UNIVERSITY OF OSLO

Department of Technology System
Section for Energy Systems
Gunnar Randers vei 19, 2007 Kjeller

Internship: Powering Chile with Renewables: Analyzing Energy Demand from the Atacama Desert til Patagonia

Supervisor: Isabelle Viole, Sabrina Sartori
Preferred background of candidate: Engineering, Economics, Physics or similar quantitative subjects. Outstanding Bachelor students are also considered.
Number of available projects: 1
Preferred project period: Summer 2023

Outline of project work

Chile, located on the western coast of South America, boasts vast and contrasting regions, from the arid Atacama desert to the lush, rugged landscapes of Patagonia, and the bustling, industrialized capital of Santiago. With favorable weather conditions, Chile is well positioned to transition its energy system towards solar photovoltaic and wind power generation. However, in order to manage higher levels of intermittent power generation, it is essential to implement flexibility measures such as demand side response in the Chilean power grid.
To study the energy transition in Chile and help decision-makers, we want you to analyze the future power demand of the country with us. This work will be supervised by Isabelle Viole, Guillermo Valenzuela, and Sabrina Sartori, members of the AtLAST project and the Department of Technology System at the University of Oslo, campus Kjeller.

The objective of the work for the summer student is to:

- Collect data on demand drivers for the Chilean energy system
- Develop a model of the Chilean power demand today and in 2030 using an energy calculation software, training on this will be provided
- Create a local study on the power demand of a community in the Atacama Desert
- Find potentials for demand site response

Students should:

- Be Master students in Engineering, Economics, Physics or similar quantitative subjects. Outstanding Bachelor students are also considered.
- Have some experience in obtaining data and manage datasets comprehensible (desirable)
- Have Programming skills in Python (desirable)
- Be interested in the energy transition and demand side flexibility
- Parts of the research will be conducted using Spanish-written documents. Spanish skills or comfortable usage of translation tools needed.

The application must include:

- A short motivation letter
- CV
- Transcripts from University