

„Big is beautiful“

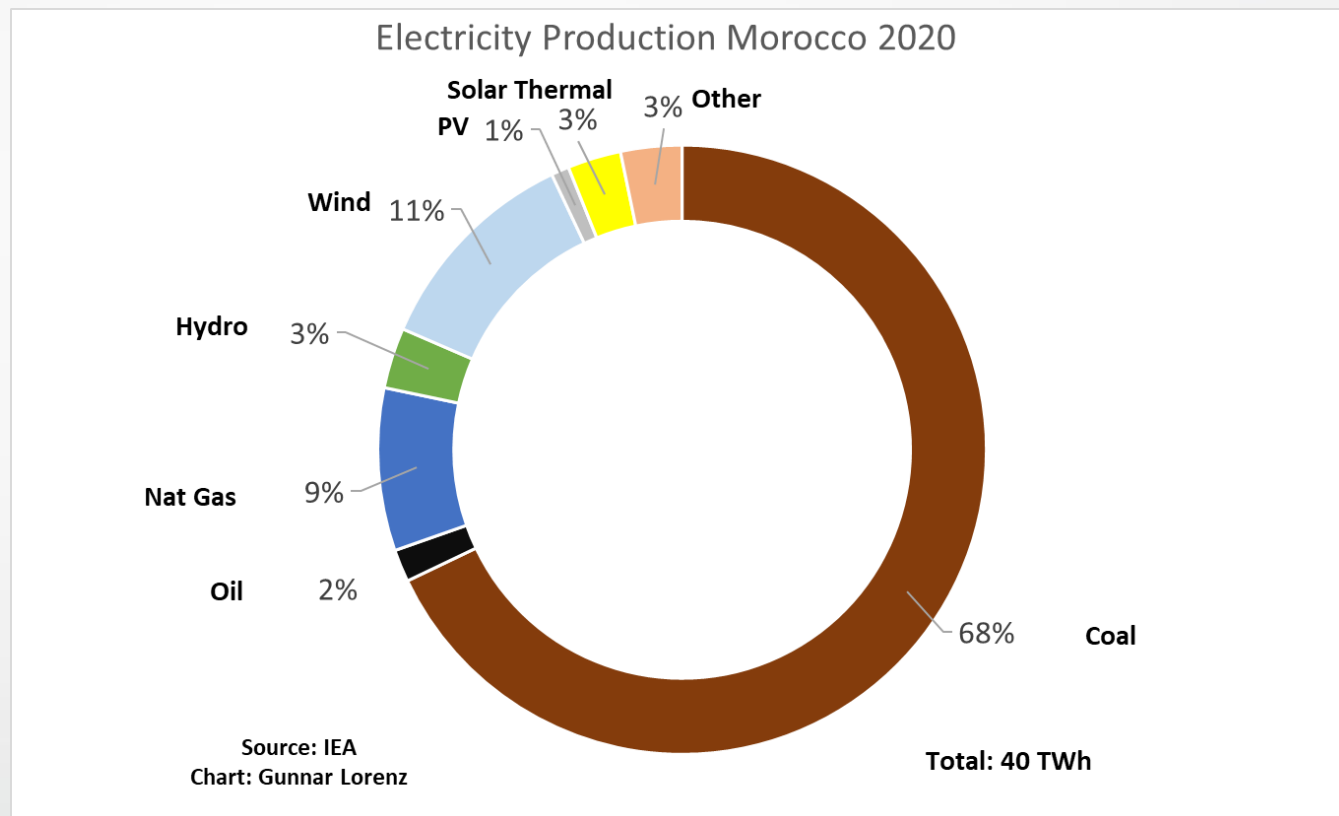
– RES in Morocco

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Morocco has ambitious big RES plans for 2030

- Morocco has committed to reducing its greenhouse gas emissions by some 42% below business-as-usual levels by 2030
- Renewable energies are a major component of the energy strategy of Morocco, that targets at least 52% RES installed capacity by 2030.
- However, the target for 2020 (42%) was not achieved (37% in 2021).
- Renewable energies contribute currently about 20% to the electric energy production.



Investments in large RES installations play the biggest role in Moroccan green electricity production

- Currently installed RES capacity (MW)
 - Solar: 710
 - Wind: 1 430
 - Hydro: 1 770
- Flagship: Large Concentrating Solar Power (CSP) pilot project in Ouarzazate NOOR 1, 2 & 3
- Masen is the “one stop RES shop” agency attracting foreign investments and issuing large tenders for large projects.
- Masen-independent projects do exist
- General feed-in rules are still being developed... New 2022 Network Code increases transparency for RES developers.



Photos: Gunnar Lorenz

Current DSOs business models could be threatened by distributed RES

- Besides ONEE distribution there are 11 Distributors of which 7 are public and 4 private concessionaires. Distribution is bundled.
- DSO profits are based on margins of volume (kWh) tariffs fixed by government
 - The less consumed / the more fed-in the lower the profits
 - Electricity cross-subsidizes the water distribution business
- Connection fees based on capacity (kW) would improve situation. Also incentives to connect distributed RES. However, the social impact needs to be accounted for.
- Independent regulator ANRE kicked off work in 2021. ONEE unbundling (transmission-generation) is a priority.



Photos:
Nareva, Gunnar Lorenz

Morocco is keen to exporting energy to Europe and skills to Africa

- Currently Morocco's electricity system is connected to Spain & Algeria. Lines to Portugal and Mauretania are being studied. The electricity company ONEE is trading with Spain on the OMIE.
- A new Desertec? Morocco/ Masen initiated the SET Roadmap (Sustainable Electricity Trading) to export "green" electricity to Europe helping the EU to reach the "Green Deal" target of becoming the first climate neutral continent by 2050. PT, ES, FR and DE signed memorandum.
- Masen and ONEE are keen of exporting their skills and knowledge to African countries.
- Moroccan Green hydrogen strategy estimates the country could provide up to 4% of global demand for green molecules.

