METFOR™

Locally optimized weather forecasts

ENFOR
DELIVERING THE FUTURE

MetFor™ is a software system for high precision meteorological forecasting in a specific geographic location.

Why do you need METFOR™

Global or regional weather models do often not capture local conditions with adequate precision. MetFor™ delivers a locally optimized weather forecast which can add significant value to highly weather dependent business activities.

Weather predictions from MetFor™ are used as input for heat demand forecasting, as it improves the forecast accuracy. This enables district heating companies to operate their network and production facilities more efficiently, save fuel cost and reduce CO_2 emissions.
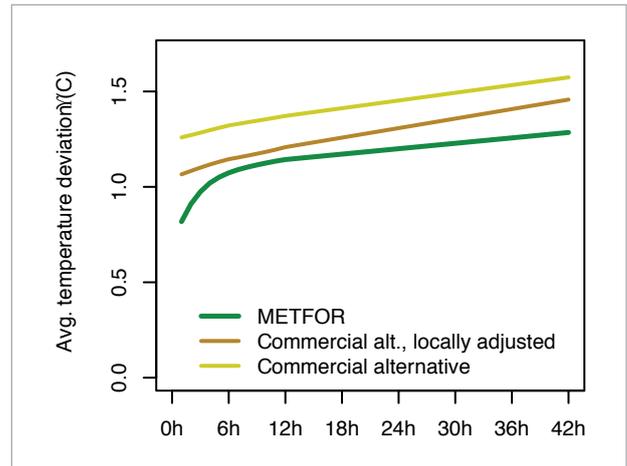
An accurate local weather forecast from MetFor™, can be crucial when planning operation and maintenance work of off-shore (or similar) activities, where weather has a big impact on safety and the ability to operate.
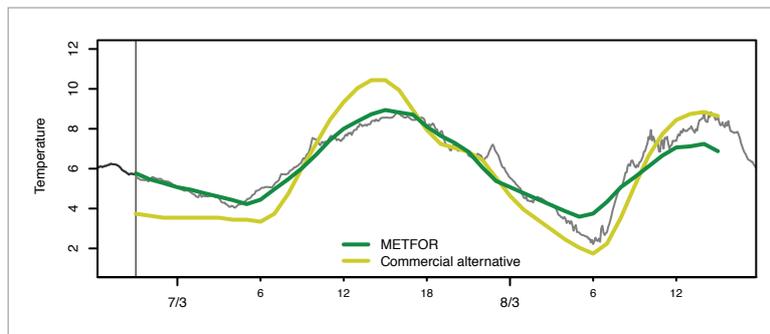
Key benefits:

- ✓ Cost effective and high performing service solution

- ✓ Forecasts local weather more accurately than global and regional weather models
  - 5-8% more accurate on time horizons of 1-12 hours ahead
  - 6-10% more accurate on time horizons of 13-36 hours ahead

- ✓ Based on multiple weather models as input improves both accuracy and availability

- ✓ Proven operational track record with redundant server setup provides very reliable data delivery

- ✓ Delivered as a service with no or very limited maintenance and interaction required by the customer

How does LOADFOR™ work

MetFor™ utilize multiple weather models as input and finds the optimal weight of each model for the specific location. This provides a better and more accurate forecast for the specific location. In addition, MetFor™ utilize local online measurements to calibrate the weather forecast to the specific location. This means that systematic deviations between the metrological models at the specific location are identified and corrected. Short term deviations from weather model forecasts are also identified (using real time data) such that the local weather forecast is continuously adjusted to the actual situation. The short term adjustment gives a significantly improved forecast on horizons up to 12 hours ahead.
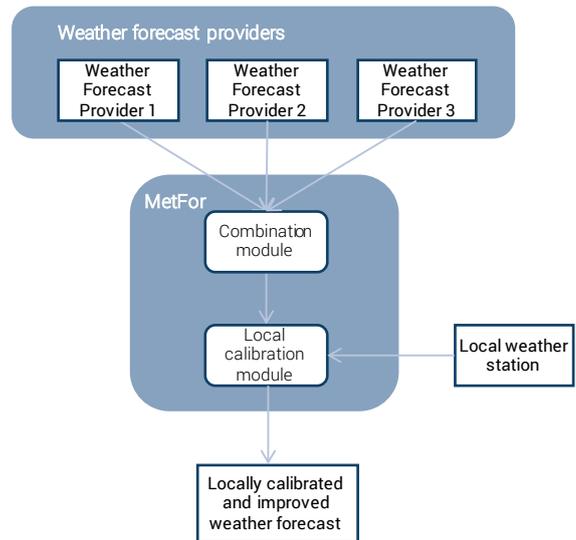
MetFor™ is based on advanced machine learning forming a self-learning system. By combining meteorological forecasts and measurements from a local weather station, the system is not only able to produce accurate weather forecasts, but can also automatically and continuously improve the forecasts as more data is received over time.

MetFor™ can seamlessly be deployed and integrated with HeatFor™ and HeatTO™ as part of the ENFOR™ offering to district heating companies.

MetFor™ is provided as an integrated service from the ENFOR™ platform, which also contains a data collection and validation module. Data streams are monitored 24/7 and the system is robust to missing/erroneous measurements and temporary failure of meteorological forecasts.

The ENFOR platform also provides MetFor™ with data integration modules through either FTP, SFTP or web-services such that MetFor™ can be seamlessly integrated with both weather stations, SCADA systems and other operational systems.

Key features:

The following key features are provided by MetFor™

- Self-learning and self-calibrating algorithms for accurate meteorological forecasting
- Forecast single or multiple locations up to 10 days ahead
- Forecast updated every hour
- Integrates seamlessly with:
  - Local weather measurements
  - Heat demand forecasting tool HeatFor™

- Data integration interfaces based on FTP, SFTP or web-services supporting numerous formats and file types (CSV, XML, SOAP, JSON etc.)
- Delivered as a service solution, with redundant setup, 24/7 monitoring and support

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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.

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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