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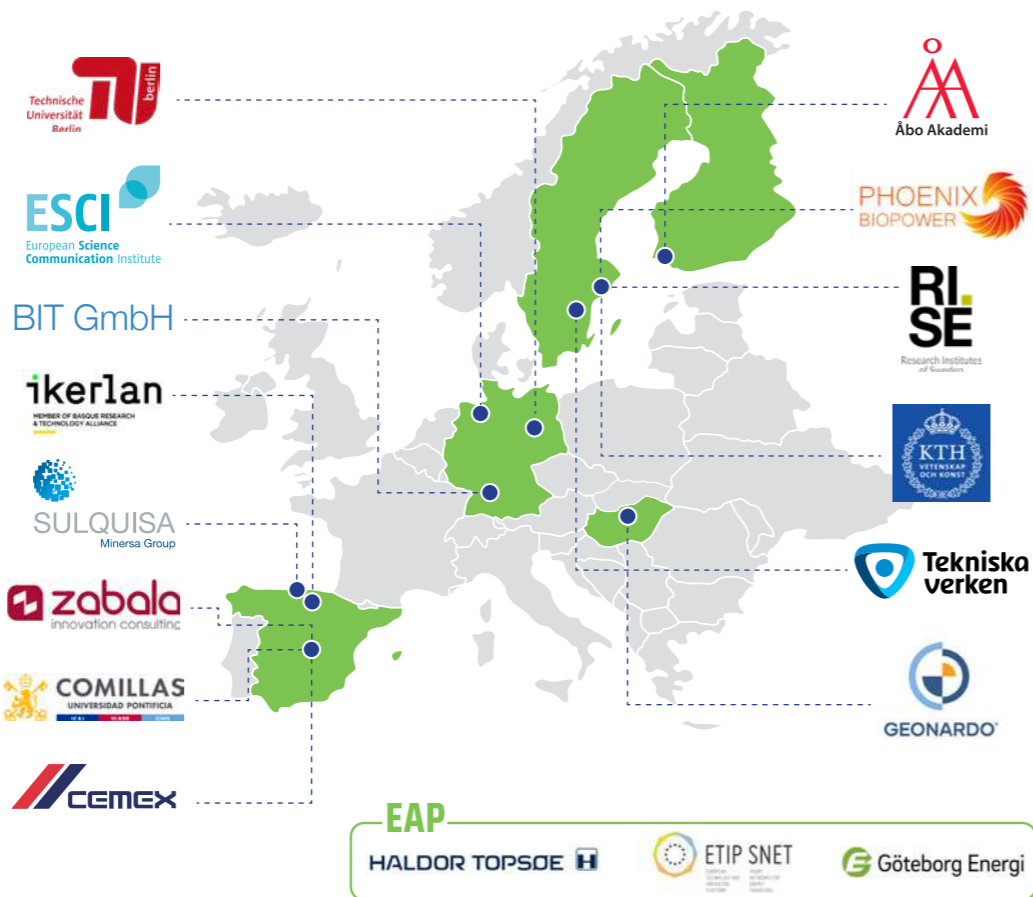


bioflexgen.eu



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Partners



Bio-FlexGen

Making the GREEN DEAL real!



H₂



3

Unique patents



14

Project partners



5

Case Studies



Biomass from waste streams provides firm power and complements renewable sources

such as wind and sun when used in combined heat and power plants (CHP). Bio-FlexGen will increase the efficiency and flexibility of renewable CHP plants, playing a major role in energy system integration. This worldwide unique concept is called Biomass-Fired Top Cycle (BTC) and will be used for district heating and the energy system - with zero emissions power.

Innovations



Develops cutting-edge Biomass-fired Top Cycle plant technology for energy independence



Applies patented gasification, combustion and gas turbine technology



Produces either green H₂ or renewable, plannable electricity from biomass



When producing green H₂ from biomass, biogenic CO₂ is captured

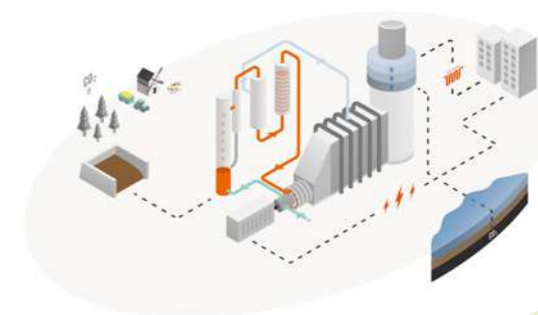


When generating electricity from biomass, 2-3 times more electricity is produced



Can also flexibly utilise green H₂ for fast-response electricity

Developing the HyFlex BTC for maximum product flexibility



The Biomass-fired Top Cycle (BTC) is a highly efficient, modular 25 MWe power plant being developed to provide renewable energy. In the Bio-FlexGen project, we will design an even more flexible version, the **HyFlex BTC**. It has three operating modes to meet the varying needs of our energy system:

- 1. Produce power and heat from biomass**
- 2. Produce green hydrogen and heat from biomass**
- 3. Produce fast-response power from green hydrogen**

These features build hourly, daily, monthly and seasonal flexibility into the Bio-Flex Gen plant. Therefore, it secures robust prices and adapts to energy fluctuations. This is crucial for both society and plant operators.



Biomass

Mode #1



Power and Heat



Biomass

Mode #2



Green Hydrogen and Heat



Green Hydrogen

Mode #3



Fast-Response Power