WindPRO 2.9 User Guide

1. edition, July. 2013

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Print:
Uni-Print

Financial support
Parts of the WindPRO software and user guide are funded by the Danish Energy Agency and by the EU Altener programme.

Foreword

Welcome to “the World of WindPRO”, which is not only” a calculation tool, but an “expert system” based upon more than 30 years of experience within design, calculation, documentation and evaluation of wind farms.

Our many years of experience within the wind industry have been incorporated in WindPRO, and we continuously try to add new features to the software based on the latest research and development within the area and when new industry demands arise. New features added are based on a selection as not all new developments might be considered relevant or useful for the software user. We use our expertise and “hands-on” experience when choosing the new features we decide will add most value for the users. Furthermore, we test the quality and relevance of new research and development work before we decide to incorporate this in WindPRO.

A major strength of WindPRO is that it is an “all in one” handling tool of wind energy projects through the whole development process, starting from the first idea of a project, when rough data are downloaded and preliminary calculations are performed until the comprehensive and detailed calculations leading to the final approval by both local planning authorities and investors/banks.

Similar to other calculation software, the input data loading and processing in WindPRO is important to obtain correct results. Therefore, we continuously strive to add new intelligent features to the software, which both support the user when evaluating the quality of the input data and assist during the processing of the data.

Enjoy working with the software and help the world to be a better place by designing the right wind farm layouts at the right places.

Per Nielsen, Manager

The manual in brief

Each chapter has its own table of contents. The main chapters are: (**New in latest version in bold**)

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1 Intro, installation etc.
2 BASIS
3 ENERGY – MODEL, METEO & PARK
4 ENVIRONMENT – DECIBEL, SHADOW, ZVI & IMPACT, NORD2000
5 VISUALIZATION - PHOTOMONTAGE, ANIMATION & 3D ANIMATION
6 ECONOMY - WINDBANK
~~7 LANDSCAPE AND PLANNING (not included, please see ver. 2.5)~~
8 OPTIMIZATION (Energy & Noise)
9 ENERGY - CFD interface (Computation Fluid Dynamics interface) **(WAsP-CFD)**
10 ELECTRICAL - eGRID
11 ENERGY - MCP (Measure Correlate Predict)
12 ENERGY – LOSS & UNCERTAINTY
13 LOADS – Site Compliance
14 **Performance Check**

Appendixes are included in chapters where relevant. Further documentation, validation etc. are available at http://help.emd.dk/WindPRO/ Direct link is found in WindPRO HELP menu FAQ (internet), which is continuously updated. In the WindPRO Help the entire manual is available with search options, etc.

In chapter 2 BASIS, all basic functions are described. These are also the basis for using all other modules.

In the beginning of each chapter there will be a STEP-BY-STEP guide, which gives a checklist getting to a calculation result.

Generally, each chapter is divided in a theoretical part describing models and methods, and a part describing how to use the software.

Module descriptions and print examples from the different modules can be found in the separate Module Description. This is also available at http://www.emd.dk/WindPRO/Modules/

Chapter 7, module WINDPLAN is no longer included due to low interest for this module. It is still possible to use this module with the former WindPRO ver. 2.5, but this is no longer supported.

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