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

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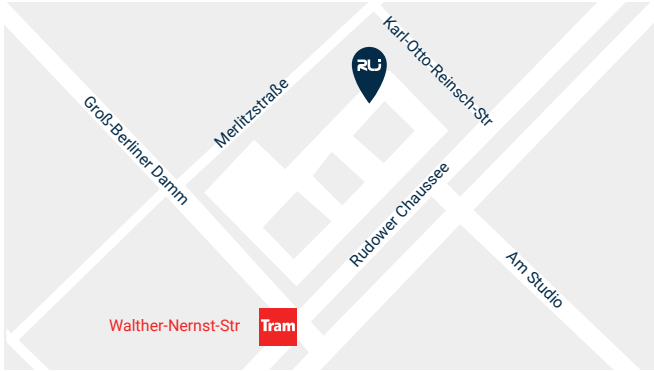
HOW TO FIND US



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Linien 61, 62, 63, 68
Linien 162, 163, 164, 260

Stand: Juni 2017

REINER LEMOINE INSTITUT

Research Unit
Off-Grid Systems

Applied Research for
100 % Renewable Energy

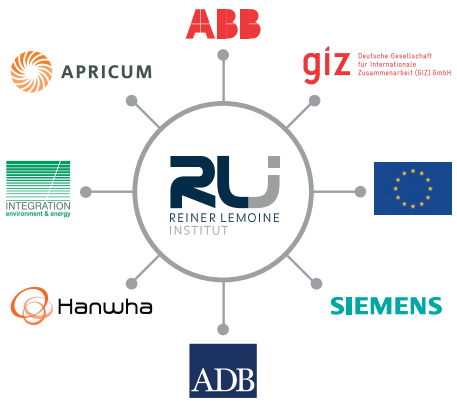
Off-Grid Systems

We support the development of a sustainable energy supply for remote regions. More than 1.3 billion people worldwide currently have no access to energy. We understand that electrification is not only a crucial requirement for human development, it is also a business opportunity. By identifying market potentials for renewable energy and battery storage systems, our research contributes to rural electrification worldwide. In the long run, we are committed to the goal of replacing fossil fuels with renewable energy.

Our research answers the following questions:

- Which sociopolitical actions are required in order to facilitate access to sustainable energy for all?
- What are the optimal electrification pathways?
- Which solutions should be applied? Stand-alone systems, mini grids, grid extensions...?
- What are the new markets for off-grid solutions with renewable energy?
- How should decentralized mini grid projects be designed and implemented?

OUR CLIENTS AND PARTNERS INCLUDE



OUR EXPERTISE

Geographic Information Systems and databases

- Renewable resource assessment
- Power supply infrastructure analyses
- Application of database systems
- On-/off-grid electrification modelling

Energy system modelling

- Simulation of energy systems
- Detailed demand studies
- Operation strategies and power flows
- Levelized Cost of Energy (LCOE) Calculations

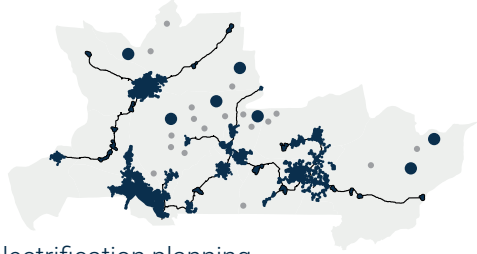
Market potential analysis and policy advice

- Evaluation of political and social factors
- Project site identification and feasibility studies
- Assessment of markets for off-grid technologies
- Renewable energy and electrification pathways

We are experienced in

- Research collaborations
- Collaborative project applications
- Industry partnerships
- Capacity development and trainings

SELECTED REFERENCE PROJECTS



Rural electrification planning

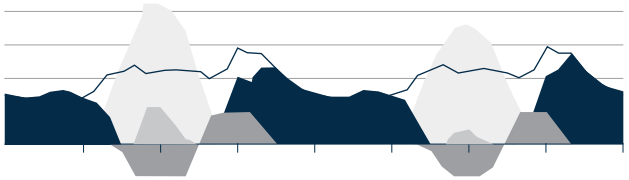
Nigerian energy support program (NESP)

- GIS analyses and energy system modelling
- Evaluation of on- and off-grid electricity supply options
- Local capacity development

Market study

Market potentials for hybridization of diesel grids with renewable energy on islands

- Global assessment of the renewable energy potential on over 2,000 small islands
- Ranking for strategic market development based on techno-economic and political criteria



Project preparatory technical assistance

Technical assistance for PV-battery-diesel hybrid systems on the Cook Islands

- Assessment of local infrastructure and resources
- Energy system optimization of hybrid mini grids
- Implementation plans for PV-battery systems