# TRAINING COURSES 2012

Software for wind energy project and planning

EMD
www.emd.dk

# PROGRAMME

## Day 1

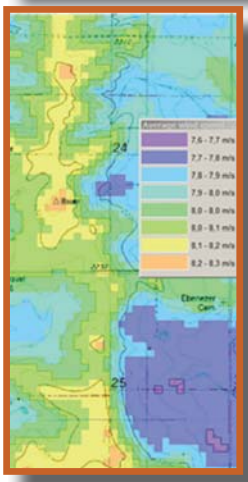
- Course introduction Wind farm project development with WindPRO
- Coordinate systems and maps - height contours
- Layout design
- The WTG Catalogue (WindCat)
- Wind energy
- Measuring the wind
- Importing and analysing measured wind data in METEO
- Simple energy calculation

## Day 2

- PARK effect
- The wind atlas model (WAsP)
- Full energy calculation using WAsP
- WAsP pitfalls
- Wind resource maps and optimisation
- Correlation and long term correction - MCP

## Day 3

- Noise impact
- Shadow flickering impact
- Zones of Visual Influence (ZVI)
- Photomontage
- Animations



EMD
www.emd.dk

## Day 1: BASIC and Analysing Wind Data

The purpose of the first course day is for beginners to obtain a basic understanding of WindPRO and for the more experienced users to refresh their skills and get an overview of the latest improvements in WindPRO. For each participant this day is a unique opportunity to explore the “state of the art” in wind projects design.

The BASIS module is the platform on which all WindPRO modules operate. No matter which modules of WindPRO you are using or intent to use, you will need to get familiar with the BASIS facilities.

A presentation of wind data measuring and analysis will also be a part of this first day. Instruction in the handling of the Meteo object and its numerous data screening facilities will be given.

## Day 2: Energy Calculations

On day two we start with the presentation of the park effect generated by wind turbines in a wind farm and learn how to include it in the energy yield calculation of a wind farm. Later, we will introduce the use of WAsP, which is currently the best-documented and most used calculation engine for wind energy calculations. We will prepare the background data to be used in the WindPRO/WAsP calculation, like roughness, obstacles and a height model and we will look into advantages and pitfalls of using WAsP.

Finally, we will look at more advanced facilities like wind resource maps, layout optimizations and long term correction of wind data.

## Day 3: Environmental Impact Assessment

The third day is aimed at getting familiar with the kind of environmental documentation local authorities usually request in order to give the needed permissions. This day’s programme will alternate between theoretical explanations of the various environmental impacts and practical exercises in how to calculate and document them with WindPRO.

# REGISTRATION

## Practical Information

### Prices

| | | | | | |
|---|---|---|---|---|---|
| 1 participant | 1 day | Euro | 440 | US Dollars | 660 |
| 1 participant | 2 days | Euro | 860 | US Dollars | 1.290 |
| 1 participant | 3 days | Euro | 1.260 | US Dollars | 1.890 |

*Prices in USD may be changed without notice according to the prevailing exchange rate between Euro and USD.*

### Payment

Invoice will be sent before the course and payment is due before the course.

Danish VAT will be added to the above prices if no VAT number is provided (this only applies to EU-based companies).

### Place

Please visit www.emd.dk/WindPRO/Courses for an updated list of course dates and locations.
We also offer inhouse training courses e.g. at your premises as well as advanced training courses.

**EMD International A/S**
Niels Jernes Vej 10 · DK-9220 Aalborg Ø · Denmark
Tel: +45 9635 4444 · Fax: +45 9635 4446 · e-mail: emd@emd.dk · www.emd.dk