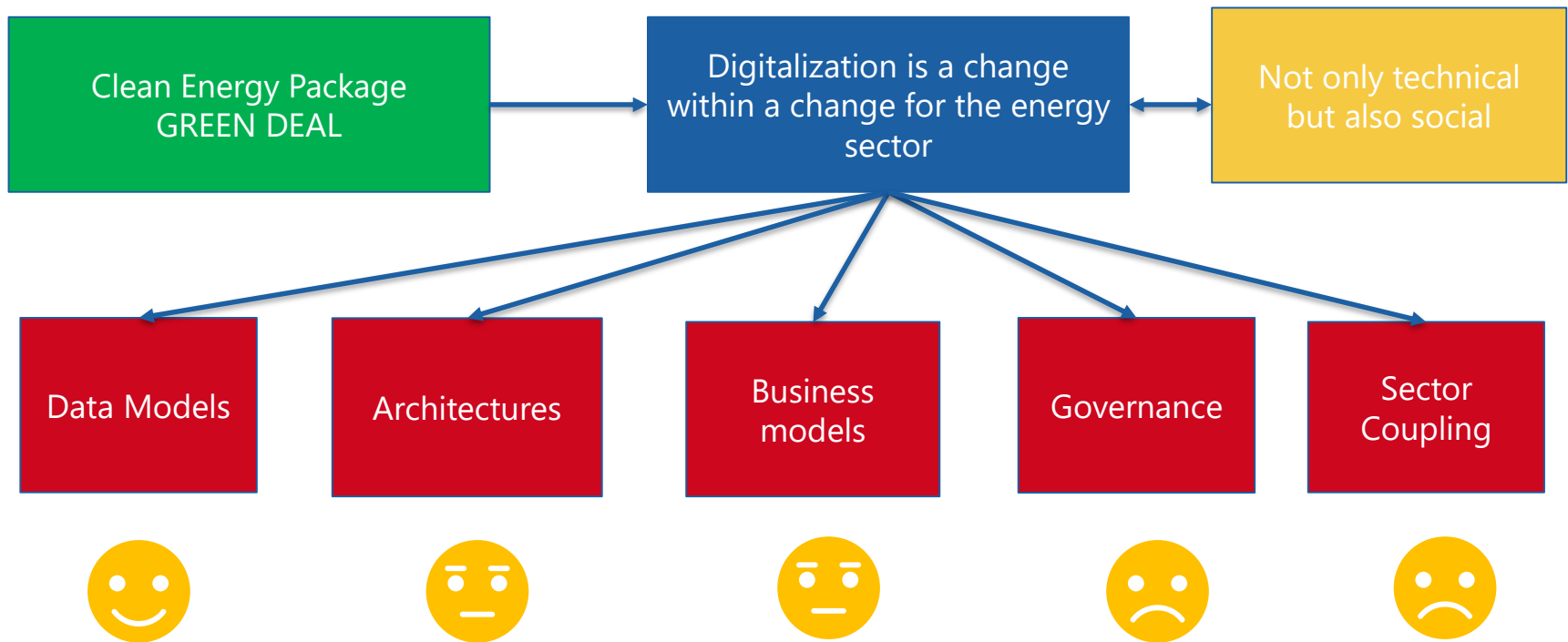


How to develop a service driven energy ecosystem

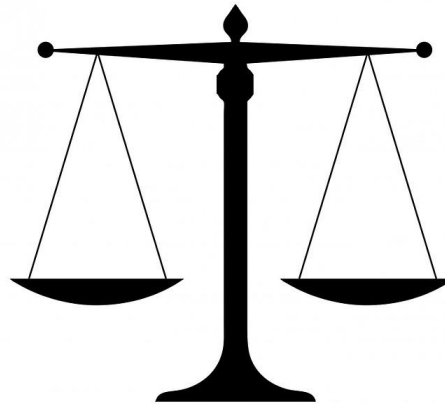
Univ.-Prof. Antonello Monti, Ph.D.



Challenges in the Energy Sector related to Data Management



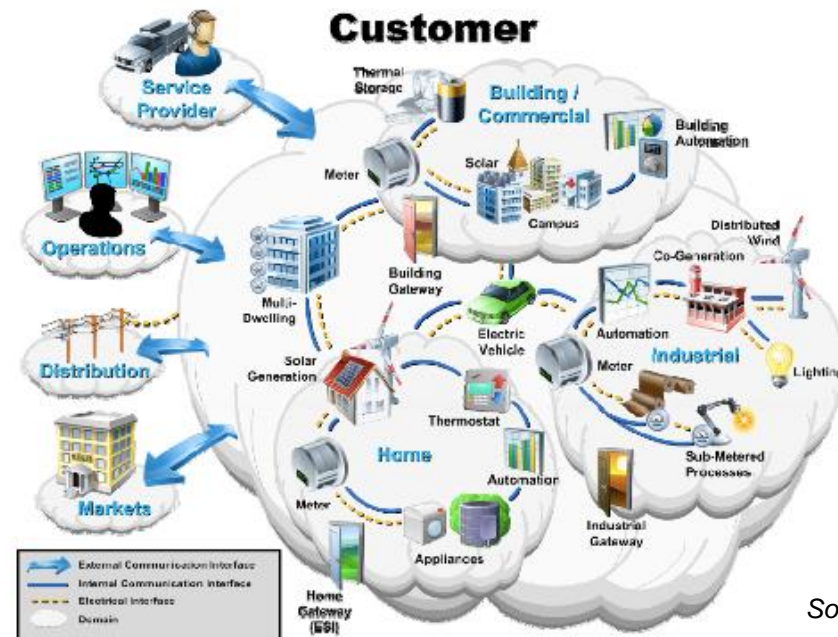
Classical Grid is based on real-time balancing.



Does it make sense in a renewable driven grid?

Flexibility = Customer Involvement

- Customers are not anymore simply somebody paying a bill
- Customers are becoming a major assett owner
- Customers involvement is crucial for the operational part but also for the investment part



Source: NIST

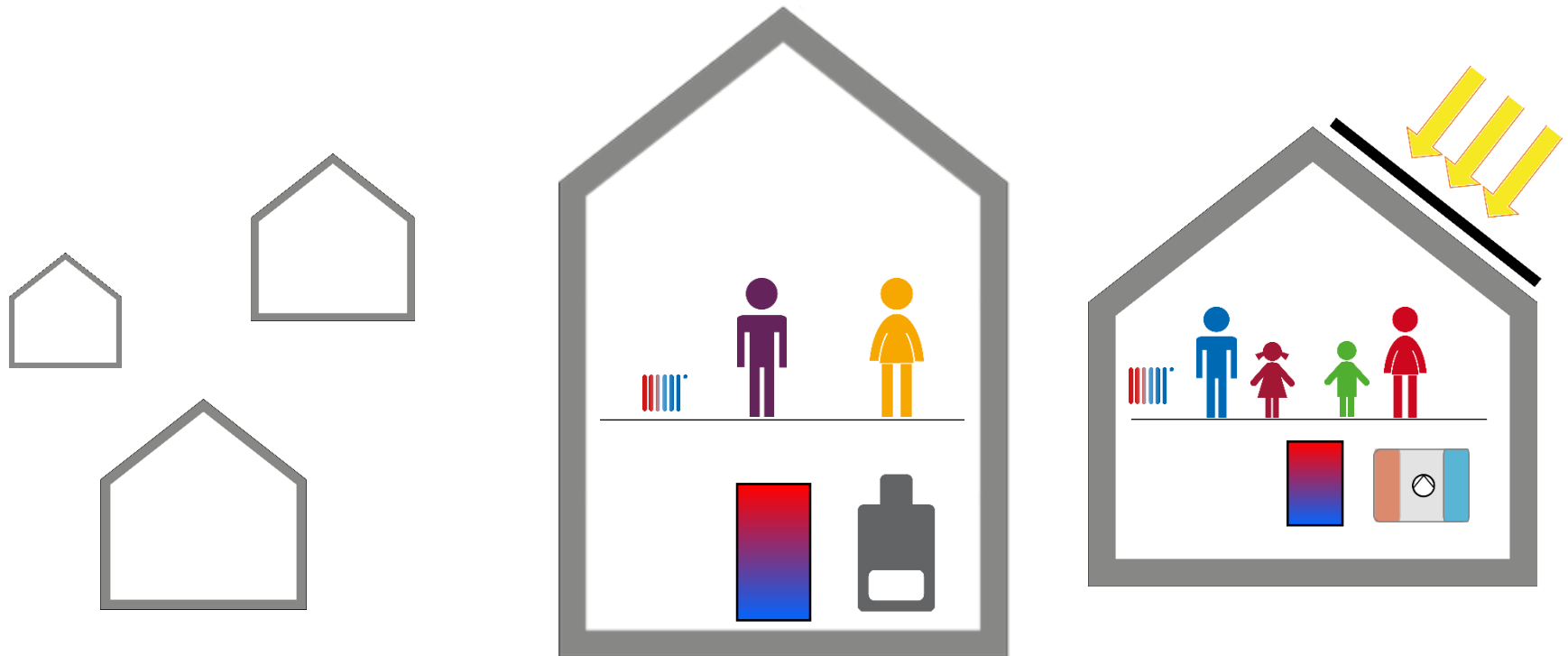
Customer involvement

- The whole vision will work only if we can get customers convinced to be involved
- This aspect determines a set of questions:
 - How do we get there?
 - Does it make sense to sell energy in kWh?
 - If not what are the alternatives?

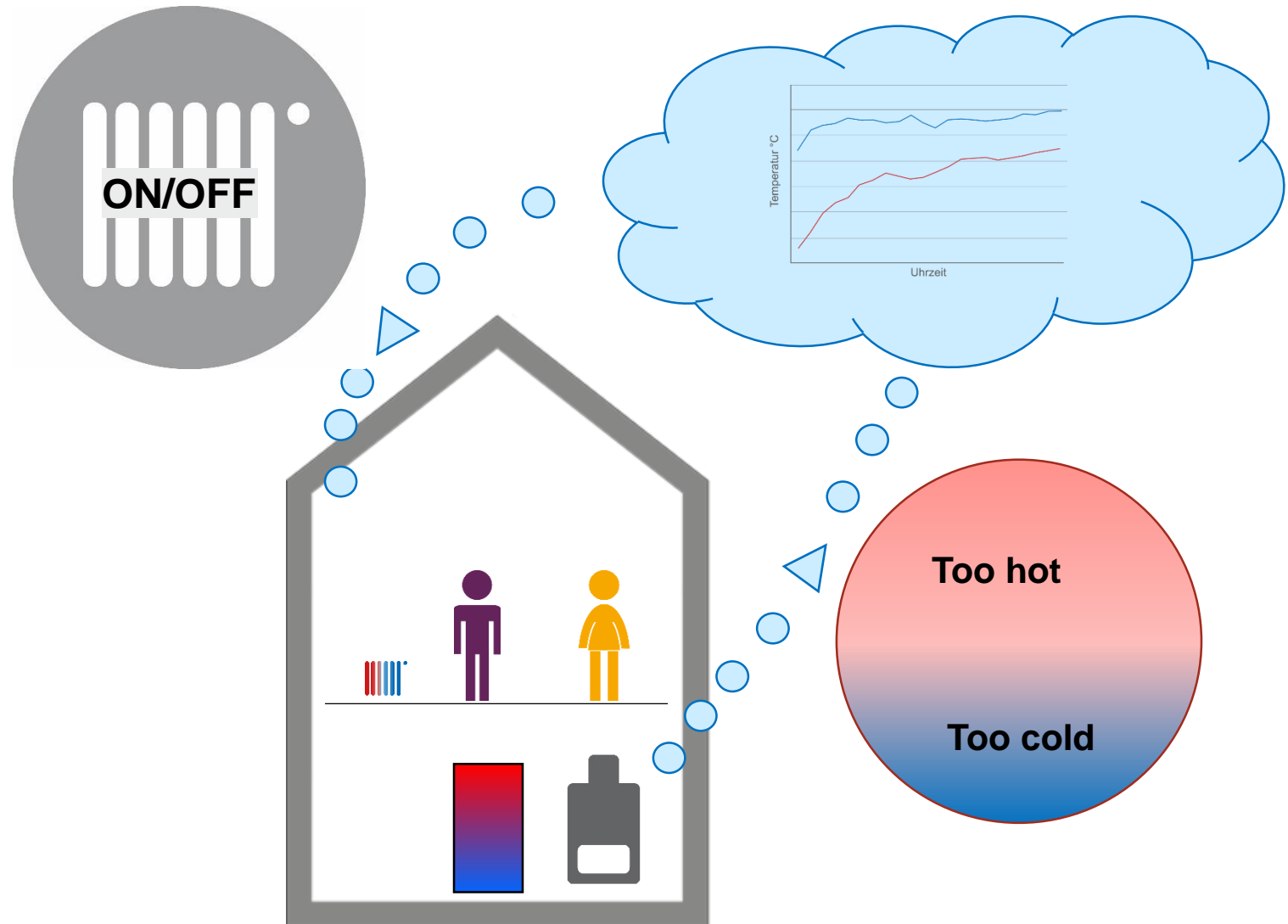


Service-driven energy provision

Services



Service „Heating on Demand“

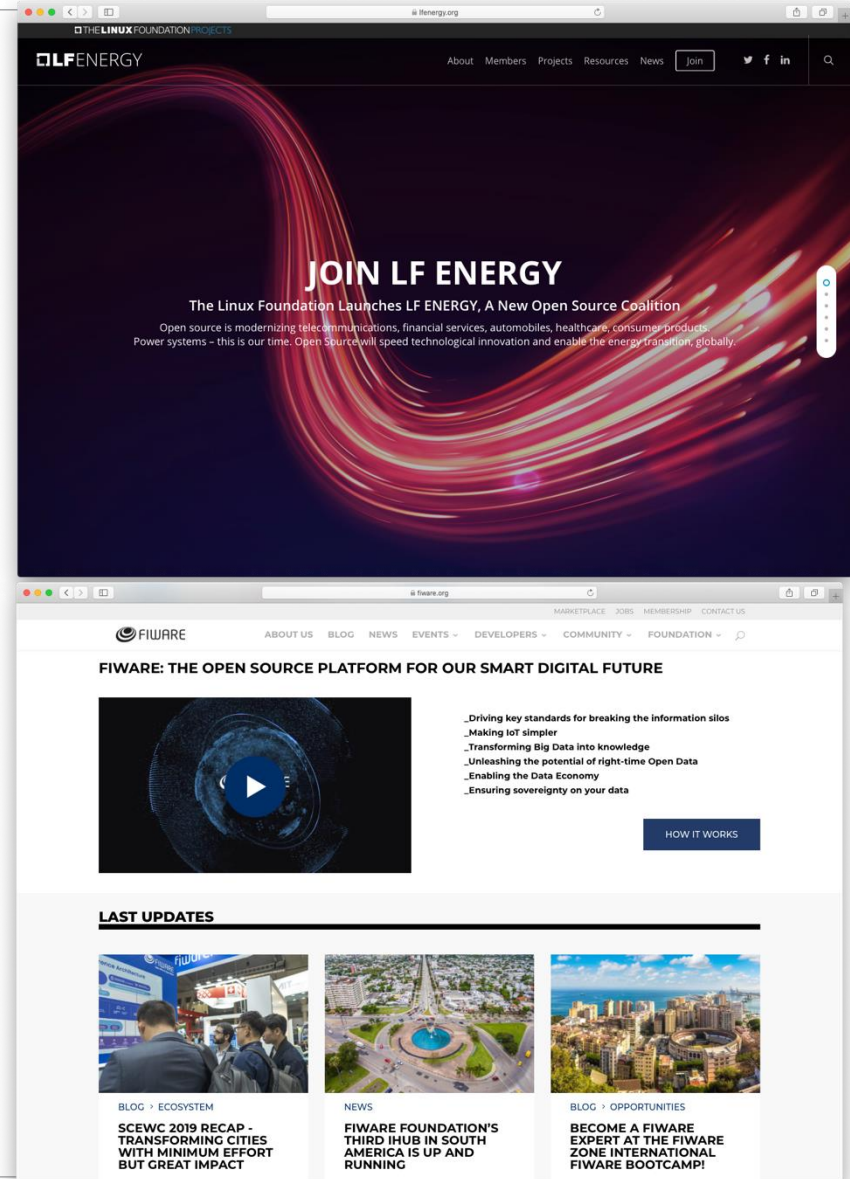


Service „My Comfort“



Avoid closed solutions: Open Source

- Open Source has not been in the culture of grid operators
- Open source allows fast development and transparency
- Open source can be used to unlock new opportunities without compromising security
- Open source does not mean that there is no business model for SW (see Linux)



Conclusions

- Digitalization is completely transforming the energy sector
- New options and possibilities are open at every level
- The change in the customer relations is a cornerstone of the transformation
- Open standards are key enablers for this process



@antonellomonti