

Objectives

Supplying a world with a steadily growing population and wealth with sustainable energy is one of the biggest challenges of our time. It requires a fundamental transformation of the global energy sector – and it requires well-educated engineers to implement this transformation and manage future energy systems. You can become one of them by studying Renewable Energy and Data Engineering at Offenburg University!

The energy transition has started already, especially in Germany, but also in many other areas of the world. More and more, electrical and heating power is being generated by a multitude of smaller, decentralized renewable-energy systems. Both private and commercial consumers are increasingly installing local energy management systems with storage to optimize their energy supply. These systems are still connected to the local grids to balance their own power flows and to ensure supply. The local grids in turn are connected with larger transmission grids. All of this is organized by a growing number of stakeholders and based on old and new market structures. These new levels of complexity can only be managed on the basis of an efficient and secure IT infrastructure in combination with advanced methods of data engineering – combined with a deep understanding of the underlying energy systems.

Offenburg's "Renewable Energy and Data Engineering" Master's degree program prepares you exactly for this exciting challenge. You will gain expertise in power generation based on solar, wind, hydro, biomass and conventional fuels, on storage, transport and distribution of energy via grids, and on final energy usage and management by customers. Furthermore, you will acquire modern methods of data engineering and data analytics and how to model and simulate power systems.

Many of our professors and lecturers have practical experience from working in global energy companies, engineering services or consulting firms. Through lectures and discussions, students learn all about the current hot topics of the energy sector.

Studying Renewable Energy and Data Engineering means, first of all, developing comprehensive expertise in energy systems and energy management, but also taking into consideration the relevant economic, social, and political environments. Graduates of our program with its international orientation will be well prepared for leadership positions around the globe.

The program takes three semesters to complete, resulting in the granting of the degree "Master of Science in Renewable Energy and Data Engineering."

Have a look at your career opportunities and get an overview of the program and its individual modules.

See the RED **learning outcomes** here.