



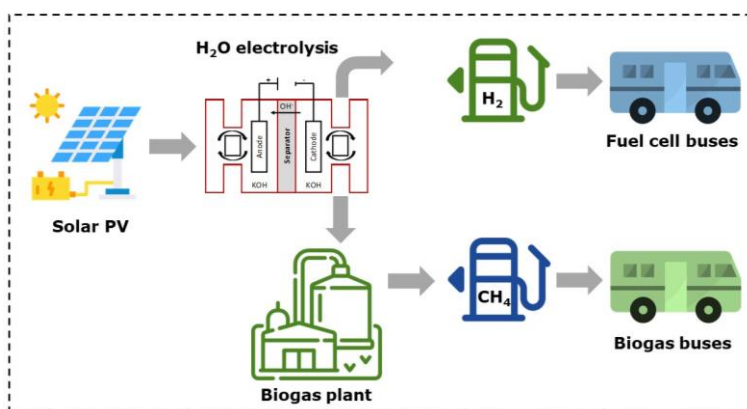
# P2T

## Power-2-Transport

### Energy storage for integration of renewables into public transport systems

“Decarbonizing public transport is challenging. With the P2T project, we help public utilities implement hybrid energy storage solutions to provide their fleets with electrofuels for a sustainable future.”

The P2T project is assessing electric storage with batteries, conversion to H<sub>2</sub> via electrolysis of water, and methanation of H<sub>2</sub> with CO<sub>2</sub> at different urban locations to produce clean transportation fuel for public buses. Methods and models are being developed for techno-economic and climate impact assessment for optimization of plant location, components sizing, operational strategies, and recovery of process by-products. The developed tools will be adaptable to be used in other regions in different countries. The Uppsala Region and Uppsala Vatten in Sweden are the need owners and academic partners OST from Switzerland and SLU from Sweden are the main performers of the work plan. The consortium thus includes public authority, a public utility provider, and two academic partners. The project aims to facilitate the implementation of zero-emission buses like battery-electric and fuel-cell as well as provide synthetic fuel for internal combustion engine vehicles. By displacing diesel and natural gas as fuel considerable amounts of CO<sub>2</sub> emissions can potentially be avoided as well as urban air quality be improved.



#### Project Duration

01.01.2021 - 31.12.2023

#### Project Budget

Total Budget: € 719,624.00.-

Funding: € 536,879.00.-

#### Project Coordinator

SLU - Swedish University of Agricultural Sciences (Sweden)

#### Project Partners

- Region Uppsala (Sweden)
- Uppsala Vatten och Avfall (Sweden)
- OST - Eastern Switzerland University of Applied Sciences (Switzerland)
- SLU – Swedish University of Agricultural Sciences (Sweden)

#### Project Website

to be announced

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## Main Objectives

- Facilitate the implementation of zero emission buses for urban transportation by Region Uppsala;
- Increase the supply of methane as fuel by Uppsala Vatten;
- Reduce operational costs of public utilities by strategic use of by-products from water electrolysis and methanation;
- Assist regional carbon emission reduction targets

## Expected Key Results

Development of a software platform for optimization of power-to-gas technology into urban conditions.

## Technology

- Modelling and simulation with open-source software
- Artificial intelligence applied to energy systems
- Combined environmental and techno-economic assessment for plant optimization

## Market

- Public utilities treating water, wastewater, and municipal solid waste
- Operators of bus depots and public transportation systems
- Engineering and consulting companies focused on energy and sustainability
- Research and education institutions
- Governmental agencies and policy-makers

## Adoption

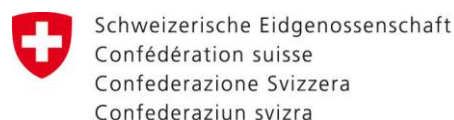
- Region Uppsala and city/regional buses operators
- Uppsala Vatten och Avfall
- External validation by a Swiss public utility (to be defined)

**Joint Programming for Flourishing Innovation – from Local and Regional Trials towards a Transnational Knowledge Community**

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