100% Renewable Electricity as official Government Target in Austria for 2030 - Pathways and Possibilities

GLOBAL 2000
WIR KÄMPFEN FÜR DAS SCHÖNE.

COP21 Paris 2015: Austria positions itself vs Nuclear as Climate ‚Solution'

"Atomic energy is not a way to tackle climate change. It is not sustainable, neither in ecological nor in economic terms. Just think of the enormous costs of the unresolved storage of nuclear waste!"

Prime Minister Faymann at Leader's Event

https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/cop21cmp11_leaders_event_austria.pdf

COP21 Paris 2015: Austria declares target of net 100% RES by 2030

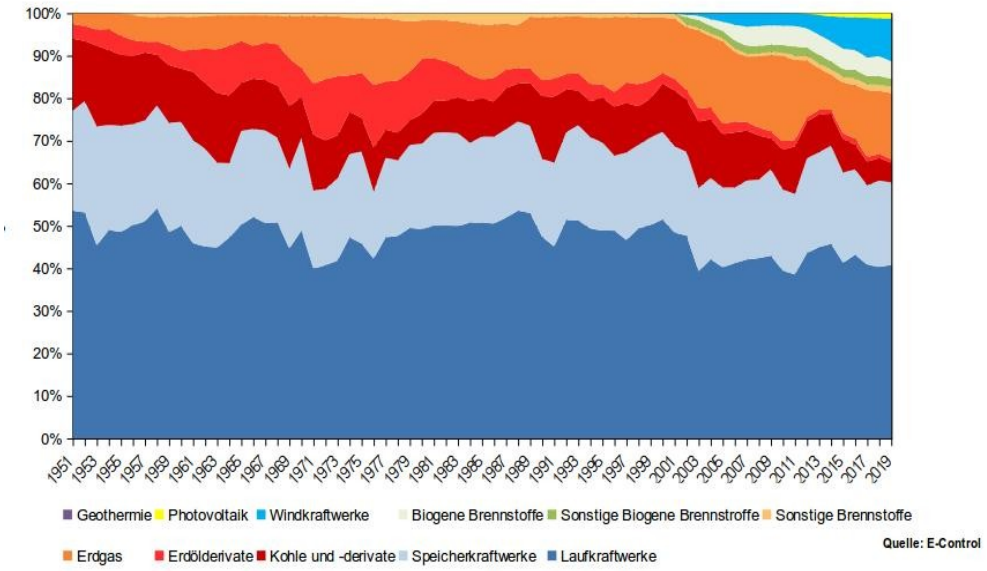
“Austria has a 80% share of renewables in electricity production. We want to further increase this share to 100% by 2030. In our view, renewable energies – combined with energy efficiency – are clearly the best way forward.”

Prime Minister Faymann at Leader‘s Event

https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/cop21cmp11_leaders_event_austria.pdf

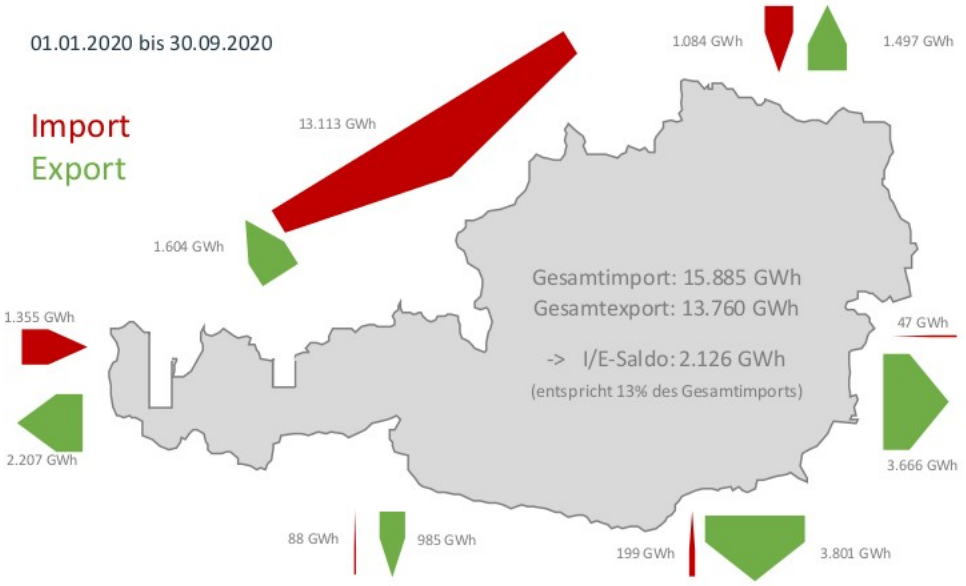
Current Situation (2019): 55 TWh/a, 79% RES electricity

- mostly hydro (60,2%)
- some biomass (4,1%) mostly sustainable as Austria has extensive forest cover
- increasing share of wind and solar (11,3%) compared to 15 years ago (1,4%)
- but still 21% fossil fuels, mostly gas from co-gen plants
- (excluding balancing, industry own production)



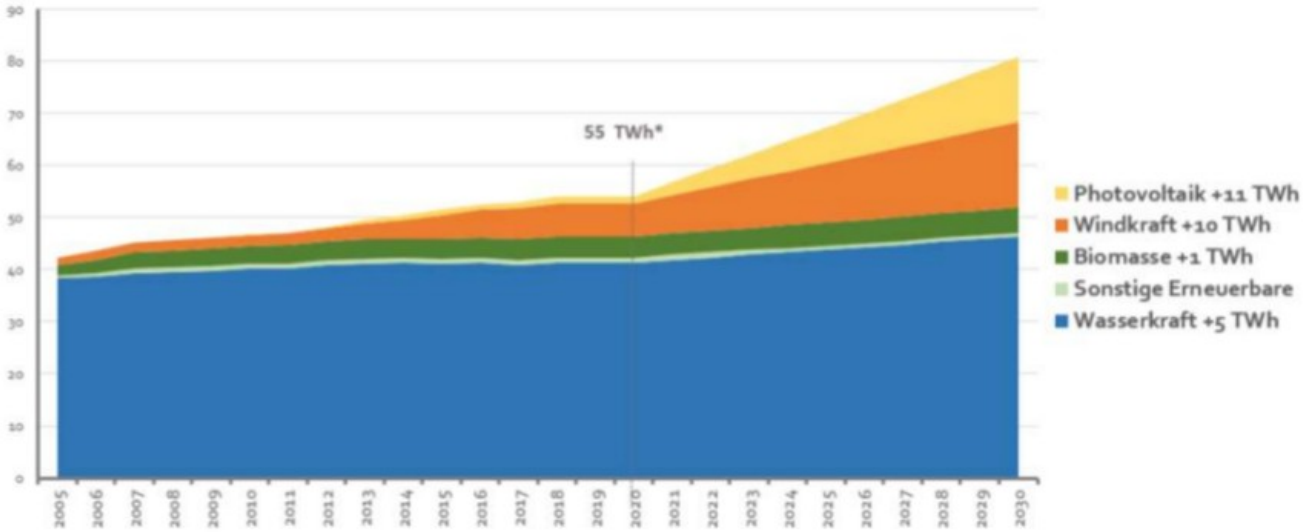
Current Situation: Electricity Imports

- Austria as “exchange hub” for in particular Hungary, Balkans
- imports from Germany, Czech Republic, Switzerland
- due to legal situation impossible to distinguish between electricity sources, but average electricity mix in Europe contains fossil, nuclear
- Austria is currently net importer (3,1 TWh 2019)



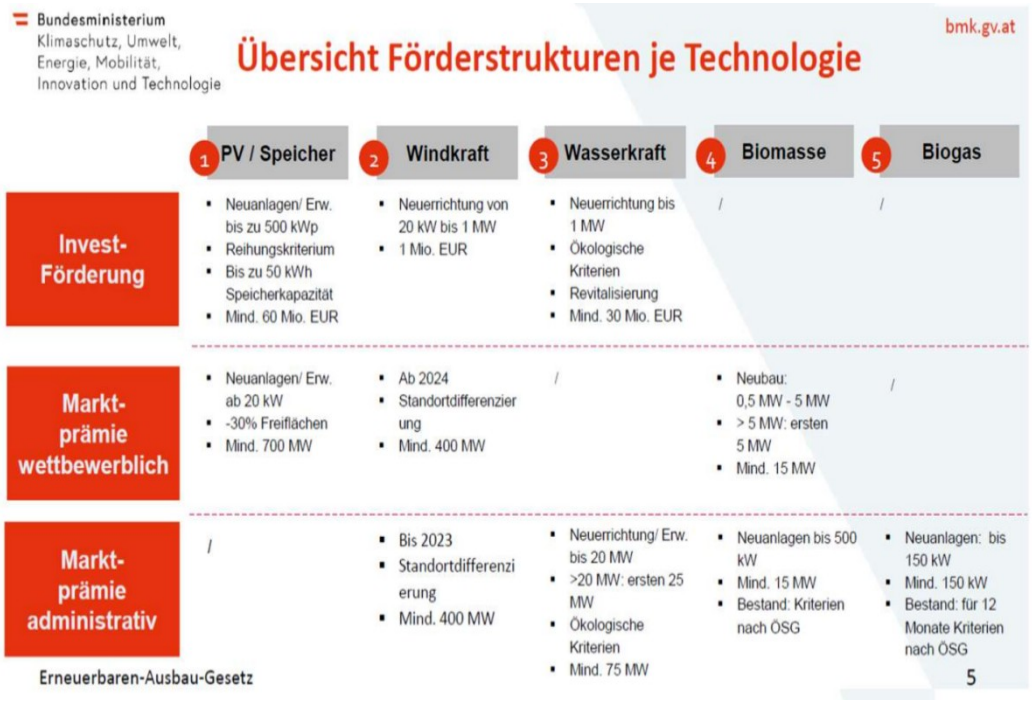
Erneuerbaren Ausbau Gesetz (Renewables Expansion Law)

- 16.9.2020 draft law, to enter into force 2021
- government target to increase renewables production by 27 TWh by 2030 to achieve net 100% renewable electricity
- = no net import, but fossil heat production, in particular in cities



Erneuerbaren Ausbau Gesetz (Renewables Expansion Law)

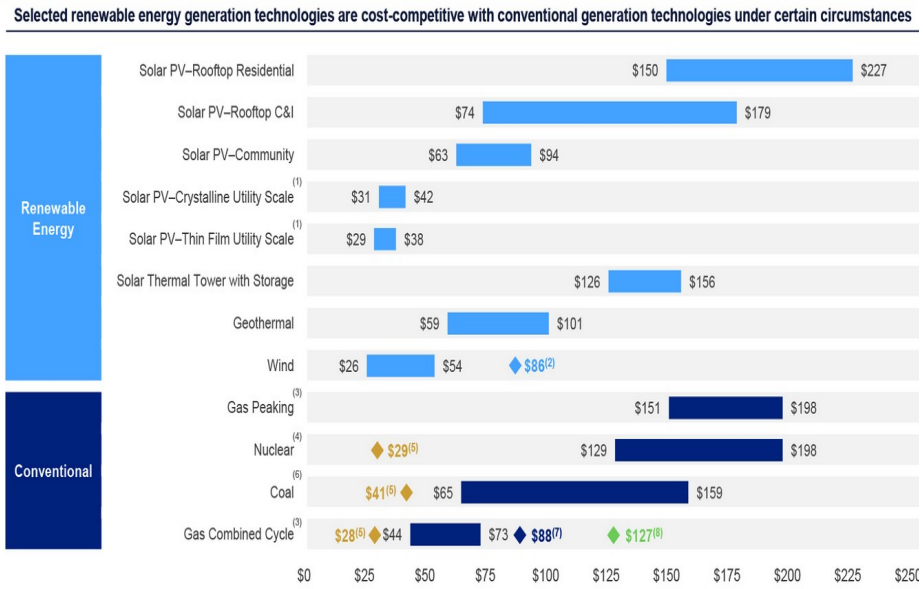
- annual financial support of € 1bn
- RES technologies to receive market premium and/or investment aid
- to generate up to € 30bn total investment in Austria



Cost of Technologies: RES vs Nuclear

- Lazard Levelized Cost of Electricity
  nuclear 129–198 $/MWh
  solar community 63–94 $/MWh
  solar utility scale 29–38 $/MWh
  wind onshore 26–54 $/MWh

  (incl. overnight capital costs, capacity factor, cost of fuel, operations/maintenance)
  (lacks representation of value/ indirect cost to system,
  poor for comparing tech that operate differently)



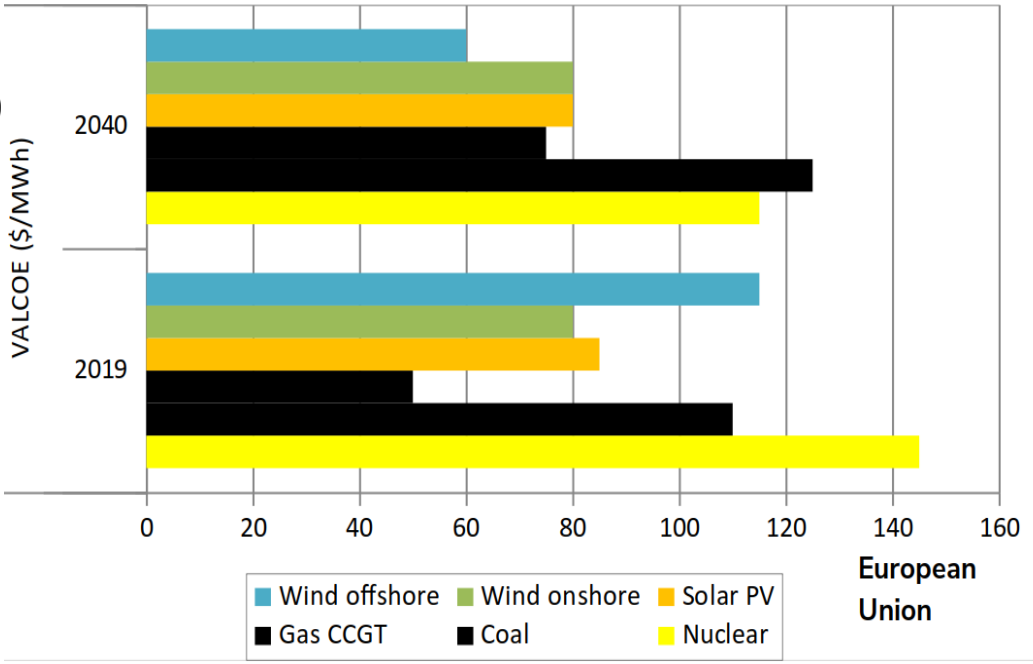
- Lazard 2020 www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2020/

Cost of Technologies: RES vs Nuclear

- International Energy Agency
  Value-adjusted LCOE, EU 2019

nuclear	**145 $/MWh**
solar	**85 $/MWh**
wind onshore	**80 $/MWh**
wind offshore	**115 $/MWh**

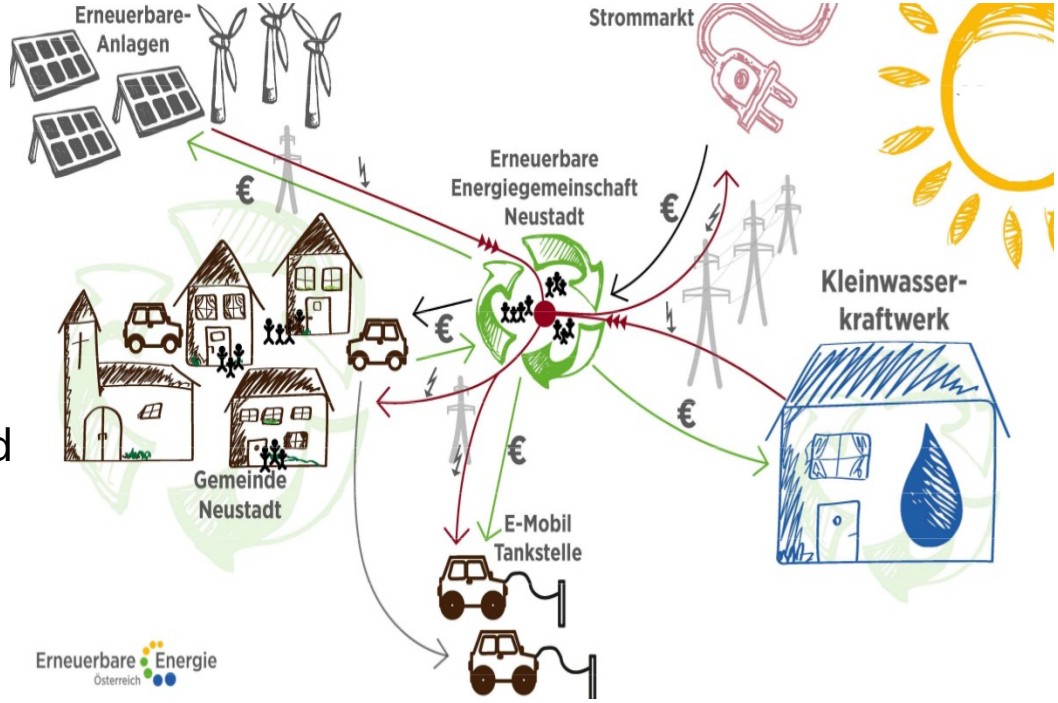
  (incl. system adequacy, flexibility / different operational characteristics: dispatchable vs variable) (excl. network integration, env. externalities, fuel diversity concerns)



- IEA World Energy Outlook 2020
  https://iea.blob.core.windows.net/assets/fa87681d-73bd-4719-b1e5-69670512b614/WEM_Documentation_WEO2020.pdf

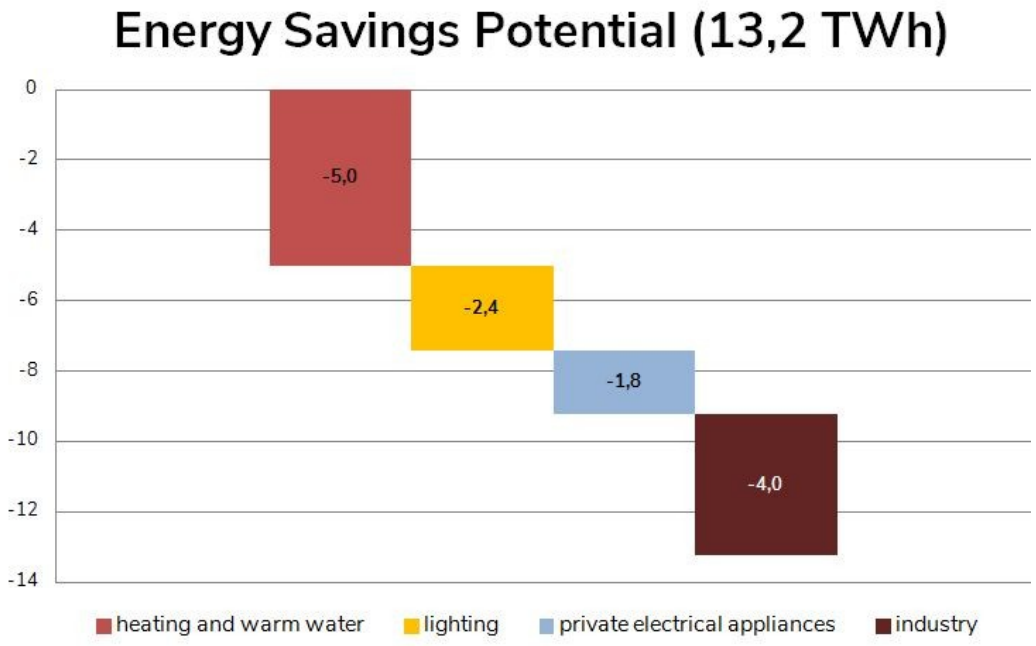
Erneuerbaren Ausbau Gesetz (Renewables Expansion Law)

- Community energy to be prioritized to support buy-in of citizens into the energy transition
- problem in draft law: support only in form of investment aid not market premium



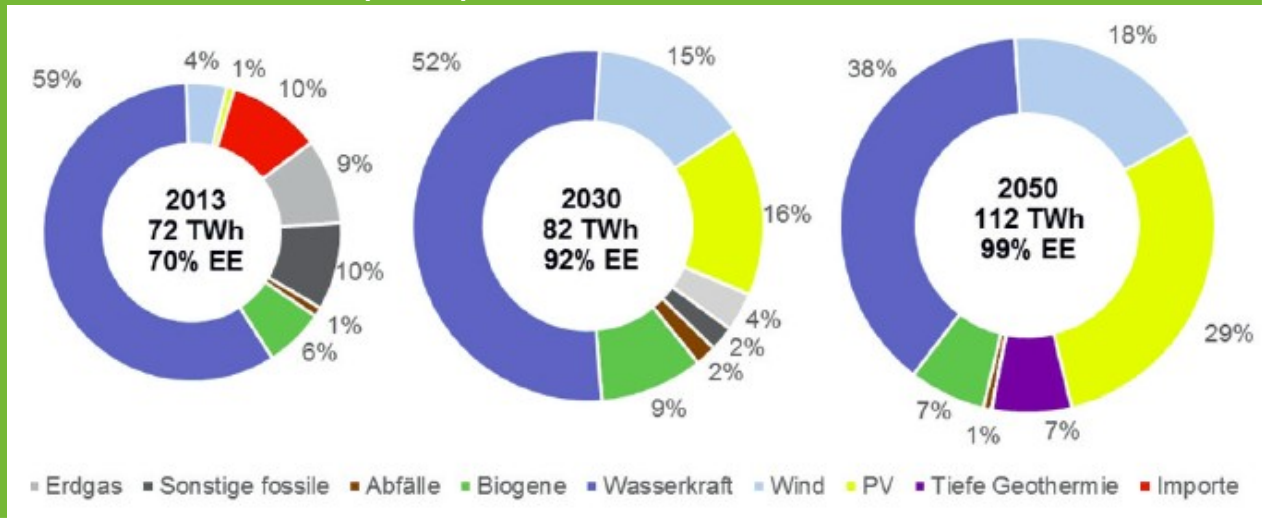
Efficiency First – Alternative Scenario by GLOBAL 2000

- Scenario by e.g. Renewable Energy Agency: +27 TWh
- Sufficiency Scenario: +23,7 TWh
- Energy Savings Potential of -13,2 TWh
- this reduces the stress on nature and the environment



Next challenge: 100% Renewable Energy by 2040 (gov target) or 2050

- Climate and Energy Scenario of GLOBAL 2000, WWF, Greenpeace (2017)
- electrification of transportation, industry (steel production)
- district heating, ground-sourced heat pumps
- energy savings first



thanks for your interest

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