The goal of this project was to analyze and design a product-service-system that can help renters in apartment buildings use their own generated electricity rather than selling it back to the grid. A solution was found in using smart white goods, who can automatically switch on when solar power is generated.

The Product-Service-System requires 3 pillars:

- Product-technical-system
- User interaction
- Business model

**Product-Technical-System**

The technical part was build by analyzing the possible technical components and selecting the most suitable ones to implement in the system. The aim of the technical system is to facilitate directly using the generated solar power instead of feeding it back into the grid. In light of this goal, four different product-technical-systems were designed. Besides this requirement, the possible product-technical-systems were assessed on other requirements concerning their viability for Lens. The eventual selected product-technical-system was then designed using the technical input of the potential partners who manufacture the components and the product developers at Lens. This ensured the technical feasibility of the system.

**User interaction**

Based on extensive user research including literature and interviewing researchers, three possible use case with different interactions were designed. These were then tested in an Online questionnaire. Apparently, insight, control and certainty are valued over convenience, automation and flexibility. The variation in responses suggests that a hybrid system, in which people can choose between these use cases, might realize optimal results for both system optimization and user experience. The service design showed how Lens should expand its capabilities to be able to offer such a product service system to renters. Service blueprints were designed for 5 different scenarios, showing how each network actor and technical component should respond in challenging circumstances.

**Business model**

The business model has four characteristics: Network actors, User value proposition, Key processes and Profit formulas. The needs and assets of possible network actors were matched in a motivation matrix, showing how each network actor can create value for the other. These synergies were the main input for value generation in the business model. By adding the findings of the user research, the customer value proposition was created. This was combined with the chosen product-technical-system and the designed service to form the key-processes. To determine how each of the network actors leverage this value, profit formulas were chosen. This led to a business model with four revenue streams that can leverage the value for Lens. The attractiveness for the network actors was established through meetings and interviews.