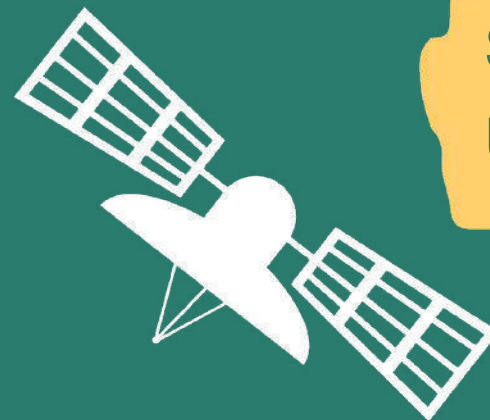


How to optimize the usage of renewable energy in energy communities with satellite-based nowcasting services.



**SPACE FOR CLIMATE ACTION
UN-Austria Symposium 2023**



Kontakt: Lukas Prenner
+43 (0) 681 841 369 20
office@energyfamily.at
Linkedin – EnergyFamily
www.energyfamily.at

What are energy communities?

ENERGY
FAMILY



Energy communities make it possible: Energy can be **produced**, **saved**, **sold** and **shared** across property boundaries. **Private households**, **small and medium-sized enterprises** and **municipalities** can be part of an energy community. Energy communities are enabled by EU directives which were converted in national Austrian law in 2021.

Why energy communities?

- promotion of the development of renewable energy
- sustainability
- democratisation of the energy system
- fair, stable energy prices

7 AFFORDABLE AND
CLEAN ENERGY



8 DECENT WORK AND
ECONOMIC GROWTH



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



11 SUSTAINABLE CITIES
AND COMMUNITIES



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



13 CLIMATE
ACTION



What is energyfamily?

ENERGY
FAMILY



We offer services around energy communities and developed a **platform** which makes it easy to **found** and **manage** energy communities.

What is energyfamily?

ENERGY
FAMILY

Meine persönlichen Daten

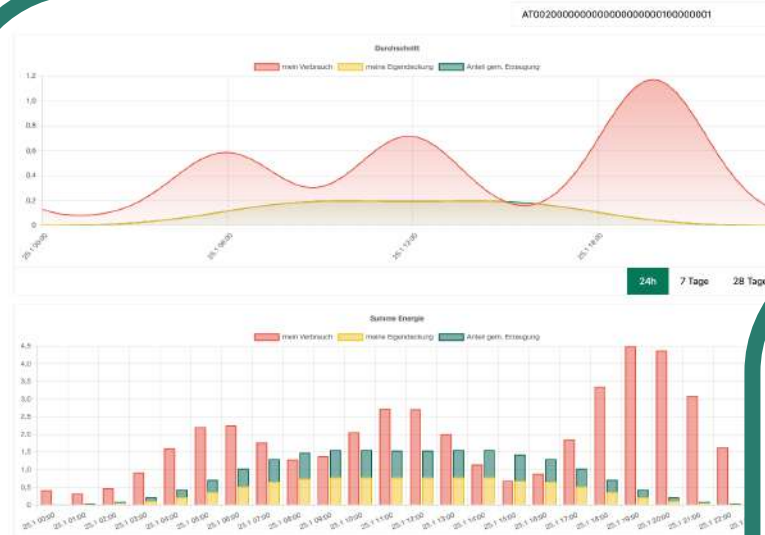
Mein Haus

EG bet

Erzeuger hinzufügen

Verbraucher hinzufügen

EG er



Verbrauch
41.9 kWh

Eigendeckung
16.3 kWh

Ersparnis
3.74 €

CO2-Vermeidung
4.56 kg

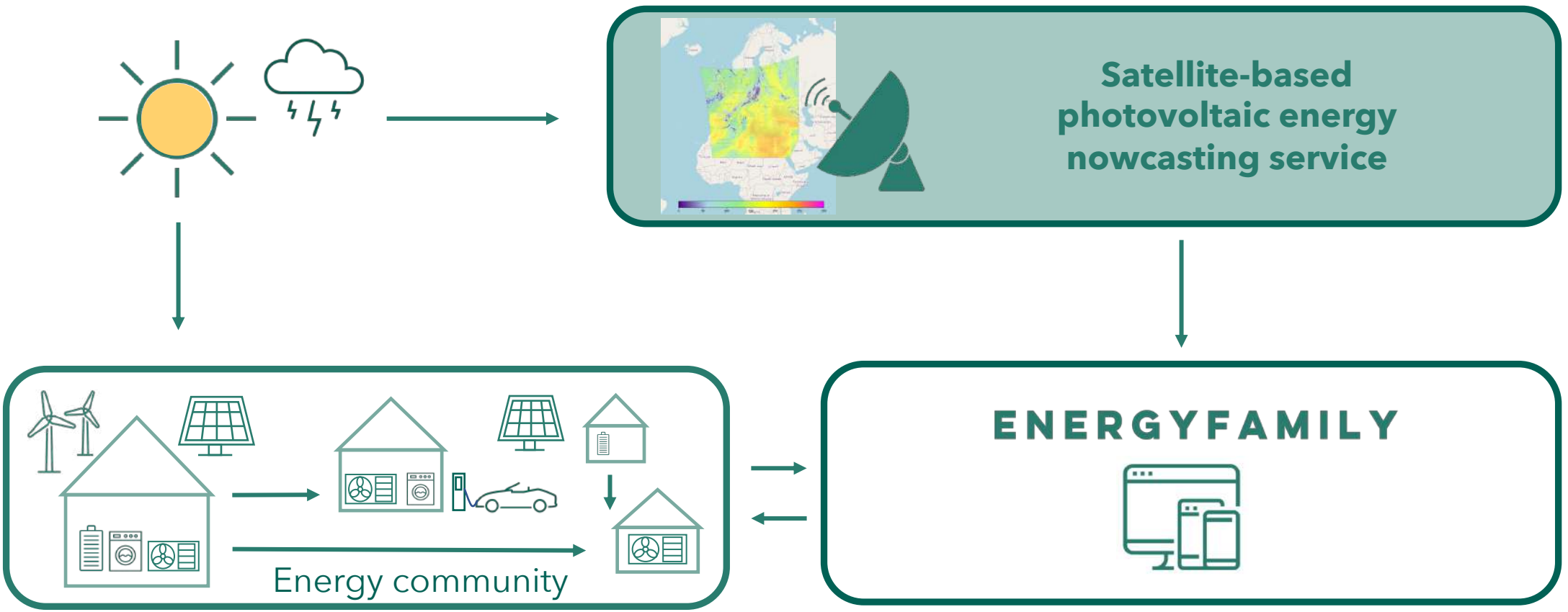
Calendar for Juli 2021 showing the 18th as the selected date.

SO JUL 18 2021
00 : 00

SO JUL 18 2021
23 : 59

Heute

How are we using satellite data to optimize the energy usage?



How does solar nowcasting work?

Used services:



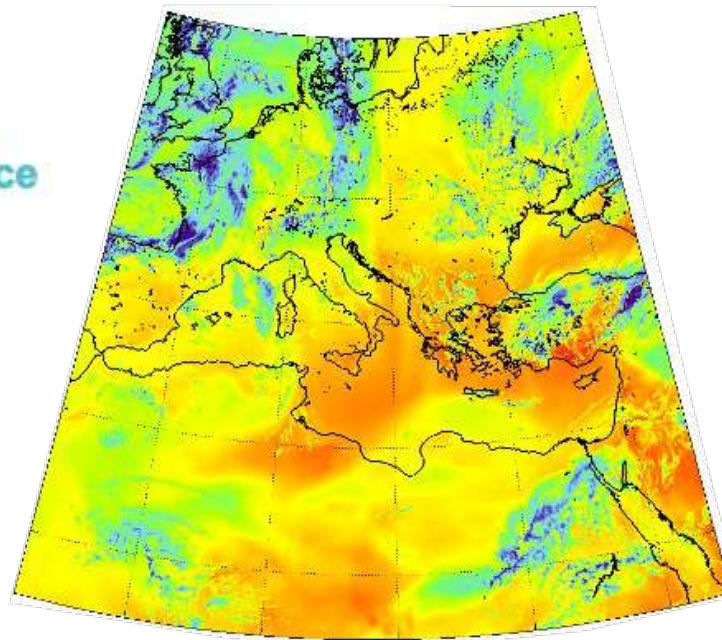
Urban Atlas data
Surface Albedo

Water vapor
Aerosol
Total ozone column



Cloud microphysics
New Meteosat Third Generation –
high resolution

What are we doing with the data?



short-term forecasts for solar energy

- in Wh/m²
- 0-3 hours ahead (15 min intervals)
- fast radiative transfer models

monitors and forecasts the

- global horizontal irradiance (GHI)
- direct normal irradiance (DNI)
- diffuse horizontal irradiance (DHI)

Solar nowcasting for energy communities



- Improves the **efficiency of energy communities**
- Combines solar nowcasting with **smart energy management systems**
- Allows **specific control** of heat pumps, charging systems of e-cars etc.

Why?

- Availability of **solar nowcasting for everyone**
- Counteract **high time variability** of solar power
- Counteract the misfit of **production curves** and **consumption curves** of renewable energy



Are your interested in the topic? Contact us for information & collaboration oportunities! www.energyfamily.at

