



windPRO

windPRO 3.2

User guide



EMD International A/S
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PREPARED BY

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REVIEW

Normawind
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The Wind Consultancy Service
CEPRI – China Electric Power Research Institute
BLT – Beijing Leviathan Technology Co. Ltd.
EMD France
EAPC Wind Energy
EAPC Sur, S.R.L.

EDITION

1

Foreword

Welcome to “the World of windPRO” which is not only a calculation tool, but an expert system based upon more than thirty years of experience of 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 add new features to the software based on the latest research and development within the area and when new industry demands arise. We use our expertise and hands-on experience to develop the features which 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 into windPRO.

A major strength of windPRO is that it is an “all in one” tool for handling wind energy projects through the whole development process, starting from the initial idea of a project, when rough data are downloaded and preliminary calculations are performed through to 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 windPRO, which both support the user when evaluating the quality of the input data and assist during the processing of the data.

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

Per Nielsen
Managing Director

A handwritten signature in blue ink, appearing to read "Per Nielsen".

The manual in brief

Each chapter has its own table of contents that starts from page 1. The main chapters are:

1. INTRODUCTION, Installation & License activation
2. BASIS
3. ENERGY
(PARK, MODEL, MCP, CFD, Loss & Uncertainty and "new energy concept")
4. EMD CLUSTER SERVICES
(WAsP CFD and EMD WRF on-demand calculations on the EMD computer cluster)
5. LOADS
(SITE COMPLIANCE, LOAD RESPONSE)
6. ENVIRONMENT
(DECIBEL, SHADOW, ZVI, IMPACT, NORD2000)
7. VISUALIZATION
(PHOTOMONTAGE, ANIMATION, 3D ANIMATION)
8. OPTIMIZATION
(Energy & Noise)
9. ELECTRICAL
(eGRID)
10. ECONOMY
(WINDBANK)
11. OPERATION
(PERFORMANCE CHECK)
12. METEOROLOGICAL DATA HANDLING
(Meteo, Meteo analyser)

Please see our Help Desk for other windPRO reference available at help.emd.dk/windPRO/.
A direct link is found in windPRO HELP menu, which is continuously updated.

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

Generally, each chapter is divided into 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/windPRO-modules/>