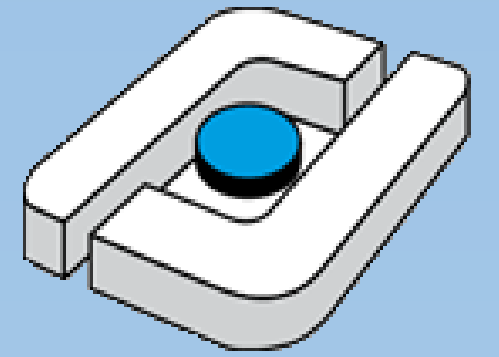


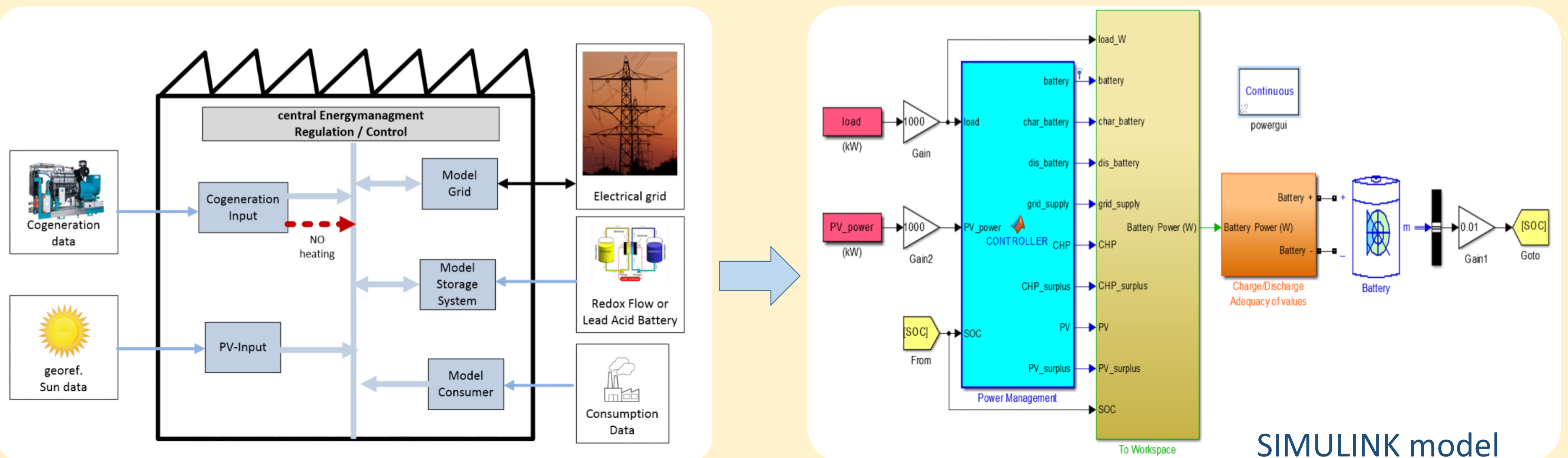
# Simulation of industrial power consumption with electric energy storage



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## Is it profitable to use batteries to avoid power peaks?



### Threshold

The threshold is the sum of the power from the cogeneration and the maximum admissible grid power. Above the threshold, all the peaks have to be avoided with the use of batteries.

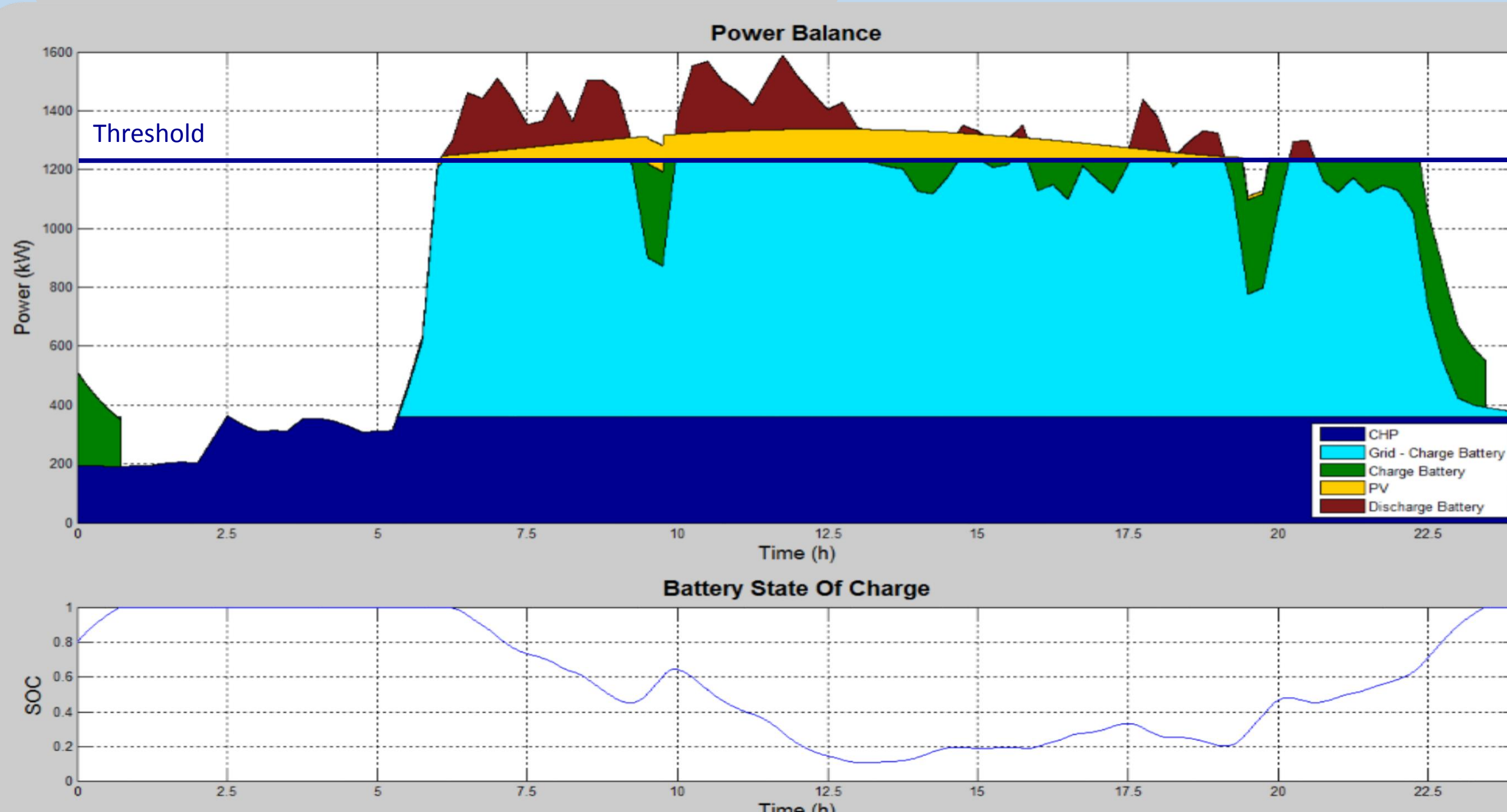
### Battery Types

Redox Flow Batteries are a good option for companies, when they are frequently used. For less frequent use, Lead Acid Batteries would be more appropriate.

### Main Program Functions

- Calculate the appropriate parameter values for elements of the system.
- Run a simulation with these values.
- Create results and graphs.
- Make an economic comparison.

### Example of the Simulation



Above the threshold, together with solar panels, the battery starts to supply energy to the load. Avoiding power peaks by means of a battery results in long payback times, whereas CHP turns out to be more economic.