QuantumBasel

Quantum & AI

Energy Industry

NOVEL TECHNIQUES TO SAVE COSTS IN THE ENERGY INDUSTRY

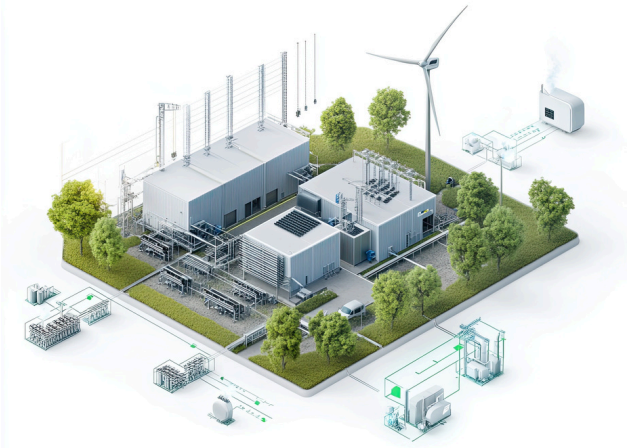
QuantumBasel is **seeking visionary Energy and Utilities companies** eager to pioneer solutions to improve Smart Grid Forecasting & Optimization, and the Unit Commitment Problem.

SMART GRID FORECASTING AND OPTIMIZATION

Optimizing the power distribution in a smart home is crucial for cost-efficient operation. The problem is to decide when and how to draw power to operate devices – from the grid or from the solar panels?

Based on the decision cycle length, the weather forecast, and user-defined inputs, the operation of devices and infrastructure can be scheduled at the lowest cost: when to operate the washing machine, when to charge the car, how to keep the room temperature stable.

UNIT COMMITMENT PROBLEM



The unit commitment problem is about deciding which power plants to activate and at what output level to meet electricity demand at the lowest cost.

We leverage forecasting techniques to predict electricity demand and optimization algorithms to create efficient generation schedules, leading to lower operational costs and higher profitability.

OPTIMIZATION AND FORECASTING METHODS

Optimizations and better demand forecasting reduce the need for costly last-minute corrections, improve integration of renewables, and optimize asset use. Furthermore, they lead to fewer inefficiencies and lower operating expenses - critical where even small margins can significantly impact profitability. Our **innovative approach** combines a mix of traditional statistical models and modern approaches leveraging AI and quantum machine learning, including **deep learning and time-series models** like transformers.

ADD QUANTUM TO YOUR AI.

Unlock the power of AI when it's augmented with cutting-edge Quantum algorithms.

Connect with our Team and start your Quantum - AI Journey today.

info@quantumbasel.com

www.quantumbasel.com

Schorenweg 44B | 4144 Arlesheim | Switzerland