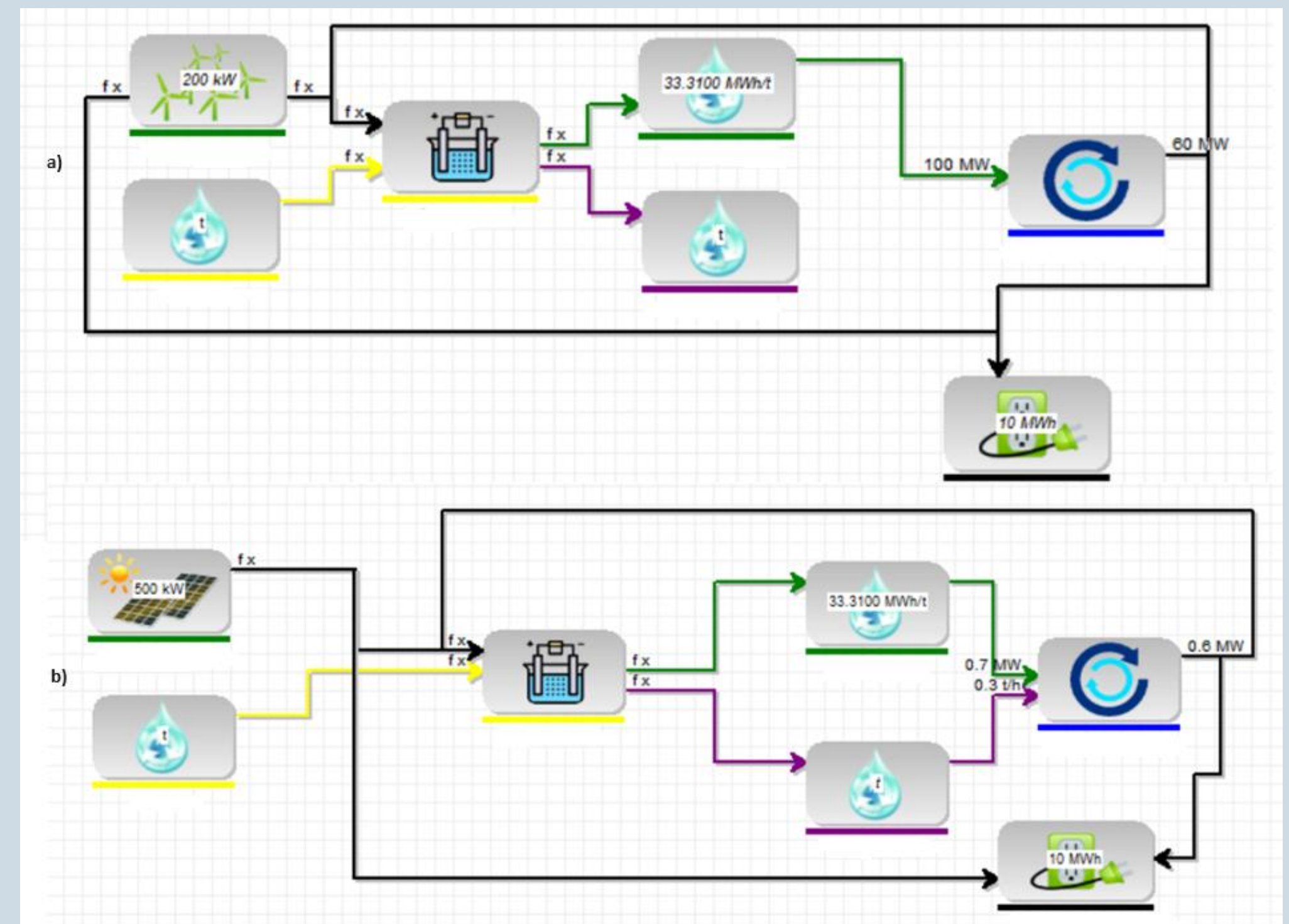


- Implementation of energy sustainable agriculture will lead to reduction of GHG emissions.
- Transition to renewable energy sources should be implemented into agriculture policy and should be supported.
- EnergyPRO modelling can be used for the assessment of energy sector and possibilities to implement energy-sustainable agriculture.
- Hydrogen from wind or solar energy is the most energy-efficient resource for thermal, power or combined heat and power production in agriculture.



Simulation of electricity production using hydrogen from
a) wind energy and b) solar energy

Introduction

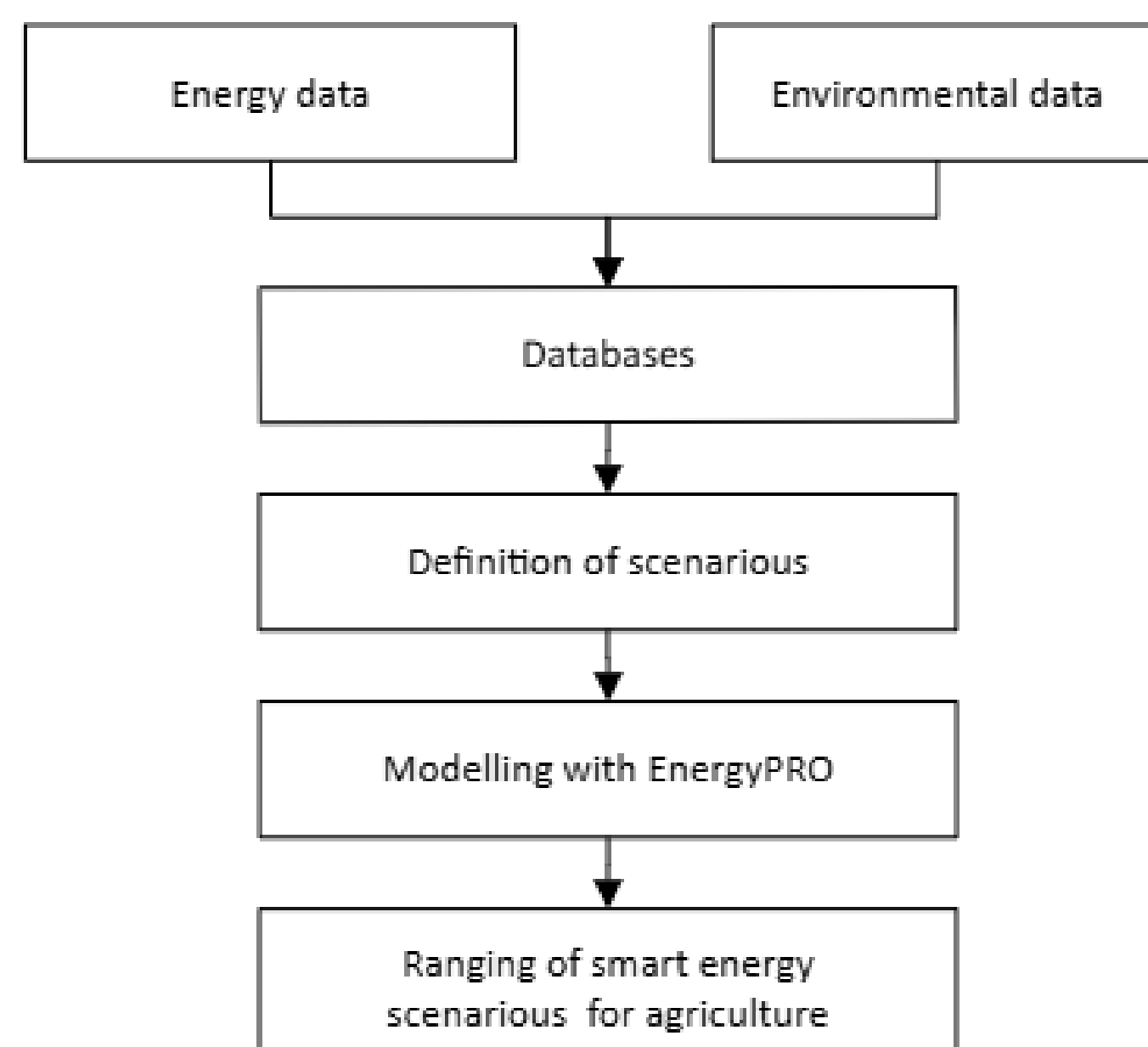
The agricultural sector plays an essential role in shifting to a low-carbon economy and climate neutrality.

The modernization of the agriculture sector is closely linked to improvements in efficiency and productivity while maintaining sustainability.

As one of the main sectors contributing to climate change due to greenhouse gas emissions, the agriculture sector is a crucial player in striving towards more sustainable agricultural systems.

A critical challenge in agriculture is the sector's entrenched reliance on fossil fuels, which hinders its progress and prolongs the timeline for achieving climate neutrality.

Methodological Framework



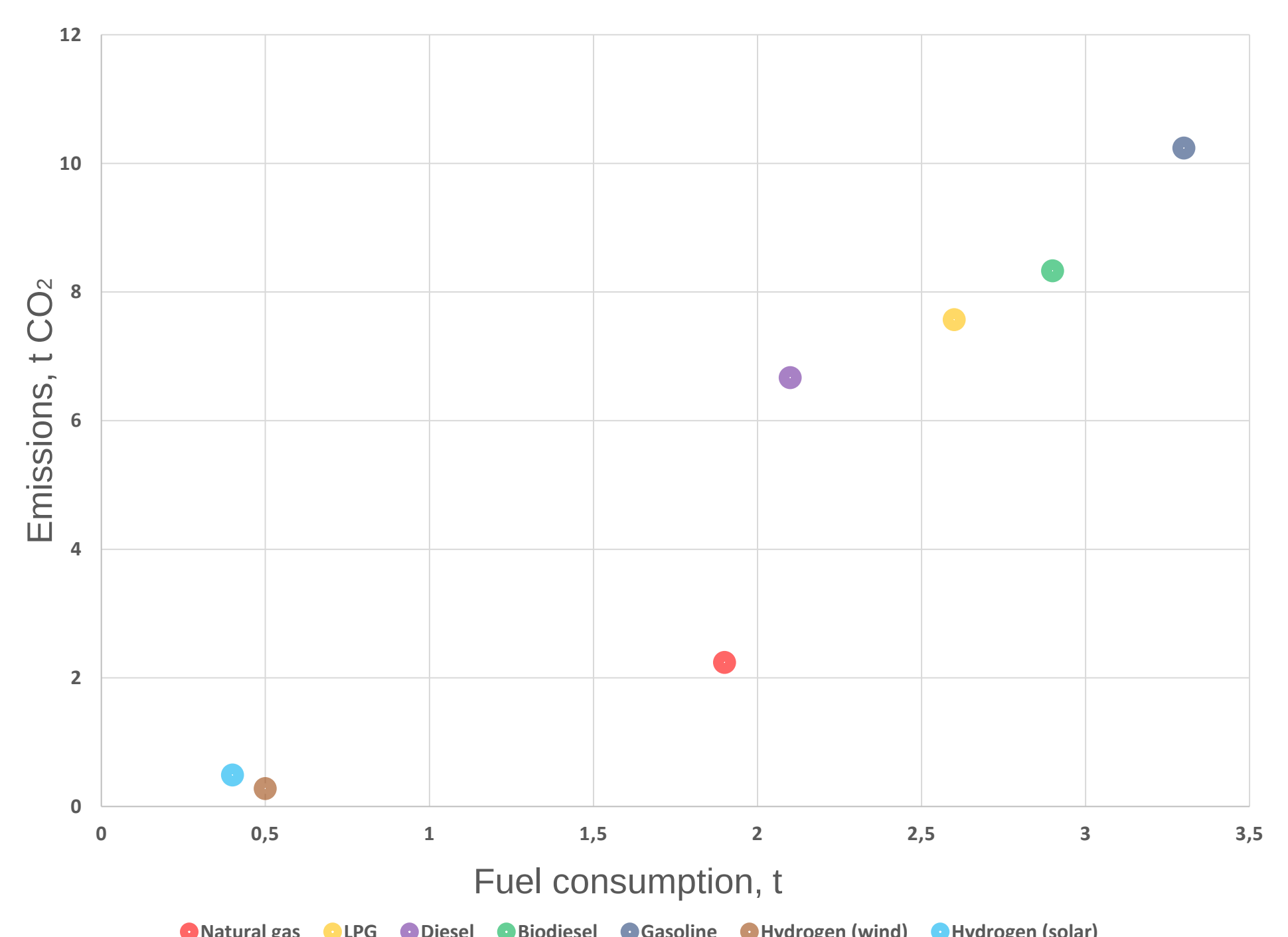
The aim of the research

Sustainable agriculture should be implemented in common agricultural policies and payment schemes.

The aim of this research is to analyze the potential of transforming energy use in Latvia's agricultural sector towards climate neutrality and energy sustainability.

EnergyPRO modelling for the assessment of the energy sector and the possibilities of implementing an energy-sustainable approach were applied, and twenty-five scenarios were analyzed to assess the emissions generated and resources consumed to produce 10 MWh of heat and electricity in both individual and cogeneration systems.

Visual conclusion



ACKNOWLEDGEMENT

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