

What is at issue?

The Bipolymer, a newly developed, innovative material, will revolutionize the energy market. Its function is comparable to a bimetal. The material was invented and patented by poligy. The Bipolymer can be produced in large quantities at low cost.

The Bipolymer can be used to produce entirely new products, such as low-cost, versatile alternative applications to photovoltaics (B2C) and heat engines (B2B) to generate electricity from unused waste heat in industry.

Problems

B2C: Renewable energies are expensive. No green system delivers electricity, heat and storage in one product. Customers must purchase components separately (€15k-€20k per family house in Germany).

B2B Industry: Any process with waste heat can generate electricity, but 40% of the waste heat capacity worldwide is unused due to overly expensive existing applications.

Our solution

Electricity, heat & energy storage in one system. Our solution consists of modules with Bipolymer tapes that are heated on the upper side by the sun in case of the solar module or a waste heat source in case of an industrial use of the technology. The heat creates a strong bending effect, force is generated, and the strip starts to move. This movement is converted into electricity by a generator.

At the bottom, the cooling system circulates to bring warm water into a heat accumulator. The system ensures a constant rotation of the belt and converts heat from the heat accumulator back into electricity.



Business model

B2C sale of solar modules to distributors & energy companies, such as municipal utilities, e.ON, Vattenfall, EnBW & many more.

B2B sale & licensing of thermal power engines to industry, power plants, producers of environmental technology, turbines, e.g. Siemens, GE, Hitachi Mitsubishi Power Systems.

Timeline

- Q3 2019 Finalization of the prototype and outdoor tests
- Q4 2019 Paid pilot project for industrial waste heat
- Q1 2020 Production of a small series of modules

Partners



Media, Awards & Accelerators

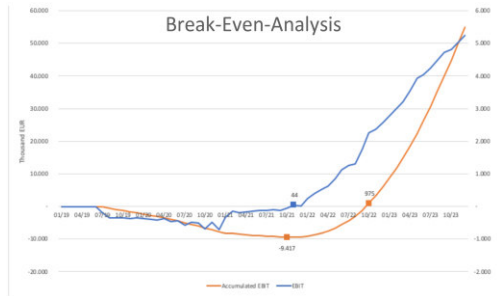


#SET100
START-UP 2019



poligy GmbH

Founded: October 2018 **Employees:** 9 **Location:** Düsseldorf
Revenue: €50.000 **Revenue for 2019:** €125.000



Why invest?

Market potential: \$2 trillion global market for renewable energies until 2025 & \$65 billion for the waste heat market.

Go-to-market: LOIs with strategic partners

- Uniper, a multi-billion \$ company, for financial & sales support
- Covestro, a DAX company, helps us to manufacture the Bipolymer

Working prototypes: B2C & B2B applications have successfully confirmed the power generation concept of the material. Technology Readiness Level 6 (TRL) in a relevant environment in summer 2019. Production process currently already on TRL 7.

Strong IP: Protection against copying through two international patents (patent pending) on the Bipolymer material & applications. Know-how and applications based on 40+ expired patents from companies such as Boeing and Prof. Faraday.

Value proposition: No competitive technologies can be used for low temperatures from 50°C to 200°C while running economically. Fast, cheap & simple production. Easily recyclable material. Completely free of rare earths, lead, cadmium, silicon & lithium.

USP: Cheaper by 30%-40% to alternatives. Annual savings of 50% of the total energy costs in households (B2C) and up to 15% in the industry (B2B). Faster ROI compared to Photovoltaic with storage batteries (B2C) & Organic Rankine Cycle plants (B2B).

Strong and resistant material: Ideal for engine operation and outdoor use. Measured by the Fraunhofer UMSICHT Institute.

Founders with technical expertise



Martin Huber
CEO Technology
M.Sc. Business Chemistry
7+ years engineer

HEINRICH HEINE
UNIVERSITÄT DÜSSELDORF

Hochschule Niederrhein
University of Applied Sciences



Artur Steffen
CEO Management
M.A. Entrepreneurship
13+ years entrepreneur

UNIVERSITY OF WOLLONGONG
IN DUBAI

LONDON METROPOLITAN
UNIVERSITY



HOCHSCHULE
SRH BERLIN

Partners



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