



Sustainable Energy Supply and Resource Management.

The field of specialization “Sustainable Energy Supply and Resource Management” is stimulating new growth through networking.



The field of innovation “Sustainable Energy Supply and Resource Management”.

As part of the process of elaborating the Thuringian Innovation Strategy (RIS3 Thuringia), more than 500 stakeholders from academia, the economy, and intermediary sectors came together to identify the most promising future growth fields that Thuringia has to offer. They concluded that “Sustainable Energy Supply and Resource Management” is one of Thuringia’s five “fields of innovation” and thus a mainstay of the region’s future economic success.

As the world faces mounting challenges such as progressive climate change and dwindling resources, Thuringia’s stakeholders in the field of specialization “Sustainable Energy Supply and Resource Management” are redoubling their efforts to develop new technologies to address these problems. No idle proposition, given that many enterprises in Thuringia are market leaders or

have cutting-edge expertise in their technological sphere. Moreover, the region’s highly productive academic and non-academic research landscape offers ideal conditions for a cross-linkage between science and business in this particular field of specialization, thus paving the way for breakthroughs that will give rise to essential technologies of the future.

Specialization profile as defined in the Thuringian Innovation Strategy



Energy generation, transport & storage

- › System solutions based on renewable energy sources
- › Building-integrated Photovoltaic
- › Design, analysis & operation of electric energy systems and power engineering components
- › System steering for energy transmission & distribution
- › Electric energy storage media
- › Forecasting of feed-in fluctuations
- › Energy management & the laws governing energy



Energy efficiency & conservation

- › Energy-efficient production
- › Cogeneration of heat & power (CHP)
- › Green building materials
- › Energy strategies for cities and regions
- › Lightweight construction



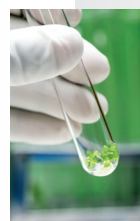
Materials cycles & water management

- › Innovative recycling & upcycling
- › Recycling management
- › Sustainable water management



Resource efficiency

- › New materials
- › Material-efficient processes
- › Substitution of critical raw materials
- › Sustainable design



Bioeconomics

- › Industrial usage of renewable raw materials
- › Biotech production processes

The specialization profile serves as the baseline for implementing the Innovation Strategy and will be fine-tuned over time.

The Working Group.

Thuringian stakeholders are working together closely in an effort to find common solutions to the pressing challenges of our times. The members appointed to the Working Group meet regularly to further develop their field of specialization while generating suitable recommendations for action.



“Creative approaches and open forms of cooperation are how Thuringia intends to become an innovation leader in all the focal areas of the Working Group.”

Prof. Dr. Dirk Westermann
(Technical University of Ilmenau)
Working Group Spokesman



“Our working Group discusses key future challenges and solutions. Our various forums help create a collaborative network between companies and research institutions.”

Mirko Jetschny
(PV Crystallox Solar Silicon GmbH)
Deputy Working Group Spokesman

The Working Group has defined three key targets for making this vision for the future a reality:

Key Target 1

Thuringia is to become an innovation leader in the development, design, manufacture, and operation of sustainable, renewable, and efficient energy-supply systems and components.

Key Target 2

Thuringia is to become an innovation leader for holistic solutions that boost the energy efficiency of new and existing buildings and neighborhoods, including industrial sites and their infrastructure.

Key Target 3

Thuringia is to become an innovation leader for new materials, technologies, and processes that boost resource efficiency, closed material cycles, and sustainable design.

i You, too, can get involved! Visit our forum events or join the discussion on the forums of our online platform:

- › Energy
- › Resource Efficiency

Discussion platform and forum calendars



@ www.cluster-thueringen.de/mitmachen



Thuringian networks.

SolarInput e.V.

Active since 2003, the SolarInput network comprises Thuringian solar companies, service providers, R&D centers, educational institutions, and local municipalities. Its mission is to promote strategic, cross-sectoral networking while anchoring the solar industry in the region along with the local application of solar technology.

Solarvalley Mitteldeutschland e.V.

Based in Erfurt, this network was supported as a “leading-edge cluster” by the Federal Ministry of Education and Research (BMBF) from 2009 until 2013. The joint mission of its members is to promote the smart generation, storage,

distribution, and use of electricity derived from renewable sources. This is to be achieved through a comprehensive strategy calling for the worlds of business, academia, and education to joint forces in working towards this shared objective. The results achieved this far include the successful management and completion of 98 R&D projects, the establishment of 7 endowed professorships and 11 new Bachelor/ Masters programs, and the assignment of 64 doctoral dissertation topics.

Thüringer Erneuerbare Energien Netzwerk (ThEEN) e.V.

Smart grids, renewable heating, and energy-efficient solutions for neighbor-

hoods that incorporate renewable energies – these are just a few of the topics addressed by this network. Besides organizing expert forums, the network also initiates cross-sectoral studies and joint ventures, participates in the relevant political processes at the level of the Land, and brings together providers of all forms of regenerative energy. Thanks to the numerous, associations, individual entities, companies, research institutes, municipalities, and other institutions that make up its membership, ThEEN is able to serve as a competence network while representing more than 300 enterprises along with their bundled know-how.



Success, made in Thuringia.

Thuringia's innovative capacity in "Sustainable Energy Supply and Research Management" is best evidenced by the many success stories attributable to the regional associations, networks, and enterprises active in this field. Here are just a few:

Smart Energy Ostdeutschland – Renewable, decentralized electric power for generations to come

A strategic alliance for research, innovation, and growth has been formed under the auspices of the grant program "Zwanzig20 – Partnerschaft für Innovationen" sponsored by the Federal Ministry of Education and Research (BMBF). This partnership for innovations takes the form of a Germany-wide consortium composed of industrial enterprises, energy suppliers, research institutes, institutions of higher learning, and policymakers under the leadership of Solar Valley GmbH. The project's core objective is to develop strategies to ensure the sustainable supply of energy in Eastern Germany by promoting R&D and ongoing professional training regarding viable technologies for the generation, storage, distribution, and consumption of electricity produced in decentralized fashion from renewable energy sources. SmartEnergy Ostdeutschland intends to position Eastern Germany as a top region for renewable power generation, one that can take up the competition with the leaders of the global growth market for energy technology with its novel

technologies and innovative products. One million euros in subsidies have been earmarked for this project.

Recycling 2.0 – Die Wertstoffwende

A strategic alliance for research, innovation and growth has been formed in the area of materials recovery and recycling management under the auspices of the grant program "Zwanzig20 – Partnerschaft für Innovationen" sponsored by the Federal Ministry of Education and Research (BMBF). One million euros in subsidies have been earmarked for this partnership for innovations. The alliance takes the form of a Germany-wide consortium headed by Professor Sylvia Schade-Dannewitz (Nordhausen University of Applied Sciences). The project's core objective is to achieve a sustainable and resource-efficient structural transition towards increased recycling. Recycling 2.0 looks for creative answers to key future challenges when it comes to securing resources supplies, e.g. "How can large volumes of material blends that yield only small amounts of recoverable materials per product be optimally exploited and recycled as secondary materials?"

Selected companies

BBW Abwassertechnik Weißensee GmbH & Co. KG, Weißensee

EPC Engineering Consulting GmbH, Rudolstadt

H. M. Heizkörper GmbH & Co. KG, Dinkelstädt

IfE Ingenieurbüro für Energiewirtschaft Dr.-Ing. Dirk Schramm GmbH, Steinbach-Hallenberg

Jena-Geos-Ingenieurbüro GmbH, Jena

KUMATEC Sondermaschinenbau & Kunststoffverarbeitung GmbH, Neuhaus-Schierschnitz

K-UTEC AG Salt Technologies, Sondershausen

leitec® Gebäudetechnik GmbH, Heiligenstadt

mtm plastics GmbH, Niedergera

OMROS Gesellschaft für Umwelttechnik GmbH, Hildburghausen

PV Crystalox Solar Silicon GmbH, Erfurt

Schulz & Berger Luft- und Verfahrenstechnik GmbH, Altenburg

SINOI GmbH, Nordhausen

Sinusstrom GmbH, Erfurt

SolarWorld Industries Thüringen GmbH, Arnstadt

Thüringen Recycling Erfurt GmbH, Erfurt

Thüringer Energie AG, Erfurt



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