## Abstract

In the current energy system, more and more energy services are sourced locally and increasingly also from renewable and / or volatile sources (e.g. wind, photovoltaic, geothermal, biogas, etc.). However, many of these renewable energy sources (RES) are facing an uncertain future in the current energy economic environment, since low electricity prices and expiring subsidies, among other things, make economic operation difficult or even impossible. In order to ensure the operation and expansion of generation, conversion and storage capacities based on RES also in future, there is an urgent need for alternative, innovative and economically viable operating concepts outside of promotion systems. In many cases, the coupling of the energy sectors of electricity, heating / cooling and gas is discussed in order to open up market segments for new energy services and products (e.g. the use of renewable energy P2H technologies to provide local power grid relief).

From a technical point of view, however, there is still a lack of experience on requirements for the coupled operation of different grid infrastructures. From an economic point of view, there is also a lack of a market model and an assessment of the participation opportunities of interested stakeholders.

Thus, the project SektoKop Net elaborates:

- On one hand, the technical and organizational requirements for implementing coordinated operating strategies for coupled electricity, heat and gas grids in the supply area of Energie Burgenland AG,
- and on the other hand, the economic participation options under competitive conditions for different plant operators (existing and new RES, P2H and P2G plants).

Methodically, the technical and organizational operation requirements of the different infrastructure areas within the project (inclusion of experts from the electricity, heat and gas grid areas will be arranged) are surveyed and possibilities of synergetic operations elaborated (e.g. in the form of a "hybrid balance group" using sector-linked supply curves (merit order) to relieve the power grid through coordinated activation of P2H and / or P2G solutions).

The core results of the project are summarized on one hand as a decision-making basis for the involved project partners for the further development of products and services in the field of efficient sector coupling in form of a "catalogue of requirements for the organizational coupling of energy systems across energy carriers". On the other hand, results will be accessible for political decision makers (e.g. the regulatory authority and ministries).