



### Probabilistic Assessment of the Swiss Energy Strategy Scenario Analysis with the SES-ETH Model

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### **Development of Swiss Energyscope** Typical days





### **Development of Swiss Energyscope** Intraday clustering

















24 x 1 h

## **Dealing with uncertainty**





### **Dealing with uncertainty** Montecarlo analysis





### **Dealing with uncertainty** Variation of CO<sub>2</sub> target





### **Dealing with uncertainty** Four scenario variants





### **Dealing with uncertainty** Four scenario variants





## **Question: optimum use of wood?**





# CO<sub>2</sub> streams for -6 Mt/a





## What if there is no gasification?





### **CO<sub>2</sub> streams for -6 Mt/a** Without gasification





### **CO<sub>2</sub> streams for -6 Mt/a** Without gasification





### **Call for action**

- We will need to store 15-20 Mt/a of CO<sub>2</sub> → Connect to European transport and storage infrastructure
- We will need 20-30 TWh/a of photovoltaics → Obligatory PV on all new buildings
- Mobility will be electric + hydrogen → Incentives and/or a clear de-carbonization pathway
- Marginal avoidance costs will be 200-400 CHF/t<sub>CO2</sub>  $\rightarrow$  we need a CO<sub>2</sub> price in this range
- And many more conclusions, recommendations, actions can be found in the report





# Thank you for your attention!

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