



## Potential of long-range forecasts in the energy market

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We examine the needs of the energy sector in the long-range forecasting. The work was done jointly by Finnish Meteorological Institute (FMI) and Helen Ltd, the main Helsinki-metropolitan area energy provider.

FMI aims to provide long-range forecasts in operational basis, tailored for various end users and sectors. FMI has for years monitored the usability and validity of long-range forecasts, from monthly to seasonal scales. The additional challenge for FMI is to provide usable long-range forecasts in the high-latitudes. The development and feasible operational usage of such long-range forecasts needs close cooperation with the specific end users as the weather parameters vary both in the accuracy of forecasts and the usability for a particular sector. For example, while precipitation is harder to predict and important for the hydropower production, temperature (and temperature anomaly) forecasts are more skillful and more important for energy consumption calculations.

Based on the needs and requirements described by Helen Ltd, we show the design principles of the operational usage of long-range forecasts, including the verification system for the products.