Against the background of a growing share of intermittent renewable energy (wind and solar energy technologies), the challenges of grid balancing are expected to increase in future:

- Temporal balancing arises due to the inevitable mismatch between renewable electricity production and demand (day/night cycles, weather effects and seasonal differences).
- Spatial balancing is necessary resulting from a possible mismatch between locations of electricity production and consumption.

Energy conversion technologies with storage, such as Power-to-Product (P2X) technologies, represent potential solutions for this multi-dimensional balancing challenge and to enhance the energy system’s flexibility.

**Objective**

The objective of this project is to

- collect the major existing P2X knowledge and
- provide a synthesis and evaluation of P2X technology in the Swiss energy market.

**Based on existing literature,** the project aims to derive a
techincal, economic,
environmental and
legal/regulatory
assessment of P2X in the energy system, the gas market, the mobility sector and the electricity market. The result of this project is expected to serve as a guideline and support for policy makers on the role of P2X technology for achieving the envisaged emission targets and the power supply targets set under the Swiss Energy Strategy 2050.