REINER LEMOINE INSTITUT

Reiner Lemoine Institut

Applied Research for 100% Renewable Energies

Reiner Lemoine Institut (RLI)

Overview

- Not-for-profit research institute
- 100 % subsidiary of Reiner Lemoine-Foundation (RLS)
- Established 2010 in Berlin
- Member of: ARE, eurosolar, BNE, dena, EEA
- Managing Director: Dr. Kathrin Goldammer

Reiner Lemoine
Founder of Reiner Lemoine-Foundation

History

Don't leave the planet to the stupid

SOLON

Q.CELLS

RLS
REINER LEMOINE STIFTUNG

RLI
REINER LEMOINE INSTITUT

Reiner Lemoine

1978	1996	1999	2006	2010
RE Pioneer	Foundation of Solon & Q-Cells		Foundation of RLS	Foundation of RLI

Strategic objective of RLI:
Applied Research for 100% Renewable Energies

Scientific staff:
Approx. 25 employees, with 3 research groups

Fields of Research

Transformation of Energy Systems

We analyze and optimize future scenarios with an energy supply largely based on renewable energy sources.

- Scientific monitoring of the energy transition– on national, regional and EU-Scale
- Simulation and optimization of cross-sectoral energy systems
- Analysis of single technology performances in integrated energy systems (energy storage, PtG, PtH, cogeneration)
- Research on transitional energy processes

Mobility with Renewable Energies

We analyze sustainable mobility concepts through sophisticated implementation and optimization of renewable energy systems.

- Battery electric mobility: propulsion of vehicles using electric energy from Renewable Energies
- Hydrogen-electric mobility: production of hydrogen via electrolysis and Renewable Energies
- Synthetic-methane-gas-based mobility: production of methane gas via electrolysis, Renewable Energies and methanation

Off-Grid Systems

We support the development of sustainable energy supply for remote regions.

- Strategies for rural electrification
- Simulation and optimization of hybrid mini-grids
- Combining GIS-analyses and energy system simulations
- Market potential analyses and business implementation strategies

Transformation of Energy Systems
Reference Projects (Selection)

Smart Power Flow
Energy storage solutions in distribution grids

- Optimization of location of a redox flow battery in a distribution grid by using simulation tools
- Integration of the battery into the grid and validation of the simulation models using measured data
- Development of a concept for the integration of large battery storage systems into distribution grids

Open_eGo
Optimal network and storage development in Germany

- Integrated energy system planning taking into account several voltage grid levels

→ Reduction of renewable energy implementation cots

- Development of Open-Access planning tool

→ Involvement of users

- Initialization of Open-Energy Platform for further evolution of planning tools

REEEM
Energy efficient economy

- Analysis of EU-wide pathways towards a sustainable energy supply
- Cross-sectoral energy systems simulation
- Development of open databases for energy system simulations
- Knowledge exchange among leading European research institutions

Mobility with Renewable Energies
Reference Projects (Selection)

Intelligent mobility station train station Berlin Südkreuz
Developing of a smart grid

- Coordination of accompanying research
- Installation of measurement technology at train station
- Analysis of renewable energy and energy storage technologies
- Optimization of system operation
- Interactive demonstration of the smart grid

D3 - Micro Smart Grid EUREF (Twinlab)
Extension of a smart grid

- Coordination of accompanying research
- Installation of small-scale wind turbines
- Multi-objective optimization of topology and operation of renewable energy generation and storage units as well as electric vehicles
- Analysis of hosting capacity

H2BER2
Development and Testing of Operating Strategies

- Finding and implementing intelligent operating strategies
- Comparing different hydrogen demand and energy supply options
- Optimization of the refueling stations topology and component sizing
- Demonstrating the project and its results interactively

Gefördert durch: Bundesministerium für Verkehr und digitale Infrastruktur

Koordiniert durch: NOW Nationale Organisation Wasserstoff- und Brennstoffzellentechnologie

Off-Grid Systems
Reference Projects (Selection)

Nigerian Energy Support Programme (NESP) – Rural Electrification	Market Potentials for Hybridization with Renewable Energies on Islands	Technical Assistance for PV-Battery-Diesel Hybrid Systems on the Cook Islands
Rural electrification planning ▪ GIS analyses ▪ Evaluation of on- and off-grid supply options ▪ Local capacity development	**Market study** ▪ Global assessment of renewable energy potential on islands ▪ Ranking for strategic market development	**Project preparatory technical assistance** ▪ Assessment of local conditions ▪ Energy system optimization of hybrid mini-grids ▪ Implementation plans

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
INTEGRATION
Hanwha SolarOne
ADB

Contact

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- Research cooperations
- Collaborative project applications
- Industry partnerships

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