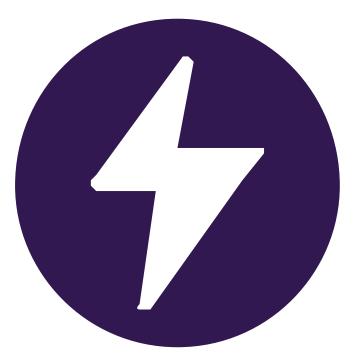
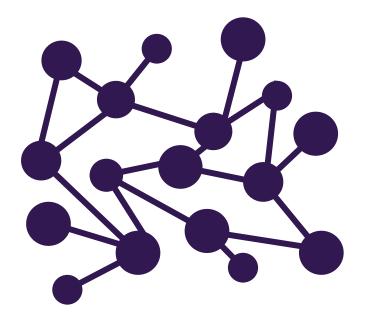




Electricity industry:

difficult to handle good and complex electricity system







Old world:

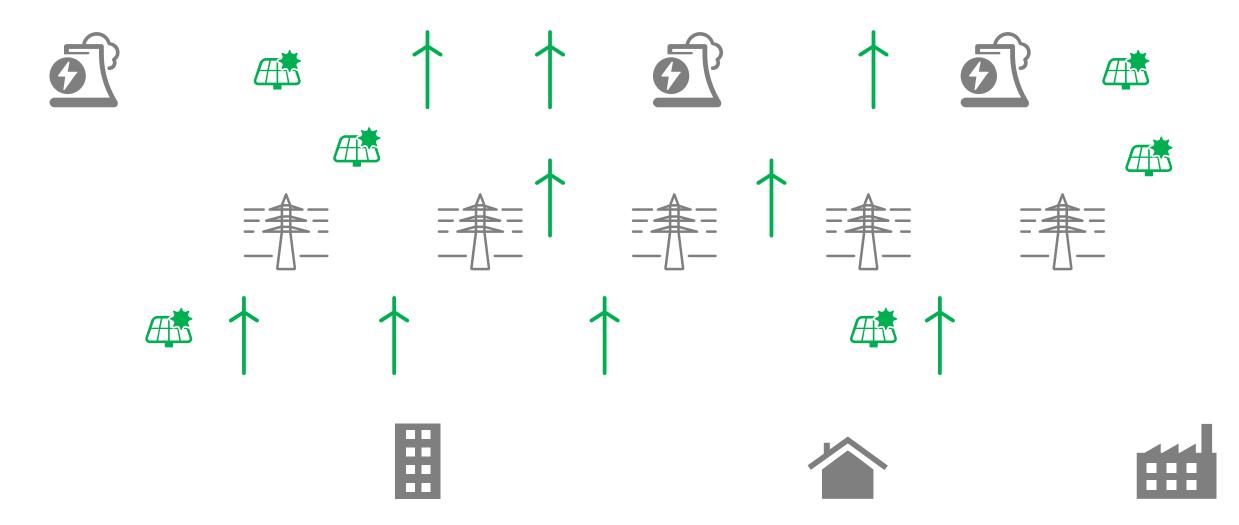
dispatchable generation met fluctuating demand





Current world:

renewable generation is a disruption

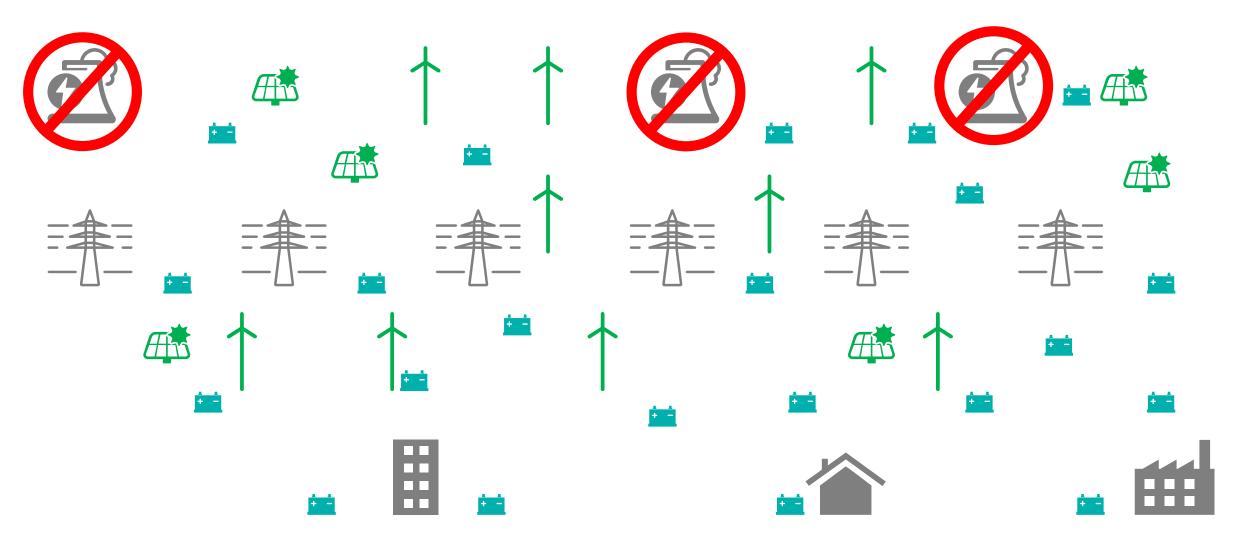




Platform for Coal Regions in Transition | Maximilian Schumacher

Probable world:

building complete new infrastructure and destroy existing one





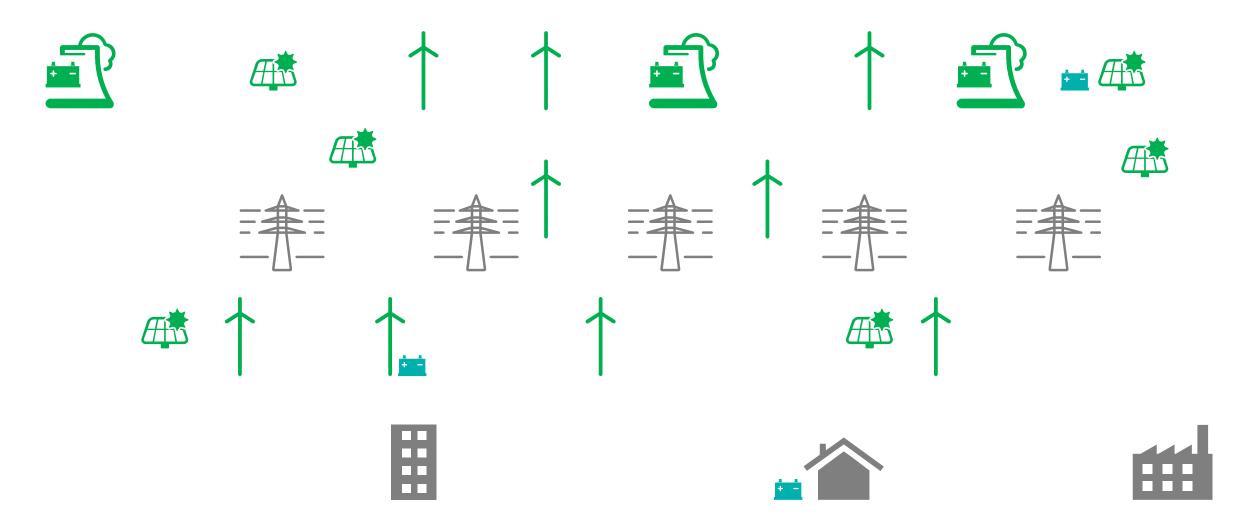
Smart technology:

using existing infrastructure to build needed storage



Future world:

conventional infrastructure as enabler of emission-free energy system





Platform for Coal Regions in Transition | Maximilian Schumacher



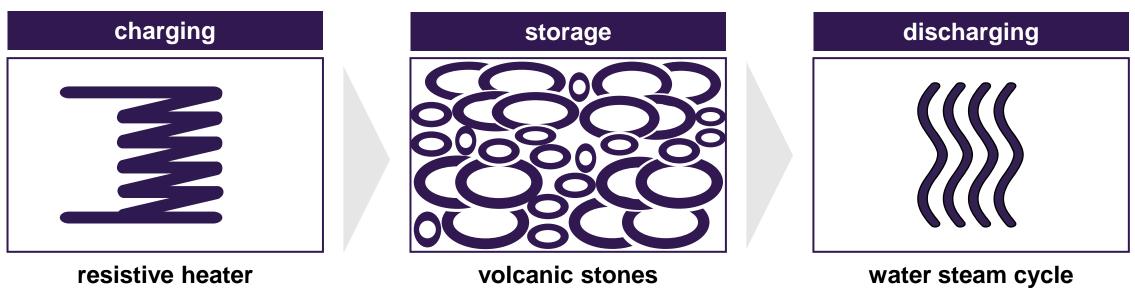
Electric Thermal Energy Storage

© Siemens Gamesa Renewable Energy S.A Platform for Coal Regions in Transition | Maximilian Schumacher



ETES technology:

proven, cost-efficient and reliable





volcanic stones



ETES application:

Converting a conventional power plant into an emission-free storage facility



ETES Switch

- Second-life option for conventional power plants
- Replacing boiler by steam generator
- Utilization of existing steam cycle and infrasturcture
- Well known O&M processes
- Mitigation of negative effects from closing power plants
- CAPEX up to 10 times lower compared to batteries



ETES is real:

beyond power points and blue prints



Demonstrator





Become a strategic partner



© Siemens Gamesa Renewable Energy S.A Pla



Maximilian Schumacher Innovation Development Maximilian.Schumacher@siemensgamesa.com



© Siemens Gamesa Renewable Energy S.A