



**Start Up  
Energy Transition**

Award | Tech Festival | Network

**#SET100**

# START UP ENERGY TRANSITION

The Top 100  
Start-ups of 2019

@StartUpGET #SET19  
[startup-energy-transition.com](http://startup-energy-transition.com)

Powered by

**dena**  
German Energy Agency

In cooperation with

**WORLD  
ENERGY  
COUNCIL**

# #SET100 2019

## Announcing the top 100 start-ups working on the global energy transition



**Andreas Kuhlmann**

Chief Executive

German Energy Agency (dena)

A handwritten signature in black ink, appearing to read 'Andreas Kuhlmann'.

"For the third year now we have once again received an overwhelming amount of support from our partners, sponsors and overall network. With an increasing amount of quality applications from start-ups from more countries than ever before, we are proud of what SET has achieved, and excited about what SET will further accomplish in the future. The success of SET is a clear statement: innovation is the future of the global energy transition."

From the almost 450 applications received this year, we were tasked with the daunting yet exciting job of evaluating and comparing the creative ideas and approaches innovators around the world are developing to address our global energy needs. The SET100 list represents some of those most innovative energy solutions and business models that will indeed help us achieve our climate goals. We look forward to seeing them succeed in the future and we are sure they will inspire you - just as they did us."



**Dr. Christoph Frei**

Secretary General & CEO  
World Energy Council

A handwritten signature in blue ink, appearing to read 'C. Frei'.

"The energy world is undergoing a Grand Transition driven by a combination of factors. The fast-paced development of new technologies, an unstoppable digital revolution, as well as global environmental challenges, present innovation opportunities for companies and start-ups all over the world. That is why we need to empower the entrepreneurs of tomorrow and why we support the entrepreneurs of today."

Partnering with dena, we work together to systematically identify the most promising innovation ventures around the world and work with leading innovators to understand scope, time frame and success factors of key innovation areas. This year we are particularly excited that SET100 start-ups will also be invited to play an active role in the 24th World Energy Congress in Abu Dhabi, bringing a unique entrepreneurial dimension to the innovation activity at the Congress."

Powered by

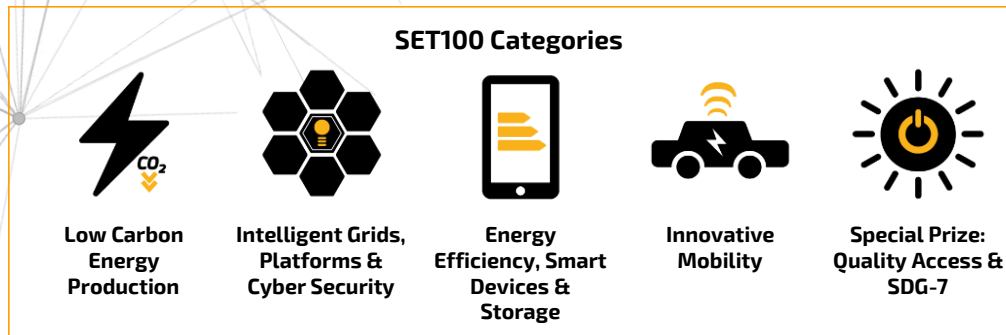
**dena**  
German Energy Agency

In cooperation with

**WORLD  
ENERGY  
COUNCIL**

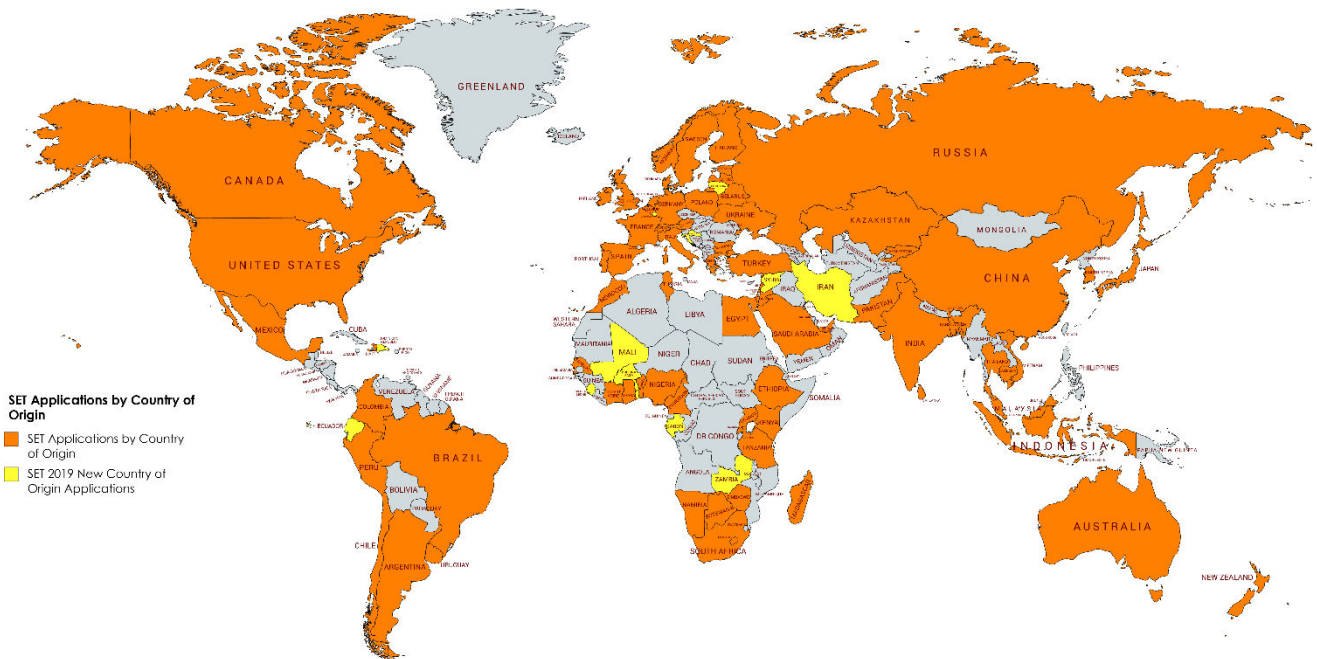
## Presenting the SET100 List

For the 3rd year in a row, Start Up Energy Transition is proud to present the top 100 international start-ups from the 2019 SET Awards competition. Almost 450 start-ups from 80 countries competed in one of five categories to showcase their solutions to climate change, the energy transition and the future of our very world! The 100 start-ups come from 31 countries, 18 different sectors and cover all regions of the world.



### Energy generation, energy use, and everything in between – The SET100

Climate change and the energy transition are some of the greatest challenges humanity has ever faced and those named in the SET100 work specifically to overcome them. While other lists purely stress innovation or business success, SET celebrates innovative start-ups that the international community of cross-sectoral experts has acknowledged to have the largest impact in energy and in the fight against climate change. Furthermore, the SET100 is uniquely focused on start-ups. **This is a celebration of innovation, of tenacity, and of companies revolutionizing the energy world.**



Created with mapchart.net

## **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 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 business model must have been to some degree profit-oriented (social entrepreneurship 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 start-ups with the highest scores were then additionally 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, and capacity to execute their strategies (finances, network, leadership, etc.).

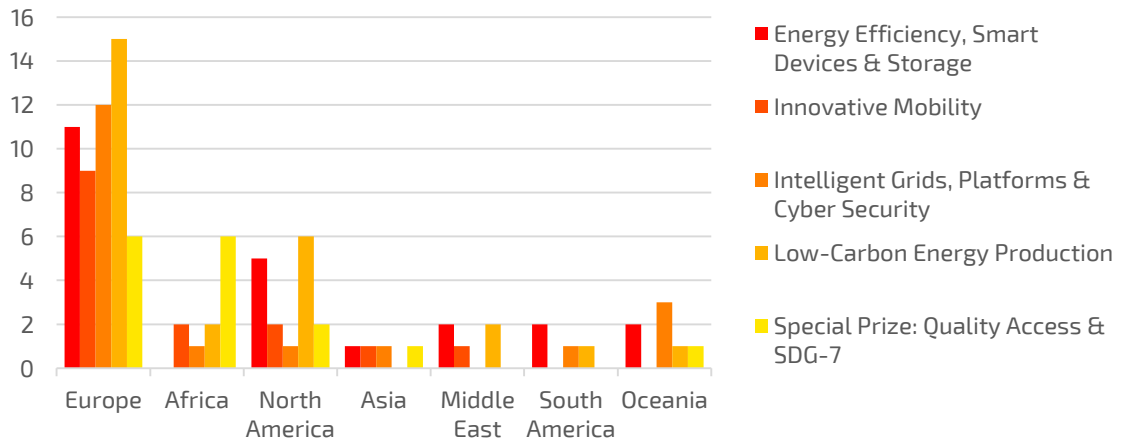
### **Phase 4: Quantitative and Qualitative Score Weighting**

The scores from both the Early Metrics SET-specific start-up model and those scores provided by the expert jury were then compared, analysed, weighted and combined to produce the most promising, innovating and inspiring top 100 start-ups of 2019, the SET100.

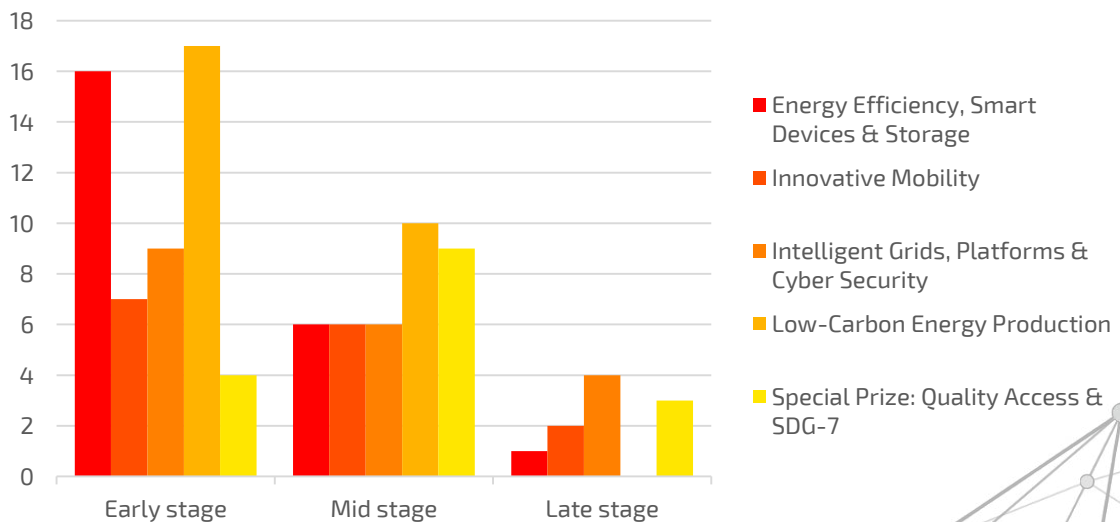


## #SET100 Composition

### 2019 SET100 Category & Region



### 2019 SET100 Category & Start-up Stage



## SDG-7

### Mid Stage



### [ACACIA INNOVATIONS](#), KENYA

Acacia Innovations makes modern clean cooking affordable for schools in Kenya, through an innovative subscription model which allows schools to get a highly discounted affordable clean cook stove if they sign a contract to purchase Kuni Safi biomass briquettes (an alternative to firewood made of sugarcane waste).

## INTELLIGENT GRIDS

### Mid Stage



### [ADAPTRICITY AG](#), SWITZERLAND

Adaptricity offers data driven grid analytics tools and services that enable distribution system operators to better understand grid behaviour, leading to smarter grid planning and asset management. The highly automated, intuitive system allows for better investment decisions requiring less engineering time.

## SDG-7

### Late Stage



### [AFRICA GREENTEC AG](#), MALI

Africa GreenTec develops, builds, supplies and operates mobile, scalable solar containers for the power supply of villages in rural Africa. They provide renewable, decentralised energy & water solutions for the Global South, by empowering new generations.

## SDG-7

### Late Stage



### [BIOLITE](#), USA

BioLite designs and manufactures products that transform the way off-grid households cook, charge devices, and light their homes. They partner with last-mile distributors and finance providers to reach underserved consumers.

## LOW-CARBON

### Early Stage



Biome Renewables®

## BIOME RENEWABLES, CANADA

Biome Renewables is an industrial design firm that uses biomimicry in the engineering and design space to make efficient renewable energy technologies. Their flagship technology is the PowerCone, an aerodynamic enhancement device that bolts onto the hub of a wind turbine and improves performance.

## ENERGY EFFICIENCY- FINALIST

### Early Stage

BL!XT

## BLIXT, SWEDEN

Blixt is the first and only company to develop miniature solid state circuit breakers and multidirectional inverters; critical components that will accelerate the transformation to sustainable, all-electric technologies worldwide, like energy, mobility and industry 4.0.

## LOW-CARBON

### Early Stage

B | ° O m

## BLOOM, SWITZERLAND

Bloom is a chemical company providing cost competitive bio-based products to reduce greenhouse gas emissions and waste management issues. They developed the most selective method to valorise biomass and offer a cost-competitive solution to contribute to the energy transition.

## INTELLIGENT GRIDS

### Early Stage

BluWave~ai

## BLUWAVE INC., CANADA

BluWave-ai is optimising renewable energy usage with AI on Smart Grid IOT sensors. They are using their expertise in big data, AI, supercomputing, and distributed edge computing to positively have an impact on how our planet uses clean renewable energy sources.

## INNO. MOBILITY- FINALIST

### Early Stage



### [BODAWERK INT](#), UGANDA

Bodawerk is a manufacturing company with the vision of becoming the main provider of E-mobility solutions for the African mobility and logistics sector. They aim to make African mobility 100% electric powered while being economically, socially and environmentally sustainable.

## LOW-CARBON

### Mid Stage



### [BOUND 4 BLUE S.L](#), SPAIN

b4b presents a foldable patented wingsail solution based on an aeronautical design which reduces fuel use and pollutant emissions of the maritime transport sector by an average of 30%. This is critical for an industry looking for more efficient propulsion systems and emissions reduction.

## ENERGY EFFICIENCY

### Mid Stage



### [BRILLIANT MATTERS](#), CANADA

Brilliant Matters produce and develop organic-based semiconductors for the printed electronics industry. Organic-based semiconductors are key components of the new generation of printed and organic electronics, offering advantageous processing and physical properties.

## ENERGY EFFICIENCY

### Early Stage



### [CABAN SYSTEMS INC](#), USA

Caban Systems provides an intelligent energy solution for the telecommunication industry. Their solution prevents cell tower downtime while reducing energy and operating expenses for customers by 80% as well as eliminating emissions. The tamper proof solution increases reliability and efficiency.



## INNOVATIVE MOBILITY

### Early Stage



### CHAKRATEC, ISRAEL

Chakratec has developed a special energy storage device - a kinetic battery with unlimited charge cycles, 100% DoD, instant reaction that is sustainable. They aim to speed up battery charging through a unique floating flywheels suspended in mid-air by magnetic levitation technology.

## LOW-CARBON

### Early Stage



### CHEMOLEX COMPANY, KENYA

Chemolex Company produces clean biofuel from the invasive water hyacinth plant by applying its patented advanced bio-conversion technology. The patented technology enables them to produce the highest amount of bio fuel from a given mass of the invasive water hyacinth plant within the shortest time possible

## LOW-CARBON

### Mid Stage



### CLIR RENEWABLES, CANADA

Clir is developing software that maximizes the performance, profitability, and life-span of wind turbines. They combine machine-learning algorithms that pinpoint underperformance with data visualisation tools so that wind-farmers are provided with clear recommendations to improve energy production.

## ENERGY EFFICIENCY

### Early Stage



### CMBLU ENERGY AG, GERMANY

CMBlu is a market leader for Organic Flow Batteries making grid-scale renewable energy storage a reality. They have established a ground breaking energy storage technology based on renewable raw materials and developed it to commercial scale.

## SDG-7

### Early Stage



[COOLAR UG](#), GERMANY

Coolar envisions a world in which energy poverty is eradicated and clean energy is available to everyone. Cooling is a critical component in this world. As such, Coolar works on a 100% electricity-free and instead solar heat powered, water-based refrigerator to cool vaccines in remote hospitals off-grid.

## ENERGY EFFICIENCY

### Early Stage



[DC POWER COMPANY](#), AUSTRALIA

DCPowerCo is segmenting the electricity retail market unlocking the full potential of Australian household solar by aggregating, and therefore, increasing the value of their solar which creates a market place for emerging technology and service innovation.

## ENERGY EFFICIENCY

### Early Stage



[DCX](#), POLAND

DCX delivers liquid cooling solutions for IT & telco infrastructure, solving the biggest challenge of datacenters – power & cooling with 45-50% savings. They guide clients through the implementation of liquid cooling solutions and deliver open and 100% safe liquid cooling systems.

## INTELLIGENT GRIDS

### Early Stage



[DEPSYS SA](#), SWITZERLAND

DEPsys is a leading technology company providing evolutive solutions enabling traditional low-voltage electricity networks to cope with the new constraints of decentralised production from renewable energy sources, such as photovoltaic systems and wind turbines, as well as emerging storage technologies.

## SDG-7 - FINALIST

### Early Stage



Divine Bamboo provides a clean cooking fuel in the form of high quality charcoal briquettes produced from local bamboo. They train rural women groups to plant bamboo, and provide them with seedlings and access to market so that they can produce bamboo briquettes which provides additional income.

**DIVINE BAMBOO**, UGANDA

## SDG-7

### Late Stage



Easy Solar's mission is to build long-lasting client relations through the distribution and financing of high quality ultra-affordable PAYGo solar energy products in West Africa. Easy Solar has established a distribution network of over 10 flagship stores and 110 retail points in Sierra Leone.

**EASY SOLAR (SL)**, SIERRA LEONE

## LOW-CARBON

### Mid Stage



The Eco Wave Power company has developed proprietary technology for extracting energy from ocean and sea waves and its conversion into electricity. The technology enables the delivery of effective, sustainable, practical, feasible, and affordable wave energy solutions.

**ECO WAVE POWER**, ISRAEL

## INNOVATIVE MOBILITY

### Mid Stage



Ecovolta produces high-capacity battery systems and e-mobility solutions. The company's patented design enables the fully automated series production of high-current capable batteries which do not need active cooling. Battery and drive solutions are developed and tested in the in-house research and development area.

**ECOVOLTA**, SWITZERLAND

## LOW-CARBON

### Mid Stage



### [ECOSOLAR ENERGIA](#), BRAZIL

Ecosolar works as a photovoltaic system integrator as well as part-time supplier. They go through all the steps to ensure that clients can get the solution which will bring economic gains and other benefits. Their mission consists of bringing clean, renewable and self-sufficient energy into people's lives and daily routines.

## ENERGY EFFICIENCY- FINALIST

### Early Stage



### [ECOSYNC](#), UK

EcoSync has come up with a solution addressing all 3 issues of CO2 pollution, cost and wasted energy. They have created a cloud-based platform for existing building technologies like the room booking system and heating control, in order to communicate, synchronise and provide heating for occupied areas only.

## LOW-CARBON

### Mid Stage



### [EINHUNDERT ENERGIE](#), GERMANY

EINHUNDERT delivers a bundle of onsite PV power supply with live metering for power, heat and water to multi-party buildings in urban areas. Their service is among the first to spread PV and metering tech to the urban mass market, where most people and companies reside in shared building spaces.

## INNO. MOBILITY- FINALIST

### Early Stage

E/NRIDE

### [EINRIDE AB](#), SWEDEN

Einride provides transportation as a service, based on all-electric, autonomous vehicles, or "T-pods". Connected to an intelligent routing software (E/OS), providing it with real-time traffic data, the T-pod can adjust its route to avoid congestion, optimising battery use and delivery time.

## LOW-CARBON - FINALIST

### Mid Stage



**ENAPTER GMBH**, GERMANY

Enapter designs and manufactures electrolyzers. The Anion Exchange Membrane (AEM) is a unique technology that enables Hydrogen generation to be scalable, flexible and low-cost. Their standard module produces 500L/hour which is ideal, but not limited to, small to medium size applications.

## ENERGY EFFICIENCY

### Early Stage



**ENERBRAIN SRL**, ITALY

Enerbrain aims to revolutionise the market of non-residential Building Energy Management Systems thanks to its ground-breaking IoT innovation. Their solution make inefficient non-residential buildings into smarter and more sustainable ones by using innovative IoT sensors, actuators and learning algorithms.

## INTELLIGENT GRIDS - FINALIST

### Late Stage



**ENVELIO GMBH**, GERMANY

envelio provides the software as a service solution Intelligent Grid Platform (IGP) to make grid operators ready for the future. By digitising and automating essential grid planning and operation processes, the IGP is a key component for the implementation of smart grids and the integration of distributed generation.

## LOW-CARBON - FINALIST

### Early Stage



**EPISHINE AB**, SWEDEN

Epishine enables the most scalable, resource efficient and affordable solar cells in the world. Their product is a fully organic solar cell, meaning that top electrodes, bottom electrodes and active layer are based on organic materials. They thereby produce the world's first metal-free organic photovoltaic material.



## ENERGY EFFICIENCY - FINALIST

Mid Stage



[EQUOTA ENERGY](#), CHINA

Equota's services cover both the energy supply and the demand side, including energy efficiency optimization, operation & maintenance monitoring, carbon emission management, energy planning, electricity trading services, micro-grid services and other technology solutions in the industrial chain.

## LOW-CARBON

Early Stage



[EWIND GMBH](#), GERMANY

ewind offers a solution for farmers dealing with salinised groundwater problems or who wish to use sea water to provide freshwater to their fields. Their product enables farmers who are affected by droughts and other climate change impacts to maintain production at full level.

## INTELLIGENT GRIDS - FINALIST

Early Stage



[FLEXIDAO S.E.S. S.L.](#), SPAIN

FlexiDAO's software Spring helps energy retailers sell a new energy service in addition to their current energy supply: selection & time-based certification of local green energy. Consumers are empowered to impact the generation of renewable energy with their consumption by selecting the type of source they desire.

## INNOVATIVE MOBILITY

Mid Stage



[FUELSAVE](#), PORTUGAL

FuelSave taps into a major problem - that of inefficient road transportation with hazardous gas emissions. They have tackled this important issue by developing and deploying technology solutions for real-time data analysis for driving optimization.

## LOW-CARBON

### Early Stage



[GLOWEE](#), FRANCE

Glowee is offering new luminous energetic services based on bioluminescence. At the crossroads of biomimicry and synthetic biology, they are using microbes to produce light and force us to rethink the way we produce, use and enlighten while drawing on the solid grounds of bioeconomy and circular economy.

## INNOVATIVE MOBILITY

### Mid Stage



[GO TO-U](#), UKRAINE

Go To-U connects drivers of electric vehicles and eco-friendly businesses. It is the only platform on the market introducing unique booking features for EV drivers. With their app drivers can book the charging stations at the most convenient time and book and pay for the services at the charging spot.

## SDG-7

### Early Stage



[HAVENHILL SYNERGY](#), NIGERIA

Havenhill Synergy uses solar energy to generate clean, safe, cost-effective and sustainable electricity in rural Nigeria. They deploy a community-level centralised smart solar mini-grid system as a sustainable solution to the electricity poverty in rural communities.

## LOW-CARBON

### Mid Stage



[HELIAC](#), DENMARK

Heliac offers a solution that produces solar-based utility-scale at costs below any other source of energy almost anywhere in the world, without a need for feed-in-tariffs. The heat can be used for process heat up to 400C, district heating and cooling, desalination, and power production.

## LOW-CARBON

### Early Stage



### [HEMPIRE](#), UKRAINE

Hempire uses local ingredients in order to provide 100% natural hemp insulation solutions. They have created a very light, 100% natural insulation material called Hempire Mix. This binder does not contain any cement, sand, hydraulic lime (cement), or any toxic components.

## SDG-7

### Early Stage



### [HILYTE](#), SWITZERLAND

hilyte has developed a consumable based iron battery that generates enough power to charge a phone and light an LED. Their product was built with the feedback of people in Tanzania and Kenya to make sure it would fit their needs. This is a solution that provides clean, safe, affordable, and on-demand electricity.

## INTELLIGENT GRIDS

### Early Stage



### [HIVE POWER](#), SWITZERLAND

Hive Power develops a turnkey solution for the creation and management of local energy communities on the blockchain, providing an economic optimisation for their participants by lowering their bills and valorising their assets.

## ENERGY EFFICIENCY

### Early Stage



### [HYGGE POWER](#), USA

Hygge Power combines smart sensors, tier-1 lithium ion and AI to create the next-gen storage that people want in their homes/offices. Real-time data is collected and transmitted to an encrypted repository to integrate energy partners & Hygge's own web-based dashboard.

## INTELLIGENT GRIDS

Early Stage



INSOLAR

Insolar's mission is to build an open-source enterprise-grade blockchain platform to enable seamless interactions between companies and new growth opportunities powered by distributed trust.

[INSOLAR GMBH](#), SWITZERLAND

## LOW-CARBON

Early Stage



insolight

Insolight is building solar panels with record efficiency, to make solar energy more affordable on rooftops. Its patent-pending optical technology allows sunlight to be concentrated on highly efficient solar cells, in a standard flat panel frame.

[INSOLIGHT SA](#), SWITZERLAND

## ENERGY EFFICIENCY

Early Stage



instagrid

instagrid builds the infrastructure for the working world of tomorrow – with a portable power supply that improves efficiency, inspires to advance and is accessible to everyone. Software-defined batteries from instagrid are the key to mobile and digital electricity that will shape better working environments.

[INSTAGRID GMBH](#), GERMANY

## ENERGY EFFICIENCY

Mid Stage



Inti-Tech offers an automatic, high frequency and water free cleaning service based on the use of a robotic device which was designed by their R&D team. Their robot is capable of cleaning the surface of solar panels in a fast and simple way.

[INTI-TECH](#), CHILE

## INNOVATIVE MOBILITY

Mid Stage



[IOKI GMBH](#), GERMANY

Ioki is dedicated to shaping the mobility of tomorrow. Their holistic mobility concept gets people moving – wherever they are. Building on insights from their mobility analytics, Ioki knows the right way for the successful realisation of demand responsive mobility – integrated in existing public transport systems.

## ENERGY EFFICIENCY

Mid Stage



[KRAFTBLOCK](#), GERMANY

Kraftblock provides an eco-friendly, cost-efficient and highly scalable, modular thermal energy storage system. Kraftblock is a high density thermal energy storage. Its core technology is a uniquely designed material with a great combination of thermal conductivity and high specific capacity.

## ENERGY EFFICIENCY

Early Stage



[KUGU HOME GMBH](#), GERMANY

KUGU offers a digital tool box for the real estate industry. The KUGU platform digitizes building technologies and automises related business processes. Their focus lies on the heat cost billing and the optimization of central heating systems.

## ENERGY EFFICIENCY

Early Stage



[LAAVA TECH INC](#), USA

Laava Tech has developed a combination of software and hardware that enables significant energy decrease for indoor farming. They can decrease energy consumption of even modern LED grow lights by 50%, and with hundreds of thousands of indoor farms in the world, the potential energy savings are huge.



## ENERGY EFFICIENCY

### Early Stage

LEAFTECH.

LEAFTECH GMBH, GERMANY

LeafTech offers data services to increase building energy efficiency and comfort. They setup a digital twin of the examined building and generate a thermal building model. By feeding this model with upcoming weather and usage patterns, Leaftech can anticipate future energy and comfort demands.

## INTELLIGENT GRIDS

### Mid Stage

LEX<sup>X</sup> TECHNOLOGIES

LEXX TECHNOLOGIES, AUSTRALIA

LexX Technologies enables clients to achieve improved uptime and on-time performance from their complex equipment. LexX leverages the latest in Artificial Intelligence, Natural Language Processing and Machine learning, delivering accurate information to a technician's device.

## INNOVATIVE MOBILITY

### Early Stage

 Li-Cycle<sup>TM</sup>

LI-CYCLE, CANADA

Li-Cycle Technology<sup>TM</sup> is a low cost, safe, environmentally friendly process that can recycle all types of lithium-ion batteries. It can do so with an unparalleled recovery rate of up to 100% of all materials.

## INNOVATIVE MOBILITY

### Mid Stage

 LITION

LITION ENERGIE GMBH, GERMANY

Lition is changing the energy market by directly linking green energy producers with smart consumers on their exchange platform. Using blockchain technology, they cut out unnecessary intermediaries and enable consumers to directly pay the producer, thus making a currently closed-off system more transparent

## INNOVATIVE MOBILITY

Mid Stage



[MOTIONTAG GMBH](#), GERMANY

MOTIONTAG creates seamless, sustainable and smart mobility. Their technology infers insights from smartphone sensors about how, when, where and why people use transport services. They then deliver the intelligence to help cities or mobility service providers to optimise transport systems.

## SDG-7

Mid Stage



[M-PAYG](#), DENMARK

M-PAYG is democratising sustainable energy by introducing prepaid off-grid Solar Home Systems on a pay-as-you-go basis. Monthly mobile payments of approximately 10 USD unlocks the system and gives access to clean energy for lighting, phone charging and powering appliances for an equal period of time

## ENERGY EFFICIENCY

Early Stage



[NANVIO AB](#), SWEDEN

Nanvio is a cleantech startup with a patent-pending nanotechnology for water and air purification. With the use of a novel nanostructured surface they have been able to multiply the efficiency of existing catalysts. With their innovation they can purify wastewater to enable household water recycling to save energy.

## LOW-CARBON

Mid Stage



[NUVENTURA GMBH](#), GERMANY

Nuventura focuses on the design and development of clean power grid technology to minimise the use of greenhouse gases in the global energy supply. They have a patent Switchgear technology that combines all advantages of today's industry standard but is free from greenhouse gases.

## ENERGY EFFICIENCY

### Early Stage



### [NYDRO ENERGY](#), ARGENTINA

NYDRO ENERGY provides a set of tools that enable almost any power grid to turn into a smart grid by using sensors and an interactive platform. By using our platform, users, prosumers, DSOs and TSOs can buy and sell electricity, add new power sources and automate transactions.

## INTELLIGENT GRIDS

### Early Stage



### [ODIT-E](#), FRANCE

Odit-e develops software for supervision and decision support, dedicated to distribution system operators. Odit-e builds an empirical model of low voltage electrical networks from smart meter data without using physical characteristics.

## SDG-7 - FINALIST

### Mid Stage



OffGridBox™

### [OFFGRIDBOX](#), USA

OffGridBox's design aims to solve two global challenges with one solution. The OffGridBox has solar panels on top and a water purification system inside. After taking part in Techstars Boston in 2017, the founders added an innovative Pay-As-You-Go set up to the existing direct sales activities, with a focus on Rwanda.

## ENERGY EFFICIENCY

### Early Stage



### [ONEWATT SOLUTIONS](#), NETHERLANDS

OneWatt, focuses on predictive maintenance for industrial motors. They use their Embedded Acoustic Recognition Sensor (EARS), machine learning, and frequency analysis to detect and predict motor faults before they occur.

## INNOVATIVE MOBILITY

### Late Stage



### PANTONIUM INC., CANADA

Pantonium is a Toronto-based software-as-a-service company that has been in operation since 2010 providing route optimisation to fleets of shared people transportation vehicles. Their cloud and mobile based technology suite enables transportation providers to move people efficiently in an on-demand world.

## INNO. MOBILITY - FINALIST

### Mid Stage



### PARKING ENERGY, FINLAND

Parking Energy are solving the issues within electric car charging in real estate environments. With over 20 years of experience in electric vehicles, combined with deep algorithmics, they offer sophisticated local grid load balancing that is based on real user experience.

## INTELLIGENT GRIDS - FINALIST

### Late Stage



### PLANET ARK POWER, AUSTRALIA

Planet Ark Power solves the voltage problem from behind the meter at no cost to the grid or taxpayer while significantly improving the ROI of rooftop solar. Their systems reduce businesses' grid-supplied energy and demand charges, replacing them with clean solar power, battery storage, micro grid technology.

## LOW-CARBON

### Early Stage



### POLIGY GMBH, GERMANY

Poligy's vision is to bring low-cost energy sources to every household in the world. Their solar modules not only generate electricity but also heat and have an integrated energy storage system so no batteries are needed.

## SDG-7

### Mid Stage



### [POLLINATE ENERGY](#), AUSTRALIA

Pollinate Energy is an innovative social business bringing clean energy products to communities in energy poverty in India's city slums and Nepal's remote villages. Their payment plans enable extremely poor families to purchase solar-powered products, such as lights and fans.

## ENERGY EFFICIENCY

### Early Stage



### [PYRO-E LLC](#), USA

Pyro-E custom designs and deploys solid-state technologies for energy harvesting applications. Their electromechanical device can extract energy from low-frequency, intermittent vibrations befitting of buildings, train rails, oil/gas pipelines, and more.

## INTELLIGENT GRIDS

### Mid Stage



### [RATEDPOWER](#), SPAIN

RatedPower's cloud-based software (SaaS), pvDesign enables the automated design and engineering of solar Photovoltaic plants possible. They perform in minutes what would take traditional engineering weeks. The result is a faster, more automated, accurate and reliable process.

## ENERGY EFFICIENCY

### Mid Stage



### [RAYCATCH](#), ISRAEL

Raycatch is an innovative start-up that uses cutting-edge AI technology to enhance existing solar plant energy yield – and reduce operational costs. Raycatch's AI solution provides remote automatic fault detection and performance mapping for photovoltaic projects of all sizes and designations.



## ENERGY EFFICIENCY

### Mid Stage



### [RELECTRIFY](#), AUSTRALIA

Relectrify is an Australian start-up enabling uniquely capable, affordable and sustainable battery storage. They have developed advanced battery control solutions that give used batteries, including from EVs, a second life as energy storage in solar homes, businesses and the power grid.

## LOW-CARBON

### Mid Stage



### [RENSOURCE](#), NIGERIA

Rensource offers technology and financial solutions to address the large unmet demand for small solar hybrid systems in Nigeria. Rensource offers solar hybrid systems combined with innovative financing plans to both businesses and consumers.

## LOW-CARBON - FINALIST

### Mid Stage



### [ROOFIT SOLAR ENERGY](#), ESTONIA

Roofit Solar Energy is a green-tech start-up, making renewable energy affordable to house owners. They produce Roofit.solar modules, which are building integrated photovoltaic (BIPV) construction elements that replace the conventional roofing and facade materials.

## INTELLIGENT GRIDS

### Early Stage



### [RVOLT](#), GERMANY

rvolt is a demand-centric intelligence platform for energy markets. They empower utilities to accelerate the energy transition. rvolt enables them to monitor and predict demand in low-voltage grids while increasing their customer satisfaction.

## LOW-CARBON

### Early Stage



### SEE02 ENERGY, CANADA

See02 Energy creates symmetrical electrolysis cells based on proprietary electro catalysts. Their transformative technology captures carbon emissions and economically converts CO<sub>2</sub> into valuable chemical building blocks like CO, syn gas, methane and oxygen.

## INTELLIGENT GRIDS

### Mid Stage



### SHANGHAI MEINERGY, CHINA

EnerSafari is a search engine, providing up-to-date information in Chinese and English from a categorised energy databank, thus connecting investment institutions, corporates and start-ups in the energy field worldwide.

## SDG-7

### Mid Stage



### SOLARPIPO B.V., NETHERLANDS

SolarPipo is a premier energy demand data aggregation platform collecting and aggregating energy demand data and sales leads of small businesses and communities in the off-grid areas in East Africa. They collect comprehensive profiles of small businesses and rural communities that need access to energy.

## INTELLIGENT GRIDS

### Early Stage



### SOLARTRACKER SPA, CHILE

SolarTracker is dedicated to democratising solar operation Intelligence. They provide key information about the operation and maintenance of distributed solar plant, so operators and owners can make decisions to improve the production and the return of investment.

## SDG-7

### Early Stage



### SOLARWORX UG, GERMANY

SolarWorX develops and manufactures solar systems that are modular, scalable and affordable. This solar system is the first to be stackable like LEGO bricks, has a productive use focus to support small businesses and communicates in local languages, such as Swahili and Wolof.

## LOW-CARBON

### Early Stage



### SOLAXESS SA, SWITZERLAND

Solaxess is Swiss company founded in January 2015. They are focused on research, development, production, and sales/marketing of a nanotechnology film, which is integrated onto the PV module during its production by the PV manufacturer in order to make it perfectly white with a matte aspect.

## ENERGY EFFICIENCY

### Early Stage



### SOLDCOLD, ISRAEL

SolCold is developing an innovative, patented nanotechnological material that cools everything under the sun. The material can be used as a coating for cooling cars, buildings, containers, apparels, airplanes, etc., and is expected to bring tremendous savings in cooling and air-conditioning expenses.

## LOW-CARBON

### Early Stage



### SOLHO BV, NETHERLANDS

SOLHO develops modular solar off-grid energy systems to power horticultural projects, boosting the transitions towards sustainable food provision. They have developed an innovative fully off-grid energy system that uses solar power and a thermal energy storage system, which fulfils the needs of a GBHP.

## INTELLIGENT GRIDS

### Early Stage



### SORAYTEC AS, NORWAY

Established in 2015, Soraytec Scandinavia AS is a technology company focused on delivering a novel digital smart metering and intelligent fault detection solution to the power distribution and generation sector.

## SDG-7

### Mid Stage



### SUNCRAFTER, GERMANY

SunCrafter has created a zero-carbon energy generation technology. By applying their own IP protected remanufacturing process onto decommissioned (early-loss) solar modules, they are upcycling them into extremely robust plug & play solar generators.

## SDG-7

### Mid Stage



### SUNCULTURE, KENYA

SunCulture develops and commercializes life-changing technology that solves the biggest daily challenges for the world's 570m smallholder farming households. By having set up a one stop shop for farmers, SunCulture ensures increased food production for individuals, families, communities, countries and continents.

## LOW-CARBON

### Early Stage



### SUNOVATE, AUSTRALIA

Sunovate is an Australian renewable energy technology development Company, founded in 2018, that has developed a photovoltaic thermal (PVT) device for generating renewable heat. The basis of their business is the development of a low cost and scalable PVT device that aims to make the provision of heat less carbon intensive.

## SDG-7 FINALIST

### Mid Stage



### SUNSAWANG LTD, THAILAND

SunSawang is a social enterprise providing solar home systems and lanterns for rural villages along the Thailand-Myanmar border. The enterprise empowers locals through hiring and training village technicians and sales people to provide solar products and after-sales service.

## INTELLIGENT GRIDS

### Mid Stage



### SWITCHDIN LTD, AUSTRALIA

SwitchDin is a renewable energy innovation company providing edge-of-grid and microgrid energy management solutions that offer intelligent asset monitoring, real-time aggregation and advanced control support. They ensure utilities and energy service companies have visibility, flexibility and firm dispatch of heterogeneous.

## LOW-CARBON

### Early Stage



### THE AIR COMPANY, USA

The Air Company has developed technology that converts carbon dioxide and water into extremely pure ethanol, with the only byproduct being oxygen. Their technology uses electrolysis, which enables this process to be powered solely by renewable electricity as a power-to-fuel system that sequesters carbon dioxide.

## INTELLIGENT GRIDS

### Late Stage



### THE SUN EXCHANGE, SOUTH AFRICA

Sun Exchange is a buy-to-lease solar marketplace where conscious capital accelerates the global transition to solar energy. Their platform combines the decentralizing and democratising capabilities of solar power and blockchain-based finance with sharing economy principles to make the benefits of solar power more accessible and inclusive.



## INNOVATIVE MOBILITY

Early Stage

# ONO

[TRETBOX GMBH](#), GERMANY

ONO offers a whole new category of vehicle: a pedal assisted transporter (PAT), as an alternative and cost-efficient solution to current parcel delivery methods, making our cities safer, cleaner and more enjoyable. The ONO pedal assisted transporter is a no-emissions delivery vehicle that avoids road congestion while reducing it.

## LOW-CARBON

Early Stage

The logo for Uprise Energy, featuring the word "UPRISE" in a large, bold, green sans-serif font, with the word "ENERGY" in a smaller, green sans-serif font directly below it.

[UPRISE ENERGY](#), USA

Uprise Energy is focused on energy and efficiency solutions. The initial product the company is bringing to market is the world's first commercially sized mobile wind turbine. The Uprise Energy Mobile Power Station has a 10kW nameplate rating, fits in a 20' shipping container, and sets up in one hour to produce clean, affordable electricity.

## LOW-CARBON

Early Stage

The logo for Volex Power, featuring the word "Volex" in a blue serif font with a red triangle above the 'V', and the word "power" in a green sans-serif font below it.

[VOLEX POWER LTD](#), ISRAEL

Volex Power was founded with a seed investment from the Israeli Electric Company and Tel Aviv University. Their product transforms conventional distribution transformers into a smart device, which contributes to grid stability and resilience.

## LOW-CARBON

Early Stage

The logo for Waterotor Energy Technologies Inc., featuring a blue stylized wave icon to the left of the word "Waterotor" in a bold blue sans-serif font, with "Energy Technologies inc." in a smaller blue sans-serif font below it.

[WATEROTOR ENERGY](#), CANADA

Waterotor is an emerging technology game-changer. Their solution has the capability to harness affordable renewable power from slow moving water which flows over most of the planet. Hence it is an attractive solution to provide global rural electrification – important goals of the United Nations and the World Bank.

## INTELLIGENT GRIDS

Early Stage



[WEPOWER](#), LITHUANIA

WePower is the next generation green energy procurement and trading platform. Their platform is a one-stop-shop solution that provides companies with tools to help in understanding electricity consumption patterns, finding a best fit renewable electricity producer, contracting with them digitally and then monitoring generators.

## INNOVATIVE MOBILITY

Late Stage



[XCHARGE](#), CHINA

XCharge is a high-tech innovative company specialising in providing High Power Smart Charging Solutions and Energy Solutions for future transportation. They offer a "Hardware + Software" systems which allows their clients to maximise charging revenue while minimizing maintenance costs.

## INNOVATIVE MOBILITY

Early Stage



[ZELEROS](#), SPAIN

Zeleros designs and develops new technologies for sustainable and efficient transportation, which will allow to travel at 1000 km/h with renewable energies, combining the best from the aeronautics and the railway industries.

## INNOVATIVE MOBILITY

Early Stage



[ZEMBO MOTORCYCLE](#), UGANDA

Zembo provides affordable electric motorcycles for motorcycle taxi drivers in Africa. This is a revenue generating activity for young people and their family, and an affordable transport solution for low-revenue people, adapted to African roads and often the single available solution.



@StartUpGET #SET19  
[startup-energy-transition.com](http://startup-energy-transition.com)

Powered by  
**dena**  
German Energy Agency

In cooperation with  
**WORLD  
ENERGY  
COUNCIL**