SOLARFOR™
Solar Power Forecasting

ENFOR
DELIVERING THE FUTURE

SolarFor™ is a software solution for operational solar power forecasting. SolarFor™ delivers highly accurate predictions, is very flexible and has a long operational track record.

Why do you need SOLARFOR™

Solar power forecasting is a necessity in order to plan and operate the power system efficiently. This applies to both commercial players in liberalized power markets and system operators. Accurate solar power forecasting is needed by asset owners and electricity traders in order to nominate and trade the power production efficiently. By increasing forecast accuracy, asset owners and traders can reduce costs of imbalance fees and penalties.

Intermittent power production from solar power can cause system instability and increase the cost of balancing the electricity system (e.g. from standby capacity). Therefore transmission system operators need accurate solar power forecasts to maintain system stability and keep costs down.

The highly accurate solar power forecasts delivered by SolarFor™ help asset owners, traders and system operators around the world to manage and optimize their portfolio every day.
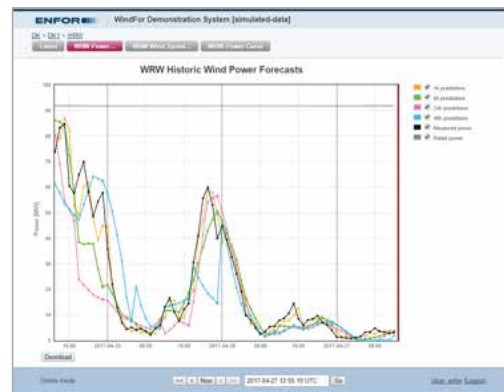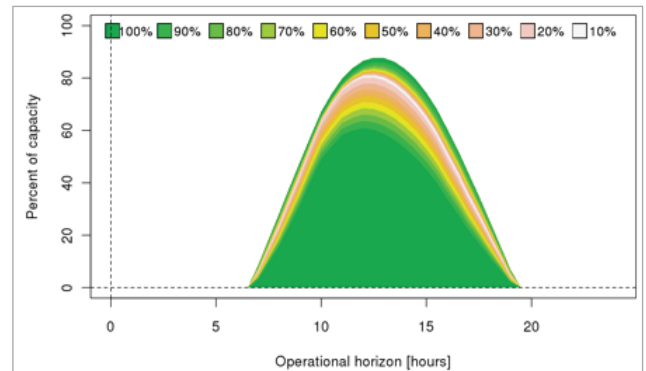
Key benefits:

- ⊘ Market leading solar power forecast accuracy

- ⊘ Proven operational track record

- ⊘ Highly flexible and configurable to almost any conditions

- ⊘ Reduce costs for traders, asset owners and TSOs

- ⊘ Low maintenance system with minimal interference for the customer

- ⊘ Many tailor-made modules which can handle complex requirements

Comparisons between a large number of solar power forecasting services have shown that SolarFor™ delivers very accurate state-of-the-art predictions, making it the preferred choice for customers.

www.enfor.dk   **contact@enfor.dk**   **(+45) 45 350 350**

How does SOLARFOR™ work

SolarFor™ is a self-learning and self-calibrating software system based on a combination of physical models and advanced machine learning. This combines the best of artificial intelligence with solar power domain knowledge in order to produce the most accurate solar power forecasts available.

Forecasts are produced every time the system receives new data, which can be updated weather forecasts or new production data. SolarFor™ can run in either online mode and continuously receive real-time production data or in off-line mode where historical data are retrieved monthly, or any other time interval.

The system can use one or more weather forecast providers as input and automatically detects the optimal prioritization of the different weather forecasts for each solar farm and for different forecast horizons.

The self-learning and self-calibrating algorithms will continuously learn about the solar farm characteristics and will adapt to changing conditions, seasonal variations, and as the photovoltaic module ages, such that forecasts stay accurate over time without the need for manual configuration.

SolarFor™ can deliver power forecasts in almost any file format and can be integrated directly into the operational IT-platform of the client, such that data are retrieved and delivered seamlessly to and from relevant systems.

SolarFor™ is available as a software package installed locally on the client's servers, or as a service hosted on servers operated and maintained by ENFOR™. SolarFor™ is supplied with various support, maintenance and license packages, which can be tailor-made to client specifications to provide a cost/performance ratio which fits the needs of the individual client.

Key features:

- Integrates with all major weather forecast providers
- Runs in both on-line or off-line mode
- Configurable forecast horizons, update frequency and time resolution
- Configurable browser-based graphical user interface and reporting tool
- Data integration interfaces supporting numerous formats, file types and protocols
- Forecasting of uncertainty bands
- Scenario generation

- Fixed, single and dual axis tracking
- Limitations imposed by inverter setup
- Temperature dependent panel efficiency
- Calculation and tracking of maximal (clear sky) production
- Automatic shadow detection
- NWP error correction models based on satellite data and online measurements
- Data integration interfaces based on FTP, SFTP or Web Services supporting numerous formats and file types (CSV, XML, SOAP, JSON etc.)

About ENFOR

ENFOR provides forecasting and optimization solutions for the energy sector. Utilities, energy traders, transmission and distribution system operators use ENFOR solutions for forecasting of wind power, solar power, hydro power, electricity and heat demand as well as optimization of district heating systems. Based in Denmark, and established in 2006 as a spin-off from the Technical University of Denmark, the company has a solid operational track record and successfully serve customers all over the world.

ENFOR A/S

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"The future is an unknown, but a somewhat predictable unknown. To look to the future we must first look back upon the past."

- Albert Einstein