition process involves a variety of actors seeking out new innovations, new technology, and new and expanded networks. Paired with the international push for policy changes, namely the 2015 UNFCCC Paris Agreement, clean technologies are increasingly challenging carbon-based systems.

The SET100 list celebrates innovative start-ups that the international community of cross-sectoral experts have acknowledged to have the largest impact in energy and in the fight against climate change. This list serves as a key asset for allowing stakeholders, policy makers and investors to quickly and effectively connect and collaborate with innovators. Furthermore, the SET100 is uniquely focused on start-ups.

SET100 is a celebration of innovation, tenacity and of companies revolutionising the energy world.

THE SET'20

Going into its fourth year, SET is proud to present the top 100 international start-ups from the 2020 SET Awards competition. 570 start-ups from 90 countries applied in 1 of 5 categories to showcase their solutions to climate change, the energy transition and the future of our very world.

THE SET100 CATEGORIES

- DIGITAL ENERGY SYSTEMS
- SMART MOBILITY
- RENEWABLE ENERGIES & MATERIALS
- QUALITY ACCESS & SDG-7
- ENERGY EFFICIENCY SOLUTIONS

METHODOLOGY

SET designed this process to offer a fair and holistic representation of energy 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 MANAGEMENT

The SET team processed all 570 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 business model must have been to some degree profit-oriented (social entrepreneurism was also accepted).

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 the most prominent and influential individuals in the energy sector.

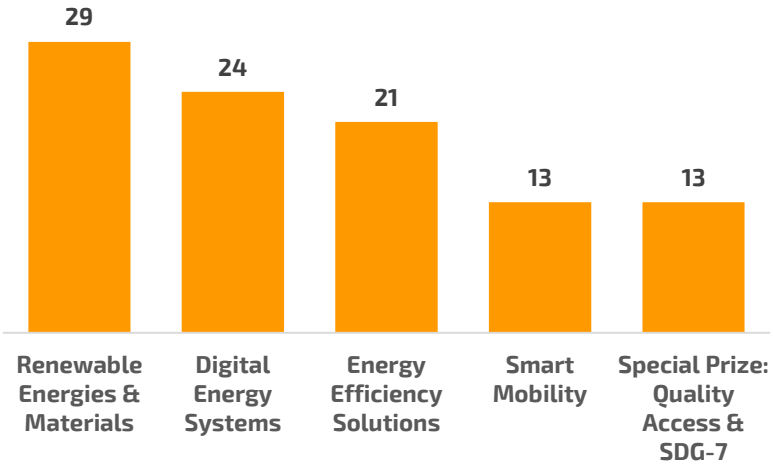
On a 10-point scale system per question, each application was evaluated according to their relevance, business model, innovation level, market awareness and potential, and capacity to execute their strategies (finances, network, leadership, etc.).

PHASE 4: QUANTITATIVE AND QUALITATIVE SCORE WEIGHTING

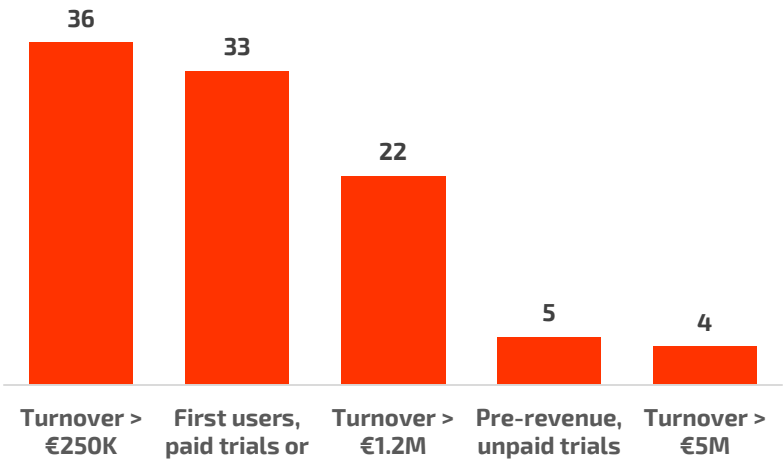
The scores from both the Early Metrics SET-specific start-up model and those scores provided by the high-level jury were then compared, analysed, weighted and combined to produce the SET100.

SET100 DISTRIBUTIONS

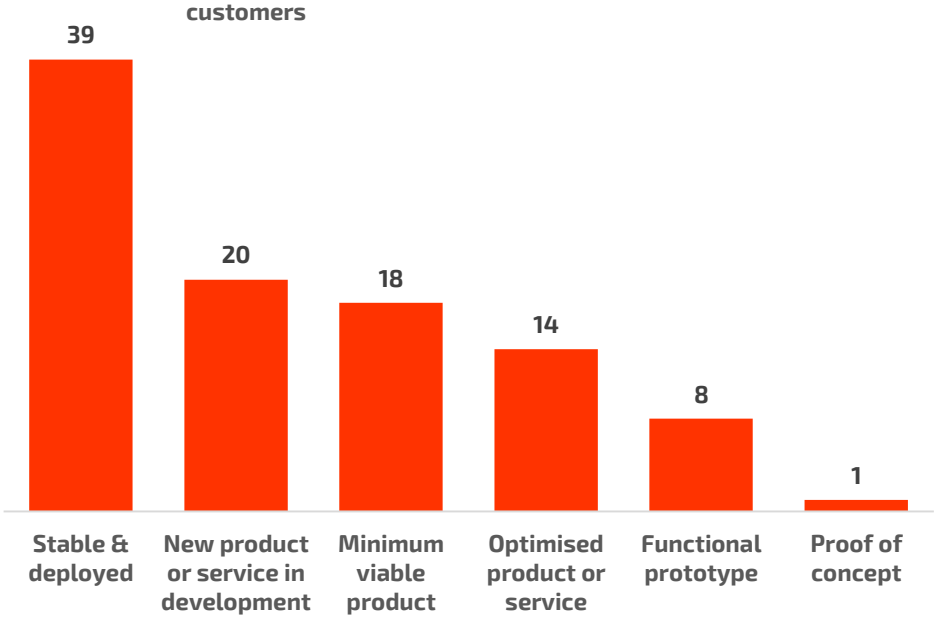
SET100 BY CATEGORY*



COMMERCIAL MATURITY



TECHNICAL MATURITY/ PRODUCT STAGE



*To ensure fairness, all start-ups competed within their own categories. As such, the distribution of the SET100 by category is equal to that of the distribution of total applications by category.

Category:
RENEWABLE ENERGIES & MATERIALS

A2P Energy Solution Private Limited | India

A2P uses AI to track waste biomass and then works with farmers to collect and buy it. On one side it generates additional income for farmers and on the other side A2P converts the collected biomass into NextGen biofuels like energy pellets, green coal and biooil.

Arenko Group | United Kingdom

Arenko provides automated battery controls and trading software that enables optimisation of the technical and financial performance of battery storage systems. The platform maximises asset revenue whilst minimising operating costs to deliver the maximum value out of a battery.

BeON Energy | Portugal

BeON Energy designs and manufactures a unique microinverter that can be installed by plugging directly into any household socket. This allows them to provide solar kits that can be easily self-installed. This innovative approach reduces the barrier to entry for domestic solar by removing the costs of installation.

Carbon Upcycling Technologies | Canada

Carbon Upcycling Technologies (CUT) was formed to use the pollution of today to build the materials of tomorrow by converting CO2 gas into solid products. CUT sells advanced solid products derived from greenhouse emissions and cheaply available solids.

Clir Renewables Inc. | Canada

Clir's A.I. software maximises the performance, profitability, and lifespan of renewable power plants. Adaptable to solar- and wind-farms, Clir provides actionable insights that reduce power plant down-time, increase run-time efficiency, and optimise maintenance around the predicted availability of the renewable resource.

DC Power Co | Australia

DC Power delivers a home storage (battery) system to the 22% of Australian homes that currently have solar quicker and at lower prices. Through intelligent, data-driven support, they help them maximise the value of their solar and provide an alternative route to home storage to ensure they can lock in that value for the future.

DENKweit GmbH | Germany

DENKweit combines a sensor technology to measure the strength and direction of electric currents with its own modern machine learning algorithms for data evaluation. They create unique solutions for their customers' complex problems with a strong focus on clear answers and simple applicability.

dhp technology AG | Switzerland

dhp technology develops, produces and installs the HORIZON folding solar roof, a system unique in the world. Thanks to its unique lightweight construction and folding mechanism, the folding solar roof allows useable industrial areas to be utilised dually for solar power generation.

Distributed Energy Pte Ltd | Singapore

Distributed Energy is a development and aggregation platform that connects renewable projects with funders. After thorough assessment, energy customers will have their fundable projects listed on their marketplace and investors can explore and express interest in one or more of these projects with just a click of a button.

Eco Wave Power | Israel

Eco Wave Power has developed a patented, smart, and cost-efficient technology for turning ocean and sea waves into clean electricity. The technology offers the ability to effectively generate clean and emission-free electricity from an immense and previously untapped renewable energy resource in wavy locations worldwide.

EET - Efficient Energy Technology GmbH | Austria

The core IP of EET is a patented measurement technology that is able to detect the power consumption of a household from any wall socket without any further hardware. Based on this technology the photovoltaic product SolMate was developed.

FINALIST

EnergyNest AS | Norway

EnergyNest provides highly efficient and cost-effective Thermal Energy Storage (TES) solution for power generation- and energy-intensive industries enabling them to optimise energy management and balance, increase energy utilisation, improve energy efficiency and consequently reduce overall fossil-fuel consumption.

Ineratec GmbH | Germany

INERATEC provides entire processes and turnkey chemical plants with microstructured reactors for Power-to-X and Gas-to-X applications. They offer a sustainable alternative to conventional, fossil-based products and thus reducing the negative impact on the climate.

Insolight SA | Switzerland

Insolight produces translucent high-efficiency photovoltaic modules rated at 29% with applications in agriculture. Insolight aims at truly unlocking the potential of photovoltaics on agricultural land whilst increasing agricultural yield and increasing the ROI of solar installations.

FINALIST

instagrid GmbH | Germany

In many service areas professionals, such as landscape gardeners rely on mobile electricity supply in the field to do their job. instagrid delivers clean and silent grid-like portable electrical power supply to professionals, wherever they need to work.

KEYOU GmbH | Germany

KEYOU developed a modular approach that transforms conventional engines into emission-free hydrogen combustion engines (H2ICE) and enables engine and vehicle manufacturers to integrate the technology easily into series production.

Pexapark AG | Switzerland

Pexapark provides a suite of software tools that can represent a full complement of sales and trading for the revenue and risk management of renewable energy in markets where subsidies and feed-in tariffs are phasing out due to the drop in capital costs for wind and solar.

Photom Technologies Private Limited | India

Photom Technologies is providing efficient and effective operation and maintenance solutions for solar PV plants for better working efficiency. Their product 'PBot- Autonomous Water-less Cleaning System' increases the energy generation yield of solar PV plants by eliminating soiling losses.

RENERGON International AG | Switzerland

RENERGON extracts value from organic waste in creating valuable, sustainable products such as biofuel, biogas, renewable energy, compost, fertilizer, & biochar - always combined with global social and environmental responsibility.

Roofit Solar Energy | Estonia

Roofit.solar's mission is to boost distributed renewable energy generation by making solar energy architecturally acceptable and financially affordable. Their Building Integrated Solar roofs combine a traditional metal roof and innovative solar technology into one product (2in1).

Solar Earth Technologies Ltd. | Canada

Solar Earth Technologies develops critical materials, modules, and process know-how for solar roads – an emerging industry sector that paves driveways, walkways, parkways, bike paths, and highways with power generating photovoltaic systems.

SolarLatam | Argentina

SolarLatam is an innovative platform that enables electricity users, on-grid and off-grid, to design, quote, finance and operate their solar systems 100% online. They launched the first platform that enables commercial, industrial and residential users of Latin America to access their solar system in and easy way.

SolPad, Inc. | United States

SolPad installs battery storage and smart inverters behind the solar modules on the roof for ease of installation and high efficiency. With this approach, SolPad reduces the cost of solar power with battery storage by up to 50% when compared to other available solar + storage products.

SUNEW FILMES FOTOVOLTAICOS | Brazil

Sunew built an innovative and highly scalable production process, and has now become a leader in Organic Photovoltaics (OPV) technology. Their OPV enables energy generation on any surface, from smart buildings glass facades to vehicles and more.

SunOyster Systems GmbH | Germany

SunOyster is a new concentrating solar technology for the co-generation of power and heat. Because it produces high grade heat, it can supply a broad variety of heat applications - warm water, room heating, desalination, process heat, ORC machines, high-temperature storage and preheating of steam power plants.

Triple Solar | The Netherlands

Triple Solar has developed innovative PVT heat pump panels. Combined with a brine/water heat pump, they created the next generation of heat pump solutions without the noise or drilling, and with a high energy efficiency and low TCO.

TwingTec AG | Switzerland

TT100 is a containerised mobile wind energy system that delivers cost competitive electricity with a main focus on off-grid markets where diesel power still prevails. TwingTec's technology consists of a light-weight composite wing connecting a high-strength tether to a ground-based generator.

FINALIST

VoltStorage GmbH | Germany

VoltStorage develops and produces solar power storage systems based on the Vanadium Redox Flow (VRF) technology. VRF clearly differs from the lithium-based solutions as it is free from rare earth and conflict materials, completely recyclable and has a high level of operational safety and durability.

ZOLAR GmbH | Germany

By means of the Zolar online configurator, homeowners are able to customise the components of their solar energy system according to their needs and will receive a personal consultation at the same time from one of the Zolar energy experts.

Category:
DIGITAL ENERGY SYSTEMS

Adaptricity AG | Switzerland

Adaptricity provides a cloud-based grid analytics platform for Distribution Grid Operators (DSOs), enabling them to better understand their electricity grid infrastructure via data-driven grid analytics. Due to improved grid infrastructure insights, this results in significant cost savings.

FINALIST

BluWave Inc. AI | Canada

BluWave-ai uses artificial intelligence to accelerate the adoption and increased use of renewable energy by electrical utilities and enterprises. Through a SaaS model, their distributed AI platform optimises multiple renewable and non-renewable energy sources in real-time to minimise cost and maximise availability and reliability.

Enmacc GmbH | Germany

Enmacc makes energy procurement and sales trading a seamless process, replacing email, messenger, phone and Excel. Enmacc organises liquidity where established brokers and exchanges fail. Thereby, enmaccs provides the critical market infrastructure for investments in renewable energy production.

Future Grid | Australia

Future Grids' software platform can be deployed into the utility environments so that data can be brought together to create a virtual model of the distribution network. This virtual network model enables active grid analytics to automate data discussions within the business.

Gilytics AG | Switzerland

Gilytics provides a web cloud-based service in the form of SaaS Geographic Information System (GIS) platform that identifies and visualises multiple transmission line paths in a 3D environment in just a few seconds by using digital maps provided by governmental offices.

Greenbird Integration Technology AS | Norway

Greenbird Integration Technology developed "Utilihive", a digital integration hub and domain specific integration platform designed for utilities. Utilihive helps utilities to manage data in a fast and smooth manner.

greenventory GmbH | Germany

greenventory offers a SaaS solution for the automated, digital mapping and analysis of energy systems. The results are evaluated and a digital twin of the energy system on building level is established, containing relevant building parameters, potentials for renewables and more.

gridX GmbH | Germany

GridX provides companies with flexible, scalable and manufacturer-independent energy IoT solutions to digitise energy infrastructure. The distributed energy resource management system is based on the gridBox (IoT edge gateway), gridOS and cloud.

Jungle | The Netherlands

Jungle built a machine learning pipeline, which leverages data from wind turbines and heavy-industry machinery to create digital copies of such assets. Teams are empowered to fix faults before they cause unplanned downtime and identify and prioritise components or equipment that limit the asset's performance.

LiveEO GmbH | Germany

LiveEO's core product is their vegetation management solution: The application of state-of-the-art machine learning algorithms on public and private satellite data enables to extract valuable insights for preventive and reactive operational vegetation management strategies for infrastructure grids.

LocLab Consulting GmbH | Germany

LocLab Consulting creates digital twins for modelling and analysing operational and future scenarios, in particular for the energy sector. Use cases of their digital twins comprise visualisation, communication, processes optimisation, simulation, data integration, and asset management.

NET2GRID | The Netherlands/Greece

NET2GRID is a leading company providing real-time Non-Intrusive Load Monitoring (NILM) services worldwide. NET2GRID's energy insight platform is reducing service costs for energy companies while increasing customer engagement and can be critical for developing data-driven solutions for DSOs.

node.energy GmbH | Germany

node.energy develops software that is used to plan, manage and interconnect renewable energy generation for buildings. The software helps companies to switch to renewable energies, lower CO2 emissions and to operate onsite power generation in the most cost-efficient way.

PassiveLogic | United States

PassiveLogic is the first fully autonomous platform for buildings, going beyond smart or automated. Their Hive platform is built on a physics-based engine that uses deep digital twin analogs of the building, its occupants, and its equipment to control inter-connected systems with a physics-based view of the future.

Prisma Photonics | Israel

Prisma Photonics offers a highly-effective, high-fidelity monitoring of electrical transmission lines based on pre-existing, optical communication cables. It is a pure "Sensor Free" approach. A single system can monitor 100km of transmission lines, without the need to install any sensor on the lines or towers.

RedGrid | Australia

RedGrid is offering energy network providers and consumer facing merchants the ability to pay users for automatically adjusting their usage in ways that will not affect their comfort, but greatly benefit the grid and productive use of clean energy assets.

Singularity Computing | Algeria

Singularity Computing provides various simulation software (SIMULICA®, ParticleXpert®, and SystemXpert®) which allow customers to discover better designs and model/simulate multiphysics events for a variety of industries like renewable energy, energy efficiency and smart cities.

Solytic | Germany

Solytic is the first interconnected platform for PV plants, providing a digital advisor for all topics around your PV plant. By directly connecting via monitoring to any installed hardware device, Solytic can identify issues and potentials using AI analytics and provide offers from merchants to solve real customer problems.

FINALIST

Sterblue | France

Sterblue builds software that helps drones inspect power lines and wind turbines. Sterblue software guides drones along trajectories that wrap tightly around structures, finds anomalies from the collected images, and outputs reports.

FINALIST

SwitchDin | Australia

SwitchDin provides software that connects utilities with distributed energy resources (DERs), enabling orchestration through smart control of solar, batteries & loads for virtual power plants and microgrids. Their Droplet controller provides localised 'small picture' energy management and control of DERs.

TWAICE Technologies GmbH | Germany

TWAICE provides predictive battery analytics for mobility and energy applications based on a digital twin concept. By combining machine learning with an analytical understanding of batteries, TWAICE is able to determine and predict the condition of li-ion batteries from day 1 and refine these predictions throughout.

Uptime Analytics | Colombia

Uptime´s AI applications offer the tools necessary to implement different strategies to optimise energy consumption and operational costs for their customers. Their applications are based on analytical twins to capture, process, model, simulate and predict operational behaviour and energy consumption for machines.

WePower UAB | Lithuania

WePower provides a simple solution for corporate and industrial customers to take action against climate change and procure renewable energy through a standardised solution as a Virtual PPA or a retail sleeved PPA no matter the size of the customer or their current sustainability strategy.

Zaphiro Technologies SA | Switzerland

Zaphiro offers Distribution System Operators (DSO) a high-end solution to transform their static into dynamic, auto adaptive grids. The solution consists of measurement and edge-computing devices strategically placed in the grid as well as algorithms, enabling DSOs to monitor the grid in real-time.

Category:
ENERGY EFFICIENCY SOLUTIONS

Aceleron Limited | United Kingdom

Aceleron invented "Circa", a compression technology for lithium batteries, that allows for 100% reusability and recyclability. This first-of-its-kind technology contributes to circular production and consumption by extracting the full material value from batteries and repurposing them for new applications.

FINALIST

Blue Box Air, LLC | United States

Blue Box Air optimises the performance and energy efficiency of buildings by restoring HVAC systems. Because of its patented process for cleaning heat transfer coils, the efficiency of HVAC systems can be improved by up to 90%.

Comgy GmbH | Germany

Comgy develops hardware and software to automate the end-2-end sub-metering process — from meter procurement, installation, maintenance, communication infrastructure, data transport & analytics to final side / heat cost allocation bills.

Element 16 Technologies, Inc.| United States

Element 16's core product is sulphur thermal energy storage (TES). The system extracts heat, stores in liquid sulphur tanks and discharges heat back to the industrial customer.

FINALIST

Enerbrain s.r.l. | Italy

Enerbrain's "plug and play" solution can turn energy-wasteful non-residential buildings into smarter, healthier and more sustainable ones by using innovative IoT sensors, actuators, and novel fuzzy algorithms.

EnergyX Solutions Inc. | Canada

EnergyX Solutions' MyEnergyXpert can manage entire energy efficiency programs end-to-end reducing the administrative hassles experienced by a utility. It delivers increased uptake of energy conservation programs, significantly lower cost to serve customers, and valuable market data through a secure web-based application.

Enersion Inc. | Canada

Enersion has developed a new chiller that uses heat instead of electricity to produce cooling thereby saving on electricity consumption by over 70%. This is done by replacing the mechanical compression part of the refrigeration cycle with thermal compression using the phenomenon of adsorption.

FINALIST

Enjay AB | Sweden

Enjay is a Swedish cleantech company, specialised in energy efficiency. The company´s first solution, Lepido, is the first to offer profitable energy recycling from restaurant ventilation. Lepido, is a self-cleaning recovery coil, adapted for restaurant ventilation, enabling an end to this waste of energy.

Fresh Energy GmbH | Germany

Fresh Energy is a leading white-label solution for all smart meter data-driven use cases. By utilising large sets of hardware-agnostic data and an intuitive energy app, end customers can enjoy full transparency without any additional cost.

FuelSave Consultoria S.A. | Portugal

Fuelsave has developed a mobile app that performs live and individualized training for truck drivers, using unique pairs of data, each truck-driver pair performs differently. With this methodology, road freight companies can save up to 20% in fuel and gas emissions, only by retraining their drivers for better performance.

GreenPocket GmbH | Germany

With the Energy Management Software for business customers GreenPocket caters to a multitude of customer groups and can flexibly adapt the software to their customer's needs. AI features enable cutting-edge analytics, forecasts and automatic monitoring of measuring points without individual configuration effort.

GreenYellow Energia de Colombia S.A.S | Colombia

GreenYellow's solutions aim to reduce the energy costs and carbon footprint for different industry sectors and services companies by installing in the lighting, refrigeration and air conditioning system the most efficient products of the market with their associated line light electric control.

Infrasolid | Germany

Infrasolid develops and manufactures high-performance infrared radiation sources for use in NDIR gas analysis and IR spectroscopy. Typical applications are in the fields of environmental protection, exhaust gas measurement, explosion and fire protection, in building services engineering and medical technology.

NEBUMA GmbH | Germany

NEBUMA's Kraftblock is a high-temperature storage system distinguishing itself through a very long service life and storage density of over 1.2 MWh/m^3. A Kraftblock consists of up to 85% recycled materials and can be used to harness industrial waste heat.

Prosumir | Brazil

Prosumir operates in the energy recovery market, developing innovative solutions to turn energy waste into opportunities for energy efficiency, cogeneration, and renewables. The core solution developed is the Pressure Reducing Turbine, a steam turbine that lowers and controls the steam pressure.

RUUT8 OÜ | Estonia

R8tech provides a unique swiftly integrable intelligent software solution for commercial buildings that automatically analyses the HVAC systems performance of the building, detects faults and enables to adjust optimal indoor climate with simple clicks.

Smart Load Solutions OÜ | Estonia

Smart Load Solution's Themo is the first digital thermostat that takes into account real-time electricity spot price, outside weather, preset temperature levels, and a building's unique consumption profile. Themo optimises electricity consumption according to dynamic price tariffs and uses low price periods to heat.

uHoo Pte Ltd | Singapore

uHoo is a comprehensive air monitoring and management system that helps to create healthier homes and workplaces while optimising the energy use of a home and building system that would result in energy savings and a more sustainable operations/maintenance of buildings.

Vertebra Soluciones S.A.S | Colombia

Vertebra Soluciones has a state of the art control centre, meters, sensors and their own easy and intuitive software based on homogenized data, advanced statistical analysis and a powerful visualisation layer for real-time consumption monitoring, to find and verify savings strategies in consumption and rates.

Voltaware Services | United Kingdom

Voltaware's smart home services enable energy efficiency. High-resolution electricity data is collected using Voltaware's credit card-sized sensor and processed through Voltaware's proprietary machine-learning algorithm so that consumers can optimise their energy bill and understand their home better.

WeavAir | Canada

WeavAir's vision is to reduce energy consumption, costs and carbon emissions through networked sensor add-ons for the air conditioning systems. They developed a platform that tracks the biggest number of metrics wirelessly in real time and uses them proactively to improve the building operations and air quality.

Category:
SMART MOBILITY

Ampaire Inc. | United States

Ampaire's mission is to be the world's most trusted developer of practical and compelling electric aircraft from short-haul cargo to supersonic passenger transport. Ampaire's innovation is in the design of a lightweight battery pack and a fully electric powertrain that will drive the next generation of electric aircrafts.

Bolt | Australia

Bolt offers last-mile logistics businesses smart light electric vehicles-as-a-service for commercial use. Bolt's custom e-bike is designed with safety telematics, fleet management software and automative-grade service network.

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EcoG GmbH | Germany

EcoG provides the IoT Operating System for chargers and common IoT protocols on the charger in the field. With the open API architecture, EcoG changes the business model of EV charging by bringing the app economy onto charging infrastructure and make developing service as easy as developing an app.

Evoke Electric Motorcycles | China/ Hong Kong

Evoke simplifies the vehicle mechanics by integrating smart technology, that greatly reduces the rider's learning curve while eliminating expensive maintenance costs and dependencies on fossil fuel. Evoke's 15 minute DC fast charging and thermal management allows for doubling existing batteries lifespan.

Flugauto | United States

Flugauto is a B2B tech company developing a world-class platform for aerial delivery of industrial cargo for the energy industry. They do this by leveraging their proprietary UAS technology which they provide as a Platform-as-a-Service.

GBatteries | Canada

GBatteries has developed an innovative way to charge lithium-ion (Li-ion) batteries using artificial intelligence: The charging protocol uses adaptive pulses as an alternative to CCCV (constant current, constant voltage), enabling fast charge without compromising the health of the battery or changing the battery chemistry.

GreenPack GmbH | Germany

Swobbee is a "Charging as a Service" (CaaS) and "Battery as a Service"(BaaS) provider for micro mobility fleets. Batteries are distributed in a network of publicly installed swapping machines.

HYGEN | Latvia

Connected to the regular household or indusrty gas grid, HYGEN transforms the existing gas distribution grid into distributed fuelling network for Natural Gas Vehicles enabling gas companies to deliver clean and inexpensive fuel to customer's doorsteps at a competitive price.

KRADAC CIA. LTDA. | Ecuador

KRADAC CIA Ltda. offers a multimodal and integrated system that allows people to move anywhere with any of the available options in the city, pay for selected transportation option through e-tickets and acquire an adaptable and customisable daily/weekly/monthly mobility plan.

NiveauUp Inc. | China

NiveauUp offers eXtreme Fast Charging (XFC) batteries. They re-constructed the Li-ion process's full potentials to achieve 10X faster charging and 3X longer life plus some other minor merits than the state-of-the-art incumbent battery suppliers are to offer.

Pantonium Inc. | Canada

Pantonium's EverRun (On-Demand Transit) is a software as a service that transportation operators can use to take buses off of fixed routes. EverRun's algorithm can create real-time journeys based on user demand and increase both traffic efficiency and ridership.

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Ponera Group | Switzerland

Ponera Group has developed a modular pallet system which by their assembly, can provide different sizes of pallets in terms of surface area. The use of bio-polymers ensures the possibility of reusing the pallets several times (the estimated lifetime is 15 years), and its recyclability offers higher sustainability.

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TRANSITION-ONE | France

Transition-One converts thermal cars into modern cars: electric, connected and affordable. Transition-One has developed retrofitting technology that consists in extracting all the elements specific to the petrol or diesel thermal engine to replace it with a 100% electric engine block and batteries.

Category:
QUALITY ACCESS & SDG-7

Boreal Light GmbH | Germany

The company designs and manufactures affordable, battery-free solar water desalination systems for off-grid communities around the globe. Powered fully by solar, simplicity of the design and affordability of the cost of the systems manufactured by Boreal Light are the three great competencies the company is proud of.

EcoEnergy | United States

EcoEnergy distributes pay-as-you-go solar to people who suffer from unreliable electricity. The company developed an energy sharing platform that connects existing customers to neighbours on a micro-grid, and allows them to sell their excess electricity for a fraction of the cost of purchasing a system.

Hydrobox Kenya Ltd | Kenya

The Hydrobox is a standardized and containerised small, run of river hydro-power plant that is equipped with smart sensors and leverages the use of AI for forecasting and remote monitoring. The Hydrobox can be operated in an on-grid and off-grid setting, selling power directly to mini-grid communities or the national utility.

MPower Ventures AG| Switzerland

Via a scalable B2B approach, MPower partners with local entrepreneurs and SMEs in emerging markets to finance and distribute affordable clean energy products to households and SMEs living in urban and rural areas in emerging markets.

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Liter of Light | Philippines

The Liter of Light redesigns solar lighting for the developing world. Their simple, two-step technology creates local jobs, teaches green skills, and empowers energy-poor communities through simple solar lights built and installed using local parts, knowledge, and talent.

Power-Blox AG | Switzerland

Power-Blox offers an intelligent swarm electrification solution that can build up mini-grids quickly and is offered as a pay-as-you-go model. The modular and decentralised system is optimised by an algorithm and can be connected to any sources of energy and battery systems.

Powerstove Energy | Nigeria

Powerstove Energy designed an ultra-efficient, smokeless cookstove with lights and electricity output intended for usage in emerging markets. The business model is based on pay-as-you-go that enables affordable finance options.

FINALIST

Reeddi Inc. | Canada

Reeddi innovatively provides clean, reliable and affordable electricity to individuals and businesses in the energy-poor regions of the world. Through their hardware-as-a-service business model, households and businesses in African communities have affordable access to clean and reliable electricity anywhere, everywhere.

Smart Grid to Business (SG2B Inc.) | Canada

SG2B empowers communities to generate and manage their own energy, by providing them with a microgrid planning and development tool to make smart and sustainable energy decisions. SG2B's software-as-a-service platform helps prepare community energy plans.

Solarworx UG | Germany

Solarworx develops and manufactures a new generation of solar home systems for African markets. Clean solar power, smart battery technology and management together with a biopolymer casing reduce the carbon footprint of the stackable systems to a minimum.

Sun Exchange | South Africa

Sun Exchange is the world's first solar cell micro-leasing marketplace. Through the Sun Exchange online platform, anyone, anywhere in the world, can own solar cells and build wealth by leasing them to businesses and organisations in emerging markets.

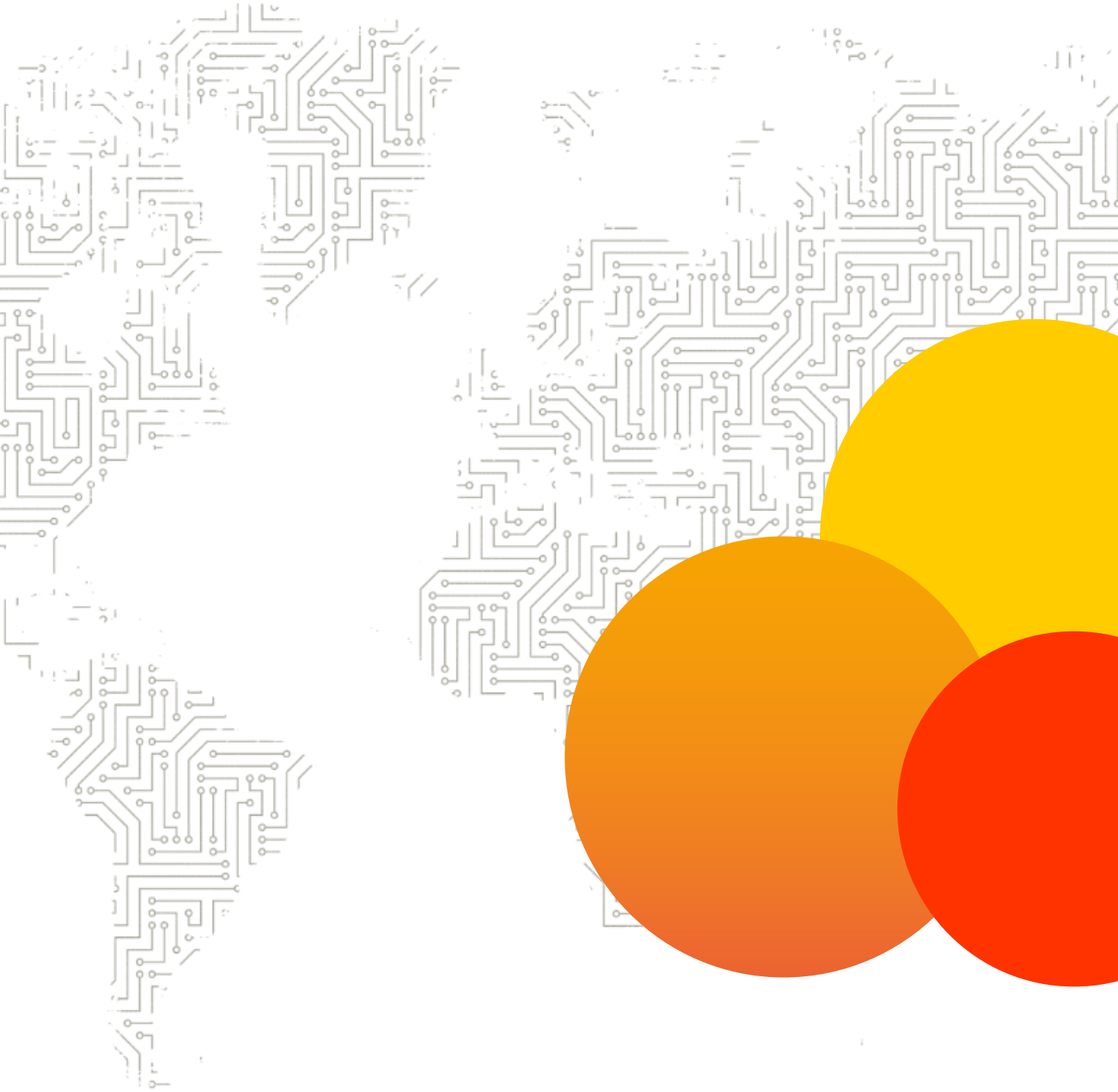
FINALIST

TFE Energy GmbH / Village Data Analytics | Germany

VIDA creates insightful, smart maps. It gives remote off-grid village a richly textured information identity. This helps governments, companies and investors make fast, data-based decisions at scale about least-cost options. VIDA can thereby become a crucial catalyst for achieving SDG7 - universal access to energy.

Vuma Biofuels | Kenya

Vuma Logs are a biomass briquette made from discarded sugarcane husks. The waste produced is collected from one of the largest sugarcane processing factories in western Kenya and through a series of drying, milling, and high-pressure compaction steps turn it into a solid mass combustible fuel source.



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