

Berlin, March 2017

#GET100 for the #G20

The Top 100 Start-ups from a global initiative: “Start Up Energy Transition”

Global energy transition is one of the biggest challenges in human history. But it is also an amazing opportunity for combining innovative business and political will to create growth, jobs and a sustainable energy solution for the planet to prevent climate change.

Tomorrow’s energy system is already in the making – an endeavor in which established players and start-ups fight side by side. That’s why the German Energy-Agency (dena) and its network initiated the Start Up Energy Transition Award along Germany’s G20-presidency.

Connecting minds for a greater good.

Five categories and a special prize to support the 7th Sustainable Development Goal (SDG 7), more than 90 partners from over 30 countries and Ambassadors from all over the world: the first edition of our initiative was already a tremendous success. We received more than 500 applications from 66 different countries! Supported by “Ambassadors” from all over the world, a high-level expert jury defined the Top 100 Start-ups, from which 18 finalists and 6 winners were chosen. Meet the #GET100 here: some of the most innovative Start-ups driving innovation on energy and climate change!

“Join us, be part of the Start Up Energy Transition!”

Andreas Kuhlmann

Chief Executive
German Energy Agency (dena)



1. AEInnova, <http://www.aeinnova.es>, Spain - FINALIST!

Industry: Energy Harvesting and Recovery, Founding year 2014, Employees: 7

HEAT-R Waste Heat Recovering Units (WHRU) are lightweight modules with different geometries, adaptable to any heat source and very easy to install and allow to recover waste heat into electricity. Internally, they can find the most innovative thermal and thermoelectric materials in conjunction with their patented microelectronic control system.

2. Alpha ESS , www.alpha-ess.com, China

Industry: battery and renewable energy storage, Founding year 2012, Employees: 85

Alpha-ESS is specialized in providing advanced energy storage products and intelligent energy management solutions to the world. As an international high-tech company, Alpha's business has expanded to Europe, Australia and all over the world.

3. Ampersand, www.ampersand.solar, China

Industry: Transportation, Founding year 2014, Employees: 1

Ampersand is a company based in Berlin that brings the electric bike revolution in China to Africa. They develop cargo e-bikes specifically for tough African roads, and introduce solar charging where practical.

4. Aurelia Turbines, <https://aureliaturbines.com>, Finland - FINALIST!

Industry: Power generation Founding year: 2013, Employees: 14

Aurelia produces the most efficient small gas turbines in the world, which includes Industry 4.0 features. Its combustion process has been developed to use renewable and other non-standard fuels. With efficiencies above the competition, they are transforming distributed energy generation.

5. BeeBryte, www.beebryte.com, France – WINNER!

Industry: Building Energy Management Systems, Founding year: 2015, Employees: 10

BeeBryte is a cloud-based Software-as-a-Service (SaaS) that optimizes energy consumption by (i) maximizing self-consumption from onsite generation (e.g. Solar PV), (ii) capturing electricity price arbitrage opportunities, (iii) reducing demand charge and (iv) bringing services to the Grid.

6. bettervest, www.bettervest.com, Germany

Industry: Crowdfunding and Energy Efficiency, Founding year: 2012, Employees: 8

At bettervest, individuals invest in a sustainable future that benefits everyone. They are the world's first crowdfunding platform where individuals can invest in the sustainability projects of enterprises, NGOs, and local municipalities, and share in the revenues from environmental protection.

7. Bignay Inc, www.giflybike.com, USA

Industry: Mobility, Founding year: 2014, Employees: 9

Bignay Inc. is a company dedicated to improving urban space. They've decided to reinvent the world's most efficient means of transportation - the bicycle. Gi Fly is their product, the first electric bike that folds in one second: a bike controlled by fingertips rather than by handlebars. Glide uphill, activate LED lights, track distance traveled.

8. Bioroot Energy, Inc., <http://www.biorootenergy.com>, USA

Industry: Renewable fuels and waste management, Founding year: 2015, Employees: 1

Bioroot Energy, Inc., a Delaware corporation based in western Montana, is dedicated to rapid development of Gas-to-Liquid fuel projects designed to convert municipal solid and liquid wastes, biomass, petroleum coke, coal, methane and CO₂ into clean, powerful higher mixed alcohol fuels and specialty chemical alcohols.

9. Blue Inductive GmbH, <http://blue-inductive.de>, Germany - FINALIST!

Industry: E-Mobility, Mobile Robots and AGV, Founding year: 2016, Employees: 14

Blue Inductive develops wireless superchargers for electric cars and mobile robots. They solve the problem of charging batteries conveniently and fully automated, without the need of human interaction. Their wireless chargers offer exceptionally high efficiency of up to 95% and outperform other systems in terms of size and costs.

10. CAALA, <http://caala.de>, Germany - FINALIST!

Industry: Construction industry, Founding year: 2016, Employees: 4

CAALA integrates life-cycle assessment and life-cycle cost analysis. Their tool is designed as a Software-as-a-Service (SaaS)-Solution and works as a plug-in within the architects' CAD software.

11. Chakratec, www.chakratec.com, Israel

Industry: Fast EV charging, Founding year: 2013, Employees: 5

Chakratec is a manufacturer of a patented kinetic storage that matches the needs of EV Charging Stations (EVCS) to provide high quality and reliable service. Its Kinetic Storage enables wide deployment of EVCS in rural areas and regions with weak grid. It also decreases the operational cost of EVCS by up to 70%.

12. Ciel & Terre International, www.ciel-et-terre.net, France

Industry: Floating photovoltaic panels, Founding year: 2013, Employees: 25

Ciel & Terre design, finance, and operate large scale rooftop, ground-mount and floating solar PV systems. Design to resist a wide variety of natural conditions, and to produce cost-effective solar electricity, the Hydrelio® solution allows the realization of large scale floating solar systems, and thereby contribute to a better energy balance.

13. Citizengage, <http://citizengage.co>, India - FINALIST!

Industry: Waste, Cleantech and Platforms, Founding year: 2015, Employees: 20

Citizengage is a platform that forms the foundation of recycling economies by connecting, managing, and improving a waste-to-resource network. The network connects waste producers, transporters, processors, and recyclers to manage their behaviour and impact through unprecedented data visibility and performance management tools.

14. CleverShuttle, www.clevershuttle.de, Germany

Industry: Mobility, Founding year: 2014, Employees: 22

CleverShuttle is an innovative, eco-friendly and low-priced door-to-door driving service for urban areas. Innovative, because a sophisticated IT-system matches passengers who are heading in the same direction in one shuttle. Eco-friendly, because on the one hand only electric vehicles are used and on the other hand rides get shared. Low-priced, because CleverShuttle is the most reasonably priced driving service in Germany.

15. ColdHubs, <http://www.coldhubs.com>, Nigeria – WINNER!

Industry: Cleantech and Agriculture, Founding year: 2015, Employees: 5

ColdHubs, is a “plug and play” modular, solar-powered walk-in cold room, for 24/7 off-grid storage and preservation of perishable foods. It adequately addresses the problem of post-harvest losses. Coldhubs offers farmers with a flexible pay-as-you-store subscription model.

16. Coolar, <http://coolar.co>, Germany

Industry: Green cooling technology for medicines, Founding year: 2016, Employees: 6

The Coolar system uses warm water that is easy to generate through solar energy and easy to store in a water tank. It does not use any moving parts, hazardous cooling fluids or lubricants. This way, the Coolar system can provide the cheapest, most durable and sustainable solution for vaccine, medicine and food storage in regions with unreliable or expensive electricity.

17. CrowdNett, www.eneco.nl/actie/crowdnett, Netherlands

Industry: Energy utilities, Founding year: 2017, Employees: 4

CrowdNett is a virtual power plant based on home storage with real time restoring electricity to the grid. It offers the home owner a total solution of battery, other hardware, installation and a long-term flexibility fee. Because of its scale, CrowdNett can earn on the transaction and share the profit in using the batteries in the balancing markets, with TSOs and DSOs.

18. Desolenator, <http://desolenator.com>, UK

Industry: Water Utilities, Founding year: 2011, Employees: 6

This patented technology uses only solar power to purify water from any source, including sea water; which is especially critical in regions where natural groundwater reserves have been polluted or poisoned or where seawater is the only water source available. Desolenator has a lifespan of up to 20 years and requires very little maintenance; it uses no filters, no membranes, and no pre-treatment chemicals.

19. Eco Wave Power, www.ecowavepower.com, Israel

Industry: Wave Energy, Founding year: 2011, Employees: 7

Eco Wave Power is the global inventor, owner and developer of the unique EWP wave energy devices. They design, manufacture and operate the EWP wave energy convertors. They believe that their patented and award winning technology is on target to become a world leader in the wave energy field. EWP currently holds projects in the UK, Gibraltar, China, Mexico, Chile, Israel and other countries.

20. Ecoisme Limited, <https://ecoisme.com>, UK

Industry: Energy and IoT, Founding year: 2016, Employees: 14

Ecoisme is an energy monitoring system which can detect all major home appliances and save up to 15% on energy bill thanks to machine learning algorithms. It eliminates grid and solar energy overuse.

21. Ecovat, www.ecovat.eu, Netherlands

Industry: Energy Storage, Founding year: 2016, Employees: 6

Ecovat® is a large-scale subterranean barrel for the storage of thermal energy with an innovative principle: the storage of energy across the seasons. By storing the heat (or cold) in times of surplus and using it in times of scarcity, the Ecovat® system creates the possibility for independence of the existing grid.

22. Electrochaea GmbH, www.electrochaea.com, Germany - FINALIST!

Industry: Energy Storage, Founding year: 2014, Employees: 17

Electrochaea has developed a commercially viable and disruptive solution for utility-scale energy storage, grid balancing, and carbon reuse. Their proprietary process converts low-cost and stranded electricity and carbon dioxide into pipeline-grade renewable gas.

23. Elum Energy, www.elum-energy.com, France

Industry: Energy Intelligence, Founding year: 2016, Employees: 10

ELUM is a Software-as-a-Service French SME developing the first energy intelligence platform that automates utility bill savings for industrial and commercial clients

leveraging energy price arbitrage opportunities coupled with additional grid services. It is a 100% cloud platform that allows real-time control of one/several behind-the-meter energy storage systems to maximize their profitability and increase their lifetime.

24. Energy Floors, www.energy-floors.com, Netherlands

Industry: Renewables and Environment, Founding year: 2017, Employees: 3

Energy Floors develops markets and sells innovative floor systems that convert kinetic energy from pedestrians plus solar energy to electricity. Their floors can be integrated in pavements and high footfall areas like urban areas, school playgrounds, shopping malls and office entrances or corridors, to power local devices and raise awareness on renewable energy.

25. enersis suisse AG, www.enersis.ch, Switzerland/Germany

Industry: Data Analytics and Energy, Founding Year: 2011, Employees: 34

Enersis focuses on Visual Energy Analytics, with special competences in the areas of energy / utilities, Big Data, Data Science and Analytics. They offer a cloud-based software platform and applications along the complete energy value chain to utilities, smart cities and energy-intensive companies. The solution turns data into assets by connecting and visualizing existing customer and additional external data leading to the information platform vision of the Digital Energy Boardroom.

26. ENIT Energy IT Systems GmbH, www.enit-systems.com, Germany

Industry: Data Analytics and Energy Efficiency, Founding year: 2014, Employees: 15

The ENIT Agent is a smart data fusion and energy control system specifically tailored for SMEs to reduce energy consumption and enable Industry 4.0 applications. The ENIT Agent is the only energy control system in the world which is compatible to every (energy) meter regardless of its manufacturer. The Agent simultaneously controls energy consumption every 15 seconds (beating the huge market for energy systems – measuring every 15 minutes - by factor 60).

27. EP Tender, www.eptender.com, France - FINALIST!

Industry: Automotive, Founding year: 2012, Employees: 5

EP Tender is an on demand range extending service for electric vehicles. In other words: an electric generator mounted on a small trailer and available for on demand rental (Tender'Lib ®).

28. EQuota Energy, www.equotaenergy.com, China

Industry: Data Analytics, Founding year: 2014, Employees: 8

EQuota uses data to deliver energy management and enable carbon services. Their first commercial product collects smart meter data from commercial and industrial

buildings, process them in real-time, then generates actionable insights in a user-friendly dashboard for decision makers.

29. evopark, www.evopark.com, Germany

Industry: Mobility and Smart Parking, Founding year: 2014, Employees: 19

The evopark app displays available parking spots in car parks nearby and automatically guides the user there upon request. The evopark parking card replaces the usual paper ticket. Barriers identify the integrated chip and open automatically. Instead of paying cash, parking fees are invoiced conveniently at the end of the month.

30. FreeWire Technologies, Inc., www.freewiretech.com, USA

Industry: Ev Charging, Founding year: 2014, Employees: 14

FreeWire Technologies is an energy storage company that transforms second-life electric vehicle batteries into intelligent, mobile energy storage systems.. FreeWire offers two product lines: the first product line - the Mobi Charger - provides alternatively level 2 or level 3 fast charging avoiding costly infrastructure upgrades. The second product line - the Mobi Gen - provides mobile, connected, quiet power replacing diesel generators.

31. Frontline Waste Systems, www.frontlinewastesystems.com, USA

Industry: Waste to Energy, Founding year: 2016, Employees: 3

For developing countries and islands, their combustor will anchor a distributed and decentralized system for local waste processing, recycling and non-recyclable residual waste disposal for small cities (under 200,000). These waste systems (Starter MRFs) will deliver waste reduction (up to 25,000 tons/year), high recycling results (up to 80%), create energy, healthier “waste-free” environments and offers real productivity impact – at a low upfront investment.

32. Glowee, www.glowee.eu, France - FINALIST!

Industry: Cleantech, Biotech and Bioeconomy, Founding year: 2014, Employees: 11

Glowee has developed a new biological lighting system using bioluminescent micro-organisms able to produce light. It is a living, natural and sustainable source of light which emits few CO₂ and reduces light pollution. It is a light which comes directly from nature, between biomimicry and synthetic biology, ready to transform production and consumption cycles.

33. GP Motion GmbH, www.add-e.at, Austria

Industry: E-mobility, Founding year: 2015, Employees: 4

Add-e is a retrofit e-drive for bikes. Within a very short time it is possible to upgrade a bicycle with add-e, for more driving pleasure. Only recognizable at the second glance,

add-e keeps your bike agile, as you know it from your normal bike. Hills and slopes are no longer an obstacle and the goal is reached much faster. If the battery is empty, the cyclist can continue as usual.

34. Green Energy Biofuels (SMEFUNDS), www.gebiofuels.com, Nigeria
Industry: Biofuels, Founding year: 2010, Employees: 54

GEB, 2nd Generation technology that makes it economically feasible to convert waste-based biomass into cellulosic ethanol (Cooking Fuel) using a combination of thermal, chemical and biochemical techniques. They use Water Hyacinth and Waste Sawdust as their main sources of feedstock which are both abundant environmental and Ocean-Way Wastes, especially in Western African.

35. GreenSync, www.greensync.com.au, Australia - FINALIST!
Industry: Software, Founding year: 2010, Employees: 24

Much like a marketplace, GreenSync's Distributed Energy Platform facilitates transactions and coordinates dispatch between utilities, system operators and the owners of Distributed Energy Resources. Their systems work 24x7, integrating weather and climatic data, production schedules, along with GIS and real time information from networks and markets around the world to predict forthcoming constraints, high cost events and ways to minimize energy costs.

36. Greinon Engineering AB, www.greinon.se, Sweden
Industry: IoT and Smart City, Founding year: 2012, Employees: 2

Greinon has developed a smart city control system with multiple applications (e.g. intelligent lighting control, waste and traffic management, statistical analysis, etc.). The system includes modular wireless control hardware, embedded software to provide intelligence, server software to bridge secure connection, and GUI that allows end user to monitor, control, and collect statistical information.

37. Gridhound, www.gridhound.de, Germany
Industry: Software, Founding year: 2015, Employees: 4

For the current challenges of the Power Distribution System Operators, Gridhound developed an Advanced Distribution Management System. The platform is offered as a service and billed by usage based on a subscription model. One of the key elements is the patent pending data-driven monitoring approach based on machine-learning. It allows a very good estimation of several grid states in a grid section with very few measurements and very low computational requirements.

38. Heliatek GmbH, www.heliatek.com, Germany
Industry: Solar, Founding year: 2006, Employees: 95

Heliatek was spun-off in 2006 from the Technical University of Dresden and the University of Ulm. The company's founding brought together internationally renowned experts in the fields of organic optoelectronics and oligomer synthesis. As the global technology leader in the field of organic photovoltaics, they are helping to shape a sustainable solar future.

39. Hempire, www.hempire.com.ua, Ukraine
Industry: Natural Insulation and Construction, Founding year: 2015, Employees: 3

Hempire provides green insulation technology involving hemp and lime, successfully implemented all around the world. Their professionals, having worked on numerous projects across Europe, are able to provide a full scope of services: consultations on the 100% natural hemp insulation material – “Hempire Mix”, insulation services, quality control, organization of workshops and others.

40. Hydrogenious Technologies, www.hydrogenious.net, Germany – WINNER!
Industry: Cleantech and Infrastructure, Founding year: 2013, Employees: 32

Hydrogenious Technologies is a spin-off of the University of Erlangen-Nuremberg. Having completed the technological proof of concept for LOHC and a successful close of a Series A funding round, Hydrogenious Technologies is now backed with strong scientific, strategic and financial capacities to revolutionize large-scale energy and hydrogen storage.

41. Hyko, www.hyko.co, Netherlands
Industry: Smart Energy, IoT Founding year: 2014, Employees: 5

Hyko emotionalizes energy, a commodity which is boring, hard to explain and not tangible. With Hyko we engage whole families in energy - the kids, the mother and the father - and help parents teach energy to their kids. Hyko is a smart connected lamp in the shape of a polar bear, with an accompanying mobile app, that teaches children about energy about electricity conservation by engaging them with immersive storytelling and games.

42. Ibis Networks, www.ibisnetworks.com, USA
Industry: Cleantech, Founding year: 2013, Employees: 10

Ibis Networks is a leading provider of energy management solutions for the enterprise. Its products use advanced IoT technologies to provide building owners with actionable insights and advanced control tools for energy use, enabling them to make more informed decisions and save money. The flagship IntelliNetwork system provides industry leading plug load management tools for commercial buildings.

43. InspiraFarms, <http://www.inspirafarms.com>, UK - FINALIST!

Industry: Food Tech, Founding year: 2012, Employees: 10

InspiraFarms is comprised of modular small-scale cold storage and food processing plants and machinery, provided with Remote Monitoring that allows capturing accurate real-time data for different purposes, such as agro-bio-climatic data, volumes and quality of products, crops' cycle planning and post-harvest management.

44. In Sun We Trust, www.insunwetrust.solar, France

Industry: Solar Energy, Founding year: 2015, Employees: 8

In Sun We Trust helps homeowners and businesses go solar by providing information and guidance, from A to Z. Their simulator can super-accurately estimate the potential solar energy production of any rooftop, thanks to geographical and weather data. They also walk their users through every step of their projects and connect them to rigorously selected solar installers in their area.

45. Ionseed, www.ionseed.eu, Portugal

Industry: Energy Storage, Founding year: 2013, Employees: 6

ION, a high-tech SME funded by KIC InnoEnergy, developed a technology that transforms traditional energy storage devices, that already have a mature and scalable market, such as hot water tanks, heat pumps, and others devices into IOT connected appliances thus creating a distributed energy storage network controlled by ION demand response (DR) online platform.

46. LIGHTHEAT P.C., www.lighthousesolar.gr, Greece

Industry: Concentrated Solar Thermal, Founding year: 2017

The Lighthouse Solar Collector is based on a very simple principle: with two axis, solar tracking is directed towards the sun from early in the morning until late at the evening. This is the first time that a similar method is used for solar energy harvesting and conversion into high temperature thermal energy, in a high technologically organized way and to a similar scale.

47. Little Sun, www.littlesun.com, Germany

Industry: Solar, Founding year: 2012, Employees: 25

What started as a humble idea to create a small, portable solar lamp for people without electricity in Ethiopia is now a global project that has changed over a million lives through the awesome power of the sun. Little Sun strengthens communities from the inside by creating local jobs and generating local profits through local partners and network of young, African entrepreneurs. For every high-quality solar product sold in an area with electricity, their partners or entrepreneurs sell a similar product in their part of the world without electricity at a fair, locally affordable price.

48. Lumenaza GmbH, www.lumenaza.de, Germany

Industry: Software as a Service, Founding year: 2013, Employees: 14

The Lumenaza software is a utility-in-a-box-solution for peer-to-peer energy markets. It is able to connect and control production facilities, to buy electricity from very small production plants, to sell electricity to end users, to manage balancing groups and to present production data in various appearances in real time to the market participants.

49. Magic Ventures, www.magicmitad.org, Netherlands

Industry: Households Appliances, Founding year: 2014, Employees: 4

Magic Ventures develops and launches products or services in developing countries, by matching the basic needs of local populations with technologies. Magic Mitad is an electric baking plate that radically reduces by 50% the energy required to bake traditional Ethiopian food injera and eliminates the smoke inhalation and indoor pollution exacerbating respiratory health conditions.

50. Mera Gao Power, www.meragaopower.com, India

Industry: Off-grid Energy, Founding year: 2010, Employees: 125

Mera Gao Power builds, owns, and operates micro grids in Uttar Pradesh, India serving off-grid villages with high quality, dependable lighting and mobile phone charging services. MGP's unique model is able to provide service to a typical hamlet for less than \$1,000, making its lowest cost design the first commercially viable micro grid targeted at the rural poor!

51. ME SOLshare, www.me-solshare.com, Bangladesh – WINNER!

Industry: Renewable Energy and Cleantech, Founding year: 2015, Employees: 23

SOLshare targets Bangladeshi households and small businesses in densely populated off-grid villages. Its main activities are the design, management of manufacturing and sale of an innovative charge controller for Solar Homes Systems which manages interconnection between multiple users to a decentralised, low voltage DC micro-grid and facilitates electricity trade.

52. Multicon AG & Co. KG, www.multiconsolar.de, Germany

Industry: Renewable Energy, Founding year: 2014, Employees: 11

Multicon has specialised in mobile off-grid solutions since 2010. Power is generated on the road using the newly developed solar container and Trailer. As they can be used anywhere and are free of pollutants and inexpensive, mobile off-grid systems are an economical and quick solution. The new solar systems can be used worldwide in urban power supply, in mines, refugee camps, building sites, and hotels, as well as in agriculture, thus guaranteeing a grid-independent power supply. The setup is based on the simple plug and play principle.

53. New Leaf Dynamic Technologies Ltd., www.newleafdynamic.com, India
Industry: Refrigeration, Founding year: 2012, Employees: 8

New Leaf has developed a compressor-less & off-grid refrigeration system which uses biomass for cooling to allow agriculture communities to preserve produce to reducing food waste and increasing farm revenue. The 15 metric ton cold storage system (1500 liter Bulk Milk Chiller) uses farm waste like cow-dung, biomass pellets, dead wood, husk, hay, bamboo waste etc. or biomass gases from a gasifier.

54. Newatt, www.newatt.com.br, Brazil
Industry: Energy Management and Efficiency, Founding year: 2015, Employees: 0

Newatt offers an energy management system that helps their clients to monitor and optimize their energy usage, offered as a Software as a Service solution. They provide means to uncover the real energy cost of each sector or equipment in a site, a powerful tool to prioritize improvement efforts and to identify energy waste.

55. Nizam Bijli, www.nizambijli.com, Pakistan
Industry: Renewable Energy, Founding year: 2016, Employees: 35

Nizam Bijli's software performs machine to machine communications: monitors devices, generates alarms for after sales service, performs data driven credit scoring on their customers, predicts defaults and can shut down the device in case of non payment. This platform is integrated with mobile money hence creating a cashless, transparent and secure method to receive payments. It helps create mobile wallets and history for the unbanked bottom of the pyramid.

56. Novihum Technologies GmbH, www.novihum.com, Germany
Industry: Resource Efficiency and Agriculture, Founding year: 2012, Employees: 23

Novihum Technologies GmbH developed a soil improvement product that revolutionizes how poor, over-used soils are reclaimed. In a world with increasing demand for food and decreasing amount of arable land, their product contributes to food security of future generations. Novihum® is made from lignite in a patented chemical process. It was originally invented at the TU Dresden (Germany) and further developed in partnership with other research institutions. It transforms the vilified brown coal as an energy source and CO2 emitter into a critically needed product that enable poor soils to be fertile.

57. OEEEX GmbH, www.oeeex.org, Germany
Industry: IT-Energy, Founding year: 2015, Employees: 3

The app-based platform connects energy consumers and producers of renewable energies and allows suppliers to launch and test these bundles. Instead of fighting

existing structures, OEEEX combines them with innovative technologies and makes existing suppliers to their clients.

58. OnePower Lesotho, www.1powerafrica.com, Lesotho
Industry: Renewable Energy, Founding year: 2015, Employees: 7

1Power is a micro-utility company providing metered prepaid energy services in remote areas of Sub-Saharan Africa. They follow the approach to incorporate subsidiaries that can own assets and hold licenses to install and operate solar power systems in target markets. OnePower has relevant capabilities within its management and technical staff including project design and development, grid extension and remote mini-grid distribution network design, procurement, contract management, and electrical engineering design and code compliance.

59. ONergy Solar, <http://onergy.in/>, India
Industry: Solar Energy, Founding year: 2009, Employees: 104

The social enterprise provides decentralized solar energy solutions and innovative solutions to households, communities, and institutions across East & North East India. It provides reliable and affordable clean energy products for solar lighting, water pumping & electrification.

60. Orcan Energy AG, www.orcan-energy.com, Germany
Industry: Energy/Waste Heat, Founding year: 2008, Employees: 59

Orcan Energy offers a solution for waste heat recovery based on the Organic Rankine Cycle principle. Orcan's product is able to capture low temperature waste, starting as low as 70 °C, and turn it into CO₂-free electricity.

61. ParkHere GmbH, <http://park-here.eu>, Germany
Industry: Automobile, Founding year: 2015, Employees: 15

ParkHere offers the first self-powered parking sensor, which monitors parking spots 24/7 for more than 25 years, without the need of an energy source or maintenance. The sensor uses energy harvesting technology to generate its electricity for sending the occupancy of parking spots to our servers. They distribute the real time parking data with drivers searching for a free parking spot, OEMs and government authority.

62. Pawame, www.pawame.com/, Kenia
Industry: Renewable Energy, Founding year: 2016, Employees: 13

Pawame finances Smart Solar Kits and accessory devices such as lights, radio, and TV and spread the cost to the consumer through an affordable monthly subscription plan, paid via existing mobile money platforms. Their solution enables a direct communication channel to customers, allowing continuous monitoring for a better service.

63. Phytonix Corporation, <http://phytonix.com/>, USA
Industry: Industrial Biotechnology, Founding year: 2009, Employees: 7

Phytonix Corporation is an industrial biotechnology company producing sustainable chemicals directly from carbon dioxide. Their patented process employs cyanobacteria, which are the same organisms responsible for creating a breathable atmosphere on Earth and that contributed greatly to the genesis of our miraculous blue planet.

64. Plactherm, <http://plactherm.com>, Spain
Industry: HVAC, Founding year: 2013, Employees: 9

Plactherm is a revolutionary smart underfloor heating system, remote controllable, highly efficient, compatible with renewable energies, environmentally-friendly and most importantly, able to generate independent thermal zones. The disruptive concept fully merges underfloor heating (UFH) and Internet of the Things (IoT) technologies in a stand-alone solution.

65. Plugsurfing GmbH, www.plugsurfing.com, Germany
Industry: E-Mobility, Founding year: 2012, Employees: 10

PlugSurfing was founded to solve the problem of range anxiety, initially by connecting private charging points to EV drivers. In the meantime the team has developed a payment system for EV charging which acts as an interface between the driver and the operator. With the app or Charging Key, drivers can now charge at thousands of charging points in Europe. PlugSurfing takes care of all of the billing and clearing between parties.

66. Poduhvat Hydrokinetics LTD, <https://poduhvat-hydrokinetics.co.uk>, UK
Industry: Clean Tech, Founding year: 2012, Employees: 2

The company is developing state of the art renewable technology in wind, wind and solar hybrid and even marine applications, with its cornerstone innovation, the VETAR new type of wind turbine. With the given features of their products, they are able to combine retail and Megawatt scale renewable energy production, integrating wind, solar and power storage in one unique device.

67. Pyro-E, <http://www.pyro-e.com>, USA
Industry: Transportation, Founding year: 2013, Employees: 3

A Regenerative Ultrafast Sensory Hotspot is being developed for Vehicle-to-Infrastructure connectivity. The objective is to obtain instantaneous, lane-specific data on road vehicles, at 10-times the speed and accuracy of GPS tracking. RUSH can work without external power, thereby mitigating the need for wiring and incessant maintenance. Ambient energy is harvested using piezoelectric materials in a manner that

is much more efficient than current practice. RUSH uses secure, low-latency Dedicated Short Range Communications protocol.

68. Qingdao MKL Technologies Corporation, www.mklchina.com, China
Industry: Bidirectional Power Conversion, Founding year: 2008, Employees: 65

Qingdao provides energy management and charging service for a large number of EVs, putting forward the construction of an intelligent charging network: a three horizontal and one vertical charging network technology system. The horizontal levels are in charge of connecting grid with EVs, monitoring safety, optimizing battery and providing service functions for customers. The vertical server interface includes a local centralized monitoring communication apparatus, which achieves the bidirectional data transmission between platform and charging equipment and control directive.

69. Rafiki Power by E.ON Off Grid Solutions, <http://rafikipower.com/>, Germany
Industry: Energy Access, Founding year; 2013, Employees: 25

Rafiki power offers clean and reliable energy as well as value-added services (e.g. consumer goods and productive-use equipment) in order to increase the standard of living and foster economic activity. Through their efficient design process and standardized technology, they are able to provide "customized" solutions at competitive prices.

70. REConnect Energy, www.reconnectenergy.com, India
Industry: Energy Utilities and Renewable Energy, Founding year: 2010, Employees: 54

REConnect Energy offers technology enabled services in two main areas. A powerful AI based Predictive Analytics platform, called GRIDConnect, for assisting the utilities, grid operators and renewable energy producers for an accurate wind, solar and/or demand forecasting and dispatch. And demand-supply aggregation through India's first Renewable Energy focused over-the-counter marketplace.

71. Rensource Energy, <http://rensource.energy>, Nigeria
Industry: Energy Provision and Renewables, Founding year: 2015, Employees: 12

Rensource offers technology and financial solutions to address the large unmet demand for small solar hybrid systems in Nigeria. It provides a membership-based subscription to use solar systems that bridge the energy gap between what you need and what you get from the grid. Their systems are connected in a way to constantly generate data around the health of the batteries, and the customers usage profile. In addition, they are able to remotely control the systems as a credit risk mitigation tool.

72. Sicoya, <http://sicoya.com>, Germany – WINNER!

Industry: Semiconductor, Founding year: 2015, Employees: 23

The objective of Sicoya is to help create a faster and more versatile internet by providing Silicon Photonics transceiver chips for optical intra-data center interconnects at low cost and with scalability for high volume mass production. The Sicoya solution consumes 4 times less energy than the State-of-the-art data centers.

73. Skeleton Technologies, www.skeletontech.com, Estonia

Industry: Energy Storage, Founding year: 2009, Employees: 75

Skeleton Technologies is the global leader in graphene-based ultra capacitors and energy-storage systems. They deliver high power, high energy, reliable and long-life storage solutions across industry. Through the use of patented nanoporous carbide-derived carbon, or 'curved graphene', they have achieved global breakthroughs in ultra capacitor performance.

74. Smart Green Batteries EV Chargers & sol, www.smartgreencharge.energy,

France

Industry: Electric Mobility, Founding year: 2017, Employees: 5.

SmartGreenCharge is an innovative electric station enabling to charge till 24 electric vehicles simultaneously -cars, buses, trains, ferries, planes- with locally stored renewable electricity -solar PV, wind, recycled cooking oil in a back-up genset. Smart Green Batteries makes off-grid charging powerful, practical and green. In the past it has been of limited value but now there is a real prospect of widespread deployment.

75. smart-me, www.smart-me.com, Switzerland

Industry: Smart Energy and Energy Efficiency, Founding year: 2014, Employees: 8

smart-me offers the technological solutions to make energy monitoring of entire buildings easy, affordable and suitable for the mass. All of their products are able to measure different energy sources such as current, heat, water or gas and upload the data via Wi-Fi interface directly into the smart-me cloud. No additional hardware is needed for the integration, the devices use the existing network and can be easily managed via a smartphone, a tablet or the computer.

76. smartB Energy Management GmbH, www.smartb.de, Germany

Industry: Energy and Buildings, Founding year: 2013, Employees: 13

smartB is reinventing energy management in commercial buildings. They employ cutting-edge non-intrusive technologies, algorithms and advanced sensor technologies to make energy usage transparent for their customers and enable them to achieve step changes in energy efficiency. Their core value is turning data and sustainability into

economic benefit for their clients. Since the energy accounts for 30% of companies operating costs, we address their most important cost lever.

77. Smartive, <http://smartive.eu>, Spain

Industry: Wind Power, Founding year: 2013, Employees: 15

Smartive provides cloud platforms and data mining algorithms that facilitate the supervision, monitoring, diagnosis and performance prognosis of wind turbines in order to improve the operation and efficiency of the energy market. Smartive is committed to sustainable growth, the introduction of renewable energy and the promotion of energy efficiency.

78. Solaris Offgrid, www.solarisoffgrid.com, Spain

Industry: Pay-As-You-Go Solar Home Systems, Founding year: 2014, Employees: 20

Solaris is an innovative, modular, pay-as-you-go (PAYG) solar home and business system, coupled with a robust distribution model and bespoke management software that includes mobile payment technology. Through their inclusive offer, individuals living in remote areas of Sub Saharan Africa (SSA) will have the ability to gain access to the first rungs of the energy ladder through their affordable, paid for weekly, solar home system.

79. SolarKal, www.solarkal.com, USA

Industry: Solar, Founding year: 2015 Employees:6

SolarKal is a one-stop shop for a variety of solar energy solutions. From data gathering, through equipment selection, to financing, their unique and easy process allows the customer to have one point of contact and receive multiple, competitive bids from their solar partners in the customers region.

80. Solar Kiosk AG, www.solarkiosk.eu, Germany

Industry: Environmental Technology and Retail Founding year: 2011, Employees: 346

On a mission to enable and empower off-grid populations through access to energy, connectivity, financial inclusion and sustainable consumer goods, SOLARKIOSK serves as a last mile distribution channel to underserved communities through an ever-growing pan-African network of modular solar-powered business hubs - E-HUBBS.

81. SolarTurtle, www.solarturtle.co.za, South Africa

Industry: Renewable Energy, Founding year: 2012 Employees: 2

The SolarTurtle is a renewable energy product which relies on battery based distribution for rural electrification. The product functions as a solar energy distribution point or mobile power station. Packaged in a shipping container, the container unfolds during the

day to charge numerous battery packs via solar power. These battery packs can be taken to where they are needed to provide a versatile source of electricity.

82. Soluz Energia, www.soluzenergia.com, Brazil
Industry: Solar, Founding year: 2014, Employees: 3

Soluz Energia developed a durable and low cost heat exchanger that couples to any kind of photovoltaic panel to get the residual thermal energy, heating the water and cooling the cells. With the heat exchanger, the photovoltaic panel is transformed into a “2 in 1” system, hybrid, which produces more electricity and hot water. They also develop specific software to size the installation with the hybrid solar panel.

83. Sosai Renewable Energies Company, www.sosairen.org, Nigeria
Industry: Renewable Energy, Founding year: 2012, Employees: 12

SOSAI was set up with the idea of using market based strategies to address the issues of Poverty and Rural/Community development as regards access to Energy, Clean water and ensure positive livelihoods. It provides world class technical, engineering and advisory services as well as distributorship of great renewable products by working with farmers and women in the selected communities.

84. Standard Microgrid, <http://standardmicrogrid.com>, South Africa,
Industry: Renewable Energy Microgrids, Founding year: 2012. Employees: 3

Standard Microgrid is reinventing the African utility with an innovative approach to distributed renewable energy services. They provide reliable power to the communities they serve, exciting growth opportunities for their partners and staff, and exceptional financial returns to their investors.

85. SteamaCo, www.steama.co, UK
Industry: Energy Technology; Founding year: 2012; Employees: 8

SteamaCo enables companies to sell clean energy in remotest Africa through their specialized smart metering platform. SteamaCo’s universal smart meter is affordable, simple and robust. Devices sends data up to the cloud wirelessly where SteamaCo’s cloud software crunches the data, processes payments and sends instructions back to the real world to physically switch power, water and fuel on or off. This happens within seconds, 1,000s of times a day, in places where you can’t even make a phone call.

86. Strauss Energy; www.straussenergy.com, Kenya
Industry: Solar BIPV, Founding year: 2008, Employees: 10

Strauss provides disruptive energy solutions to meet the gaping energy deficiency in Africa and the world at large. In a country with up to 10 months of sunshine, Strauss designs building materials that capture the sun’s rays and convert them into solar

energy. Building Integrated Photovoltaics or BIPV in short, is a perfect solution. The solar tiles work in such a way that they can produce power that can completely sustain a modern household without the need for a secondary power source.

87. SunCulture, <http://sunculture.com>, Kenya - FINALIST!

Industry: Agriculture and Renewable Energy, Founding year: 2012, Employees: 32

SunCulture is the only SME globally to provide a turnkey solar-powered irrigation solution tailored for the needs of smallholder farmers bundled with the ancillary products and services smallholder farmers need to succeed.

88. Sunew, <http://sunew.com.br>, Brazil - FINALIST!

Industry: Solar and Organic Photovoltaics, Founding year: 2014, Employees: 17

The Organic Photovoltaics (OPV) are the third generation of photovoltaics, capable of converting sunlight into electricity. The OPV is disruptive for its features and create a new paradigm for the solar industry, as it is extremely thin, light, flexible (exhibiting minimum radius of 10 cm), translucent and highly customizable in colors, design and shapes.

89. SunnyMoney, www.sunnymoney.org, UK

Industry: Solar, Founding year: 2008, Employees: 58

SunnyMoney is the largest seller and distributor of high quality solar lights in Africa, where over 600 million people don't have access to electricity. Replacing kerosene or paraffin with portable, affordable solar lights saves money, enables more study time, improves health, makes a home safer and saves the environment from harmful black carbon.

90. TESVOLT GmbH, www.tesvolt.com, Germany

Industry: Energy Storage, Founding year: 2014, Employees: 15

TESVOLT specializes in high-performance lithium storage systems which are particularly suitable for application in commerce and industry. Thanks to a highly flexible modular system, their various battery sizes can be combined in any way required – with a capacity ranging from 10 kWh to up to several megawatt-hours. They take up only a small amount of space and can also withstand extreme temperatures of between 5 and 40 degrees – and can be installed almost anywhere.

91. Thermal Energy Service Solutions (TESSOL), www.tessol.in, India – WINNER!

Industry: Transport Refrigeration, Founding year: 2013, Employees: 53

TESSOL's Cold Storage and Transportation solutions are based on the award winning "Thermal Energy Storage" technology developed and patented by TESSOL. Their flagship

range of PLUGnCHILL products provides an end to end solution for a sustainable Agricultural and Pharmaceutical Cold Chain.

92. Tevatronic, www.tevatronic.net, Israel
Industry: Agriculture, Founding year: 2013, Employees: 8

Tevatronic focuses on autonomous irrigation. They have developed a technological solution that makes growing crops fully autonomous from irrigation and fertilization aspects. Their system is fully capable of deciding when and how much to irrigate, and it executes the irrigation decision without human intervention.

93. Thermondo, www.thermondo.de, Germany
Industry: Energy, Founding year: 2012, Employees: 300

Thermondo's innovation is called 'Manfred' - the digital heating installer. This software, created in cooperation with IT developers and craftsmen, helps to identify the suitable, new heating system on the basis of up to 140 data points and to plan the precise installation process - without prior inspection. Their craftsmen are permanent employees and are experienced experts for heating installations.

94. Tiino Techmations Pvt Ltd, www.tiino.in, India
Industry: Cleantech and Agriculture, Founding year: 2014, Employees: 16

Tiino's product is SmartAgri, an IoT based solution. It monitors vital parameters for agricultural land such as soil and environment temperatures, humidity, moisture, and rain. Based on the water availability and the condition of the land, supply of water is prioritized. Real time data collection and feeding act as a library of experience data for the farmers to take effective decisions, but they can also rely on their own experience when desired.

95. Tiko, www.tiko.ch, Switzerland
Industry: IoT, Founding year: 2012, Employees: 30

tiko has been managing tens of thousands of residential loads to provide ancillary services to the Swiss national grid since 2012. They connect prosumers to a unique network to deliver energy management, smart-solar and micro-grid management. tiko analyses per-second information across the network in order to their partners benefit from ancillary services, peak shaving and DER along with extensive data insight to increase revenue and customer engagement.

96. Ucair, www.ucair.de, Germany
Industry: Photovoltaic Inspection Services, Founding year: 2017, Employees: 2

ucair utilizes the most recent developments in drones and sensors to make the inspection of photovoltaic plants easier, faster and more transparent for the owners and

operators. Being a platform and owning no drones ourselves, they utilize the largest and steadily growing drone pilot network with thermographic cameras in Germany to match the customer with inspection needs to a drone pilot nearby.

97. Village Power Uganda, www.village-power.ug, Uganda
Industry: Cleantech, Founding year: 2014, Employees: 70.

Village Power provides a range of GSM-enabled Solar Power Systems to customers living off the electricity grid or looking for a backup or reliable alternative to the grid in Uganda (and expanding to other East African countries). Their six SPS models range in power from 10Wp to 120Wp. The range is designed to support their customers' moves up the energy ladder.

98. Vortex Bladeless, www.vortexbladeless.com, Spain
Industry: Cleantech, Founding year: 2013, Employees:10

Vortex Bladeless developed a wind turbine with no blades that efficiently capture the mechanical energy resulted from the vortex shedding effect that occurs when the wind hits the mast of the turbine, and transform it into electricity. The feasibility of their technology has been demonstrated by computational simulations (CFD), wind tunnel assays (aerodynamic performance measurements) and field tests (Ávila Demonstration Plant).

99. Waste -to- Watt, Nigeria
Industry: Renewable Energy, Founding year: 2015, Employees: 3

Waste-to-Watt is a renewable energy project that focuses on converting agricultural and communal waste into electricity, and cooking fuel using a biogas digester for off-grid farming communities. The W2W solution is unique as it's not just focused on energy generation but also on waste treatment, energy efficiency and clean cooking technology, addressing energy poverty in rural communities.

100. Watty, <https://watty.io>, Sweden
Industry: Energy Technologies, Founding year: 2013, Employees: 22

Watty's solution is ground breaking in the field of energy disaggregation. Using AI and deep learning, they have trained their algorithms on ground truth data from over 400 households, allowing detecting more appliances with higher accuracy. Watty's solution relies on only a single piece of hardware, the Watty Box which uploads the data to the cloud, where it is processed and analyzed. Home is where your heart is, and at the hart of your home is Watty.

Patron



Brigitte Zypries

Federal Minister for Economic Affairs and Energy

(Photo Credit © Susie Knoll)

Ambassadors



Adnan Z. Amin

Director General of the International
Renewable Energy Agency (IRENA)



Dirk Ahlborn

CEO of Hyperloop Transportation
Technologies Inc. (HTT) and Founder/CEO of
JumpStarter Inc



Dr. Christoph Beier

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Industrial Advisor for EQT

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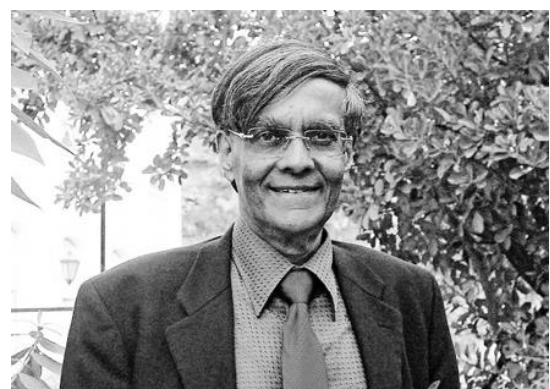
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CEO of German Energy Agency dena



Dr. Katrin Leonhardt
Director at KfW



Univ.-Prof. Dr.-Ing. Lamia Messari-Becker
Member of The German Advisory Council on
the Environment



Mohan Munasinghe
Chairman of Munasinghe Institute for
Development (MIND)



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Monika Weber-Fahr
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Energy for All



Jochen Wermuth
Senior Fund Partner of Wermuth Asset
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Managing Director at European Climate
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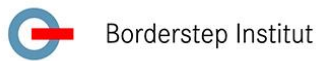
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