ZO.RRO

ZERO CARBON
CROSS ENERGY
SYSTEM

Transformation of the energy system using the example of Thuringia

We research and develop systemic solutions for a CO_2-free energy supply.

#ZO.RRO PRESENTS FUTURE.

www.zorro.energy

DECARBONIZATION OF THE ENERGY SUPPLY

Systemic approach means thinking ahead together!

ZO.RRO comes in at the second phase of the energy transition to implement the decarbonization of the energy supply.

CO_2 pricing is becoming an economic factor for companies. Also the further development of the energy system by integrating volatile renewables confronts us with challenges.

That is why our research focuses on the questions of how CO_2-free grid operation can be conducted without conventional power plants and which role the industry takes in this process.

In the future, the preservation of grid operation functions and thus grid stability, with the necessary reduction of CO_2 emissions, can only be ensured by intelligent interaction of energy producers and consumers. But how?

ZO.RRO VISION

What does the energy supply of the future look like?

ZO.RRO demonstrates both the need and the possible scope for action aiming at a zero carbon cross energy system of the future.

Under the leadership of Technische Universität Ilmenau, an approach for a completely CO_2-free energy supply is being developed with project partners such as Fraunhofer IOSB-AST and University of Applied Sciences Nordhausen as well as industry representatives using Thuringia as an example (**Energy System Modeling**).

The main focus of the project lies on the CO_2-free provision of **ancillary services**, which are required for a high level of supply security.

Therefore, ZO.RRO develops options for industrial and commercial enterprises that enable a CO_2-free and economically sensible use of energy, while contributing to grid stability.

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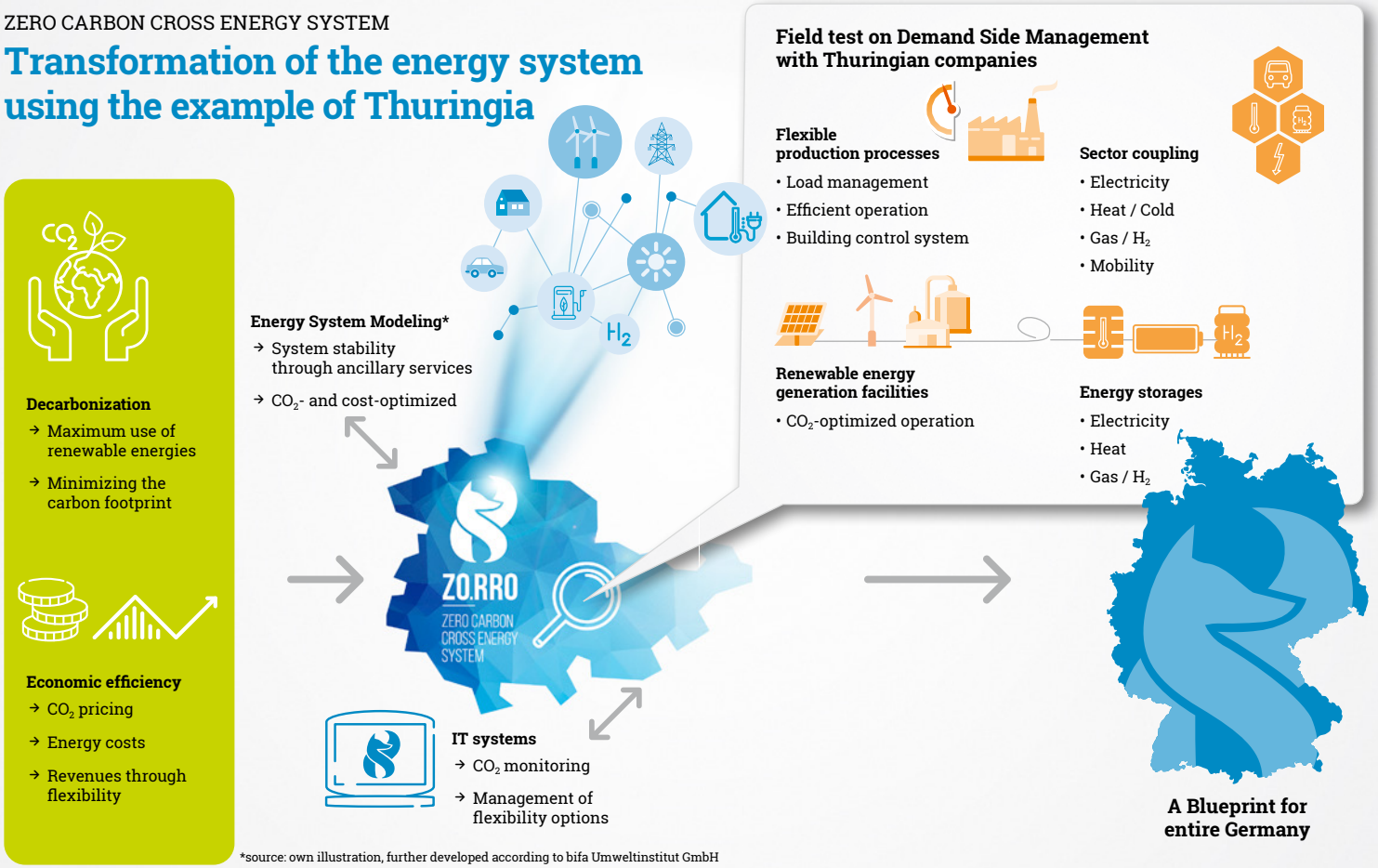

*source: own illustration, further developed according to bifa Umweltinstitut GmbH

In on-site workshops, experts from IfE GmbH, Trianel GmbH and ThEEN e.V. analyze how companies can adapt their consumption according to the future energy supply and develop individual concepts for reducing CO_2 emissions.

Among the economically and technically suitable solutions for **Demand Side Management** are:

→ **Flexible production processes** that are linked to the feed-in of renewable energies,

→ **Sector coupling** technologies that also include the heat, gas, and mobility sector

→ as well as CO_2-optimized, combined operation of own renewable energy generation and storage systems.

For the practical phase of the project starting in 2022, KoCoS Messtechnik AG and Fraunhofer IOSB-AST are developing suitable **IT systems** enabling smart CO_2 monitoring and management of flexibility options for participating companies, as well as integrated municipal utilities that already take sector coupling technologies into account.

In this context, the ZO.RRO team develops innovative solutions for a CO_2-free energy supply involving the Thuringian economy.

ZO.RRO – towards a zero-carbon future.

 # ZO.RRO PRESENTS FUTURE.

ZO.RRO PRESENTS FUTURE:

Thuringia as a blueprint for entire Germany

Under the consortium leadership of Technische Universität Ilmenau, the joint partners of the ZO.RRO project are researching innovative solutions for a CO_2-free energy supply of the future, which will be tested in cooperation with Thuringian companies in the second project phase starting in 2022. The aim is to implement measures in practice that we can learn from throughout Germany.

This is how energy transition works – we start right here.

TECHNISCHE UNIVERSITÄT ILMENAU

Fraunhofer IOSB Advanced System Technology AST

Trianel

KoCoS A FRIEND OF ENERGY

ThEFi

Hochschule Nordhausen University of Applied Sciences

ThEEN Thüringer Erneuerbare Energien Netzwerk e.V.

Ingenieurbüro für Energiewirtschaft IFE

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