



## AUSTRIA - Basic Energy Data, New Developments, ...

9,1 Mio. Inhabitants, 84.000 km<sup>2</sup>

### ELECTRICITY:

65 TWh electricity demand, > 80 % Renewable

- 50-55% Hydropower - 13% Wind – **9 % PV** - 5% Biopower/-gas
- ~ 20% fossil (no nuclear) – political target: **100% Electricity-Target for 2030**

### ENERGY:

34% Renewable, 66 % fossil – political target: **100% RES in ENERGY – „Climate neutrality“ in 2040**

### PV – Market:

- **1.009 MW** in 2022 – total 3,8 GW – **2023: +2 GW market expected**



## Austria – PV Situation as of October 2023

- **Grids:** Many rejections of grid access - most Grid operators see need for „zero injection“
- New **PV-Support scheme** (new since last week!): no VAT (20%) from 2024 onwards for systems < 35kWp
- Larger Scale **Ground mounted PV-Systems** are coming up quickly – many 25, 30,...100, 120 MW Systems under construction – „PV-Zones defined by the local authorities“
  - **Many problems of acceptance** – > Nearly all ground mounted systems will be Agro-PV





AGRI PV at Bruck/Leitha – 3 MW – single axis tracked



## Austrian National Electricity Network Infrastructure plan 2040+ (ÖNIP)

**Target: 2040 and beyond: 100% ENERGY from RES - What electricity infrastructure is needed?**

**Basic assumptions: Need of RES Generation:**

- + 41 TWh of PV (currently: 5.5)
- + 29 TWh Wind (currently: ~ 7...8 TWh)
- + 11 TWh Bio-Methan (Agri-Fertilizer 7,1 TWh, Straw, Fruits,...: 8,3 TWh, Gras, Nutrition-waste 3,4 TWh)



**POWER:**

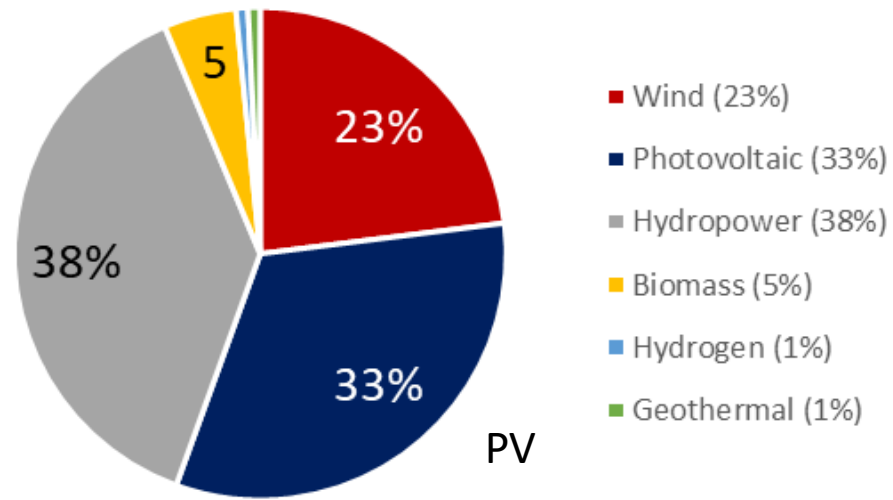
**Currently installed: 22,5 GW – Tomorrow installed: > 90 GW – Maximal Power used: 20 GW**

**Total Electricity use 2040: +55% (compared to 2020)**

**Total Energy use 2040: -30%**

## Electricity in the Climate Neutrality Scenario 2040

(63 % of total Energy demand in 2040)

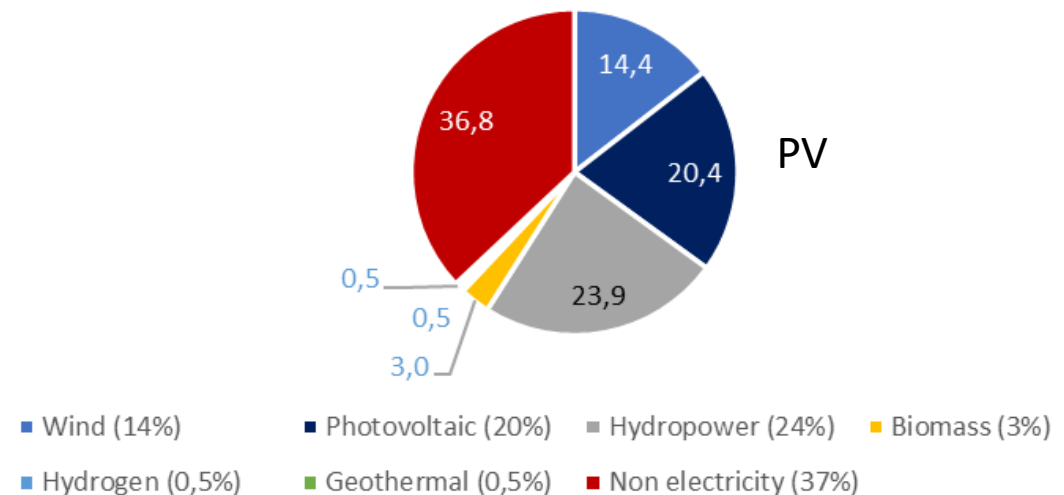


## PV in the Austrian „Climate Neutrality Scenario 2040“

### in Electricity and Energy

## ENERGY in the Climate Neutrality Scenario 2040

(63 % Electricity - 37 % Non Electricity)



## Austrian National Electricity Network Infrastructure plan 2040+ (ÖNIP)

**2040 and beyond: 100% ENERGY from RES - What electricity infrastructure is needed?**

**Main question: How to deal with additional 80 GW of RES Power? – while the power peak is expected to be < 20 GW**

- How much PV-Power will the grids have to take up at most?
- How much of the power can be managed locally?
  - Incentives to avoid peak injection (grid tariffs more depending on power than on energy)
  - Local power management (including vehicle2grid, concrete core activation,...)
  - MW/GW - Electrolysis to take up generation peaks
  - Simple Curtailment - how?...
  - ...



## Current activities of the PV stakeholders: PV Association, PV platform, chamber of installers – discussions with regulator/ministry etc...

Currently under discussion: (to solve problems immediately)

- „**Curtailment**“  $p(U)+Q(U)$ , local power management, etc.....  
60%, 70% of DC nominal power - **better wording: „Peak Power Management“**

**Distribution Network operators (18 larger ones, 104 very small ones) are overloaded with new aspects:**

- Smart Meter roll out (15 Minutes data instead of 1 energy data per year)
- Energy communities with many new requirements for metering
- PV installations  $\sim 2\text{GW/yr}$ , E-Charging stations, heat-pumps, ...



## Current activities of the PV stakeholders...(2)

Next steps could be:

- To care for incentives for „grid friendly behaviour“
  - Laws, Regulation, grid fee adaptation,....
- To subsidize local (peak) power management
  - E.g. Incentives for batteries and energy management systems which operate in a grid friendly way – including batteries of the > 100.000 E-Vehicles, 40.000 home storage systems.





## Local manufacturing – Innovative PV Projects **EU IPCEI PV**

- Several plans of the Austrian PV producers to increase or even start manufacturing capacities significantly
  - 4 Module producers, some of them with detailed plans in the GW-production range
  - New cell and module production under discussion
  - Inverter production
  - Backsheet/Encapsulation – new company –
  - Sub-Constructions in the GW range
  - Special ribbon products
  - PV recycling, refurbishment
  - PV battery production/Assembly
  - Start-up in Floating PV
  - Start-up in CIGS
- Ministry is very supportive by e.g.
  - Lighthouse programme for **Innovative PV Systems** (Agri/Floating/BIPV/Mobility/...)
  - Innovation Bonus at the federal support scheme for Innovative PV Systems (+30%)





## 4th Austrian Innovation Award for Integrated Photovoltaic



## Local Energy transition – 100% in Freistadt

- 66.000 inhabitants, 1.000km<sup>2</sup> - 28 municipalities
- 500 MW PV + 300 MW Wind + flexibility/storage
- + social acceptance, political strategies, skills development
- All stakeholder involvement (including grids/authorities,...)
- In preparation: local energy co-operative – Target: 200% local energy in 2040





**EU PVSEC**

**23 — 27**  
**September**

**ACV** —  
Austria Center Vienna

**Vienna** —  
Austria

**EU** 41st European  
Photovoltaic Solar Energy  
Conference and Exhibition

**PVSEC**

**2024**



THE END

