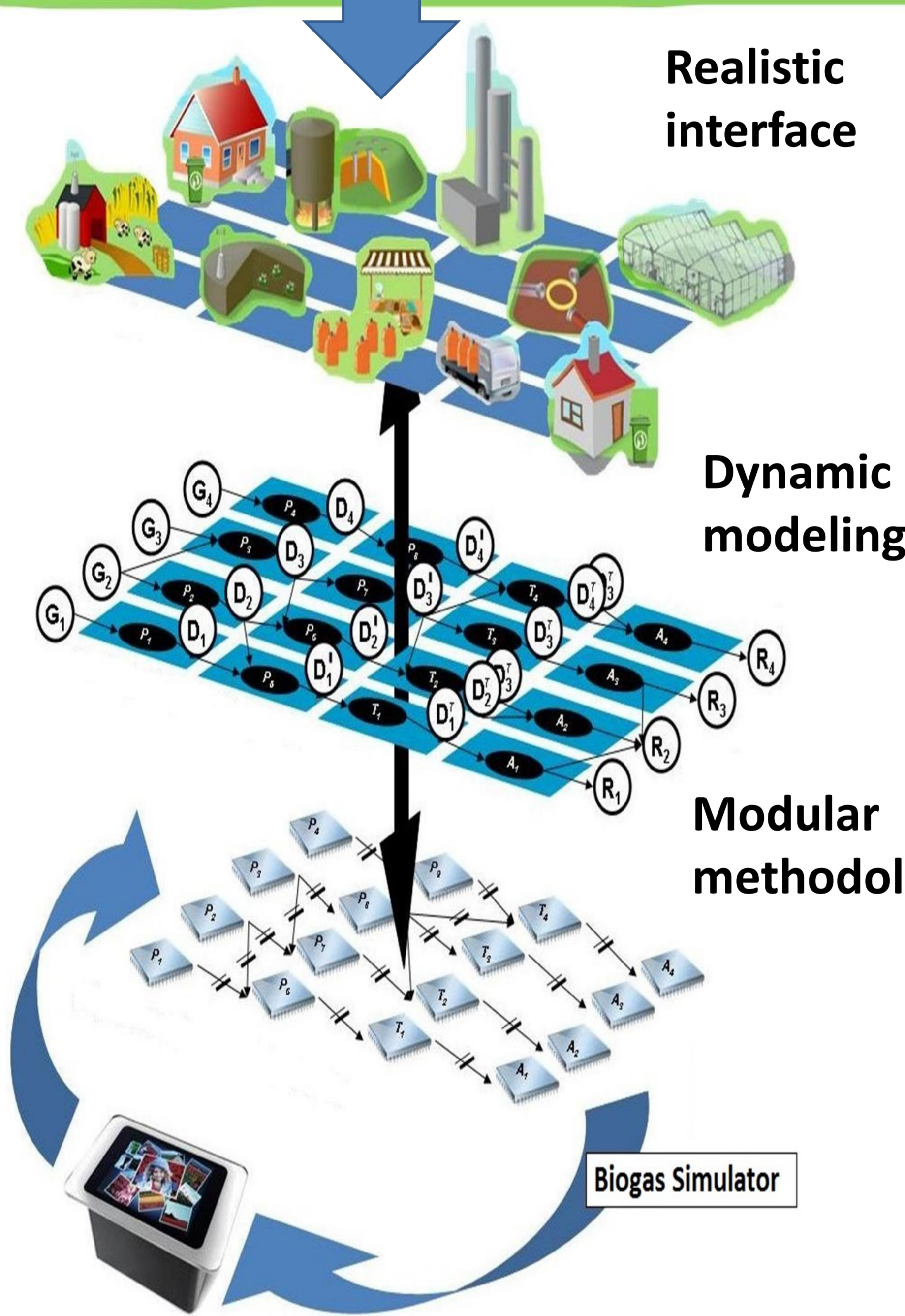
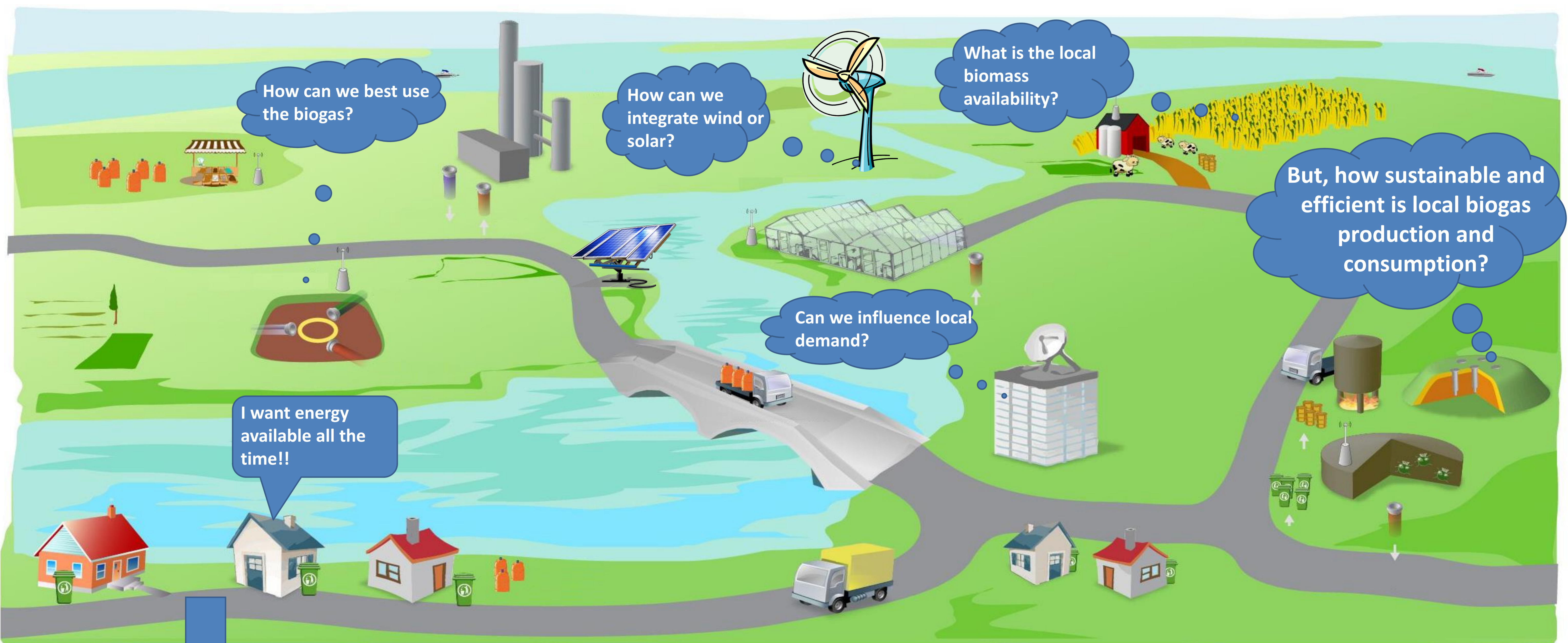


Modeling decentralized energy systems

A tool for analyzing, researching and modeling energy efficiency, sustainability and flexibility of biogas chains operating as load balancer within decentralized (smart) energy systems.



The map based interface

The user friendly interface, based on Google maps, will be transparent and easy to use any by stakeholders planning to model a biogas production chain. The map will incorporate biomass availability, transport distances, local demand and more.

Dynamic model

The model, based on open Modelica, will be capable of dynamically modeling decentralized energy systems.

Methodology sustainability

The new method used in the model will be capable of calculating the environmental impact of the biogas production chain, expressed in Energy Returned on Invested, Carbon Footprint and EcoPoints.

Biography

PhD. Researcher:
Frank Pierie MSc. B Eng



Currently, Frank is a PhD researcher at the Hanze University of Groningen. He graduated from the Hanze University with a B Eng. and holds a MSc. in energy and environmental sciences from the University of Groningen. He previously worked at Philips as a process engineer focused on sustainability.

Results

- Map based model with transparent game like interface
- Realistic biogas production chain design including local feedstock availability, energy demand and actual transport distances
- Results indicated in costs and environmental impacts

