Joint Activity
Scenarios & Modelling
The context: Energy Strategy 2050

Electricity end use

- 60 TWh
- Hydro
- Nuclear
- Others

Electrification of heat & mobility

- 80-90 TWh?
- Gas
- PV
- Wind

Scope of SCCER-SoE

- Lot’s of
- Geo-thermal
- New Hydro

2016

- 5 t\textsubscript{CO2}/p

2050

- 1-1.5 t\textsubscript{CO2}/p
Research questions for JA-S&M

(1) How could the future look like?

(2) How do we get there?

(3) What does it mean for the Swiss economy?

(4) What does it mean for the Swiss citizen?
Partners & competencies

Demand
- Electricity
- Space heating, WW
- Process heat
- Mobility

T&D
- Electrical grids
- Thermal networks
- Storage

Supply
- Electricity
- Heat
- Biomass

Universtität Basel
ETH Zürich
Empa
Université de Genève
IPA
IPS
IPEN

Reach out to other groups

Snow and mountain Hydrology
Prof. Michi Lehning, Bert Kruyt

Hydrology and Water Resources Management
Prof. Paolo Burlando, Dr. Daniela Anghileri, Dr. Nadav Peleg

Department of Environmental Systems Science
Prof. Tony Patt, Dr. Stefan Pfenninger

Institute of Mechanical and Energy Technology
Prof. Jörg Worlitschek, Stefan Frehner

Verband Schweizerischer Elektrizitätsunternehmen
Dr. Stefan Muster, Nadine Brauchli, Barbara Buchli

Department of Management, Technology and Economics
Prof. Sebastian Rausch

Swissgrid AG
Jonas Mühlethaler
Manage complexity

(Partial) Aggregation → Intractable complexity → Exemplification

Maintain consistency
Conclusion

You develop the detailed technology

JA-S&M takes care that the pieces fit together