WindSim and Bankability

Since the early 2000s, WindSim has been a trusted provider of software enabling high-quality, bankable Wind Resource Assessments (WRA), Annual Energy Production (AEP) estimates and many other wind analyses. Our software and services have been provided to industry-leading global actors such as Nadara (previously Ventient Energy), EDF Renewables, Statkraft, Vestas, Iberdrola, Contact Energy, Renew Energy, ACWA, Norconsult and Fortum Corporation.

Bankability Requirements

Definition

Bankability refers to the degree to which a project or its components are deemed acceptable by banks and other financial institutions as a reliable basis for securing financing. This business case relies on income (eg. AEP), and costs (eg. CAPEX and OPEX), for which WindSim's CFD software produces highly accurate and optimal results.

Industry Context

Unlike technical standards such as those set by the IEC or DNV, bankability is not defined by a single global certification. Instead, it is determined by a combination of factors including the reputation of the technology or vendor, proven track records, uncertainty estimates and adherence to industry best practices.

Role of Wind Resource Assessment (WRA)

Wind Resource Assessment plays a critical role in the financing process for wind energy projects. It provides the data and analysis necessary for estimating project performance and revenue potential. However, WRA alone does not guarantee financing—it is one of several factors considered by lenders.

Key Criteria for Bankability

- **Vendor credibility and market reputation**: A strong track record and industry recognition enhance trust in the project's viability.

- **Quality and transparency of data, models, and AEP estimates**: Accurate and well-documented annual energy production (AEP) projections—including P50, P70, and P90 metrics—are essential.
- **Proven performance in financed projects**: Demonstrated success in past projects increases confidence among financiers.
- **Compliance with recognized guidelines**: Adherence to standards such as those from AWEA or IEA Wind strengthens the reliability of assessments.
- **Impact on CAPEX and OPEX**: Reliable estimates can optimize turbine layout and loading, thereby reducing capital expenditures (CAPEX) and minimizing operational costs (OPEX) through better loads and maintenance planning.

Real-World Example

Well over 200 customers rely on WindSim for software enabling bankable reporting. One example is the Fosen project in Norway, with a total investment of 11 billion NOK. Originally it was not seen as profitable. But in 2016 the decision to build the project was made, based on three reasons - all related to wind conditions, see facsimile Teknisk Ukeblad below. Micrositing using WindSim software was one of the reasons for the investment decision, ultimately leading to a strong real-world profitability - being "bankable".

"Fosen Vind was Europe's largest onshore wind power project when construction started in 2016. The project comprised of six wind farms with a combined capacity of 1,057 MW. Statkraft was responsible for the project execution and our Wind & Site team did extensive simulations with WindSim to secure an optimal turbine layout, both with respect to maximize the power production and to limit the loads on the turbines."

Rolf-Erik Keck

Wind Resource Analyst

Wind & Site, Statkraft A/S

FOSEN VIND DA - STATKRAFT

Norge får Europas største vindkraftanlegg: Derfor snudde Statkraft

AV: JANNICKE NILSEN | VINDKRAFT | PUBLISERT: 23. FEB. 2016 - 07:49

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Statkraft, TrønderEnergi og Nordic Wind Power DA går sammen om å bygge Europas største landbaserte vindkraftanlegg i Midt-Norge.

Avtalen utløser investering av rundt 11 milliarder kroner i seks vindparker på til sammen 1000 MW.

Ble først skrinlagt

Det opprinnelige Fosen-Snillfjord-prosjektet ble skrinlagt i juni i fjor, fordi Statkraft mente prosjektet ikke var lønnsomt. Etter voldsomme reaksjoner, blant annet fra Stortinget, snudde Statkraft, og Statkraft, Agder Energi og NTE ble enige om å vurdere å utrede utbyggingsplanene på nytt.

Sammenlignet med det opprinnelige Fosen- Snillfjord-prosjektet har kraftproduksjonen økt mens kostnaden har gått ned, melder Statkraft.

Tre årsaker til snuoperasjon

- Vi ønsker ikke være spesifikke på tall. Men vindkraftprosjektet vi har nå er det desidert beste av alle våre prosjekter i hele Skandinavia. Ingen andre prosjekter er i nærheten av å være bedre kostnadsmessig, sier konsernsjef Christian Rynning-Tønnesen i Statkraft til Teknisk Ukeblad.

– Dere skrinla Fosen-utbyggingen i juni i fjor. Hvordan kan dere nå konkludere stikk motsatt, og både øke kraftproduksjonen og redusere kostnadene så kort tid etter?

– Det er tre grunner til det. Det ene er at vi fikk lov til å foreta mer av utbyggingen på 1000 megawatt lengre nord for Trondheim på Fosenhalvøya, hvor det er bedre vindforhold. Det andre er at vi fikk flere konsesjonsgitte vindkraft-prosjekter å velge i mellom, etter avtale med Trønder Energi og Nord-Trøndelag Elektrisitetsverk. Dermed fikk vi tatt det beste ut av en pott på 1600 megawatt.

– Den tredje årsaken er at vi har et teknisk samarbeide med Vestas om best mulig plassering av turbiner i terrenget, inkludert billigst mulig veiutbygging, oppsummerer Rynning-Tønnesen til Teknisk Ukeblad.

Facsimile from Teknisk Ukeblad 23. February 2016

Ready to learn more?

When used by qualified personnel, WindSim software consistently delivers results and reports that meet the standards of financial institutions — making them bankable. Contact us to learn more or schedule a meeting at sales@windsim.com or consulting@windsim.com.