

## **2023 at EMD – A glance of some of our activities**

### **Release of windPRO 4.0**

In September we released the new windPRO 4.0 version. The main feature in this version was a completely redesigned user interface.

Another important new feature in V4.0 is the Curtailment Optimizer, which is a new multi-dimensional optimization engine to automatically generate a curtailment strategy for maximizing yields while minimizing noise turbine-by-turbine.

Version 4 also includes a new Solar Optimizer tool to optimize PV panel layouts in respect of LCOE, NPV or AEP as well as many other new features and improvements in the different modules. Check out the full list at: <https://www.emd-international.com/windpro/windpro-modules/4-0-features/>

We had the pleasure to introduce windPRO 4.0 at the Husum Wind 2023 fair in Germany in September and later at other different trade shows and webinars. We would like to thank those of you, who visited our booth in Husum or met us elsewhere and online.

### **Release of energyPRO 4.9**

In November, we released a new version 4.9. The main feature in this release is the new OPTIMIZE module, which allows you to optimize the size of PV, CHP, heat pump, storage or any new asset you include in your project modelling.

Spurred by the growing interest to convert large scale wind and solar electricity production to hydrogen, ammonia, or e-fuels, we have also included new enhancements in energyPRO 4.9 to model, analyse and simulate PtX energy projects.

To our knowledge, energyPRO is the only commercial software available worldwide capable of detailing the full energy conversion in PtX projects in a structured and user-friendly manner. So, check it out, if you are interested in modelling PtX.

### **Busy with energyTRADE (and OPTI)**

District heating plants in Denmark have traditionally had a production set-up with gas engines, a gas boiler, and a thermal storage. However, many of them are now also installing wood and electrical boilers, heat pumps, solar heating panels and are also participating at different electricity markets (day-ahead, regulating and reserve).

This complex operation requires a dedicated flexible software like our energyTRADE for the optimisation of the daily production at scheduled intervals against parameters such as weather forecasts, electricity price forecasts, heat demands and thermal storage content. With interface to the balance responsible party (BRP) the plant can send optimized production plans with bidding prices and quantities and receive updated production schedules upon trade at the different electricity markets.

In October, we acquired the OPTI software plus hired two new colleagues from Fjernvarme Fyn. OPTI is a software solution for large power plants for daily production planning with powerful features to document processes and actions. The software was originally developed by Fjernvarme Fyn and is used on their 500 MW power plant in Odense, Denmark, but maintenance of the installed software has now been outsourced to EMD on a long-term contract as part of the acquisition. The first contract for installing OPTI at another Danish power plant has already been secured and more are expected to follow in 2024.



## EMD International A/S

### **EMD Consulting – a reliable partner**

2023 was once again a busy year. Together with our due diligence partners our analysts at EMD have been working as independent advisors on asset transfers in many countries, both onshore and offshore. Another exiting opportunity has been the preparation of siting parameters for the second of the planned big Danish offshore projects. All over Europe we have accompanied a lot of project developers, starting with designing the measurement campaign up to finance-grade energy yield calculations.

Also in 2023, our energy system experts have worked as external advisors for well-known leading international manufacturers to model the present energy consumption at their factories in different countries and to simulate how the energy usage can be substituted by carbon-neutral energy production technologies.

In addition, our energy system experts have also been engaged by numerous clients to perform early-phase techno-economic studies of their hybrid, storage and PtX project ideas.

### **Work is not everything**

With many new colleagues joining EMD in 2023, we have tried to onboard them quickly by arranging many small social events through the year either individually within the departments or on a company level. These span from joint workout training, walking or running together, a 15 km summer canoe trip on one of our tiny and cozy rivers to larger summer and winter company get-together-parties.

See you in 2024!