ABOUT RLI

The Reiner Lemoine Institute is an independent non-profit research institution that contributes to a transformation towards a sustainable energy supply based on 100 % renewable energy. Our three Research Units are “Transformation of Energy Systems”, “Mobility with Renewable Energy”, and “Off-Grid Systems”. We conduct applied research to scientifically support the long-term transition of the energy supply system towards renewable energy.

REINER LEMOINE

Reiner Lemoine was a pioneer of renewable energy. While others were thinking and talking about alternative forms of power generation, he took the lead and founded the solar companies SOLON and Q-Cells, amongst others. It was in this spirit that the RLI was established. The institute is funded by Reiner Lemoine-Stiftung.

OUR TOPICS

FUTURE SCENARIOS BATTERY SMART GRID
WIND POWER SOLAR E-CAR GRIDS
TRANSFORMATION
RENEWABLE
ENERGIES
OFF-GRID MOBILITY
HYDROGEN ELECTRIFICATION HEAT
ISLAND GRID CHARGING STATION EFFICIENCY GREEN

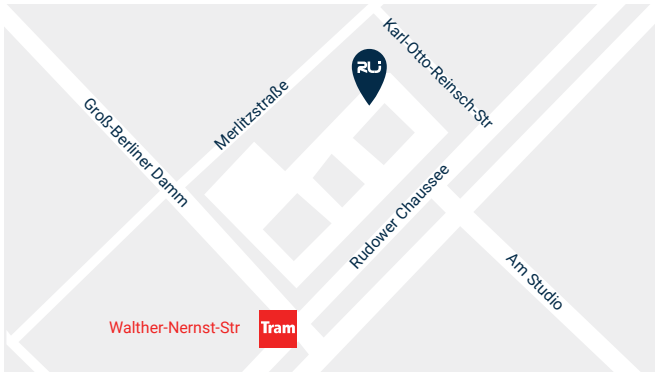
CONTACT US

Reiner Lemoine Institut gGmbH
Rudower Chaussee 12 | Aufgang D
12489 Berlin

Telefon: +49 (0)30 1208 434 0
Telefax: +49 (0)30 1208 434 99

E-Mail: info@rl-institut.de
Web: www.rl-institut.de

HOW TO FIND US



S Adlershof, Linien 45, 46, 8, 85, 9
Tram Linien 61, 62, 63, 68
BUS Linien 162, 163, 164, 260

Stand: Juni 2017

REINER LEMOINE INSTITUT

Research Unit **Transformation of Energy Systems**

Applied Research for
100 % Renewable Energy

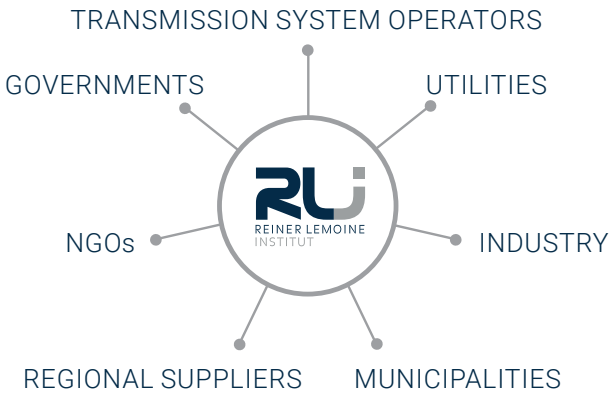
Transformation of Energy Systems

We support the Energy Transition by scientifically analyzing and optimizing future energy systems that feature a large share of renewable energy sources. We use in-house open-source tools based on geospatial databases and work across sectors and at regional, national, and EU-level.

Our research answers the following questions:

- What are energy supply scenarios of the future?
- What potential for green energy do different regions have?
- Which technologies are useful for integrating renewable energy sources efficiently? Where should storage and integrated energy solutions be considered?
- What kind of grid expansion can be expected?
- How do policies and government decisions affect economic sectors and grids?
- What business models will arise?

OUR CLIENTS AND PARTNERS INCLUDE



OUR EXPERTISE

Identification of renewable energy potential based on GIS analyses

Energy system optimization with in-house open-source models

Field tests and operation optimization with data analysis and simulations

Grid computation and site optimization for storage

Database systems

How can we help you?

- Decision-making & planning support for grid expansion
- Developing new business models
- Preparation for investment decisions
- Implementation support for public agencies and regional bodies
- Analysis of potential
- Climate protection concepts

SELECTED REFERENCE PROJECTS

Grid expansion planning

open_eGo: open electricity grid optimization

Inter-grid-level planning tool to determine optimal network and storage development paths in Germany – integrated in an OpenEnergy platform

- Optimal grid expansion
- Calculation of storage placement
- Calculation of power flows and voltage stability
- Analysis of component loading
- Use of open-source tools

Stable grids

Smart Power Flow

Grid expansion versus energy storage at the distribution network level

- Implementation and field test with a vanadium redox flow battery
- Operation optimization: grid-supportive and economical use of storage
- Optimal placement of large batteries in distribution networks
- Comparison and assessment of business models for batteries
- Technical and economic comparison of different flexibility options