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S4: « Generation of Highly Spatially-Resolved Typical Meteorological Year (TMY) Data Sets for the Design and the Performance Assessment of Complex Solar Energy based Systems for Electricity Production »
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ENDORSE

Outline of the presentation of S4

- Products
- Objectives of S4
- Users' needs
- State of the art
- Innovations
- Market
- Dissemination
- Measures of success

Products

- Typical Mean Year related to Solar Energy
  - A TMY is a set of hourly values of meteorological data covering one year and representing the typical situations encountered in a period of 10-15 years.

  - Mean
    Median
    Extremes
    …

Depends on the usage

Objectives of S4

- Developing the pre-market service TMY generation
- Creation of complete TMY (irradiance, temperature, humidity…) fitted to User's requirements (WP2) and product assessment (WP5)
- Exploitation of outputs of WP401 and WP404

Users' needs

- Need to rely *on accurate assessments of the expected profitability* in the early stages of large project.
- Need for a synthetic year made from different parameters (irradiance, temperature, air humidity, wind speed) observed over many years
- Need to have the possibility to choose between *different types* of TMY (pessimistic/optimistic)

State of the art

- Energy companies and banks *have already agreed to use TMY* rather than 15 years of data as inputs to the model.

- Current TMY are made from data from meteorological stations
  - Few meteorological stations
  - Few of these stations with all data type

=> *few and/or incomplete TMYs*

Innovations

- Complete TMY (irradiance, temperature…)
- Offering TMY for any location
- TMY tailored to users' needs
- Standardization of the process => replicability

Market

- In Europe
  - Investors,
  - Banks,
  - Energy and consulting companies
- Can be extended to outside Europe depending on the availability of the input data.

Dissemination

- Through the Web, webservice in SoDa (GEOSS and W3C-compliant)

Measures of success

- Access to input data
- Successful implementation of users' requirements
- Successful implementation of users' recommendations after assessment (WP5)
- Availability of product (WP404)
- Availability of service (WP604)
- Demonstration of benefits by prime-users
- Replicability