

## Development of the comfort and performance-optimised control of the production of hot water in a simulation environment

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**Summary:** The aim of the project is to create a highly efficient CHP of low to average performance based on a modern car engine, with a heat pump for cooling and waste-heat recovery. Another aim is to develop the associated controls to be operated with various quantities of bioethanol as well as various types of gas (biogas, natural gas, LNG). In addition, a plant and control concept is to be developed that allows the CHP plant to operate at less than 25% of the maximum possible output. Another aspect is the implementation of hot-water supply systems that are not hazardous to health and that are unlimited in terms of comfort, with a CHP as a source of heat (ensuring temperature levels of at least 50 °C at the outlet point), for the application of "fresh water stations". One solution is software-based controller development, with unlimited possibilities for testing a validated model. A planning tool will also be developed that can calculate in advance the expected impact and coverage levels with a high degree of accuracy.

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