



WIND ENERGY: REALISING THE FULL POTENTIAL

ECOFYS

*Profitable and sustainable solutions
for project developers*

Wind energy: realising the full potential

Wind power is already playing a critical role in our economic, environmental and energy future. Right now, thousands of wind turbines around the world are producing emission-free power for households and industry, making wind energy one of the most cost-effective and reliable ways to reduce CO₂ emissions and secure a sustainable energy supply. Yet we are only just beginning to realise its full potential.

Turbines are becoming ever more powerful and wind energy is being generated in previously inaccessible areas: in deeper offshore waters, at higher altitudes and in more remote areas. But wind energy is also crossing new regulatory frontiers, meeting grid constraints and attracting new forms of finance and new investors.

We have been in the wind energy business since 1984, constantly extending the frontiers of what's technically feasible and economically viable. We have provided crucial consultancy services that have enabled pioneering projects such as the Princess Amalia offshore wind farm to succeed. So maybe it is time you took a look at Ecofys, an experienced wind-power innovator. We offer you:

- an independent partner for your wind projects
- international experience combined with a local presence in countries around the globe
- quality services covering wind resources, technology, grids, legal aspects and permits
- a strong network and access to institutions that can financially support your activities
- unique and innovative solutions.

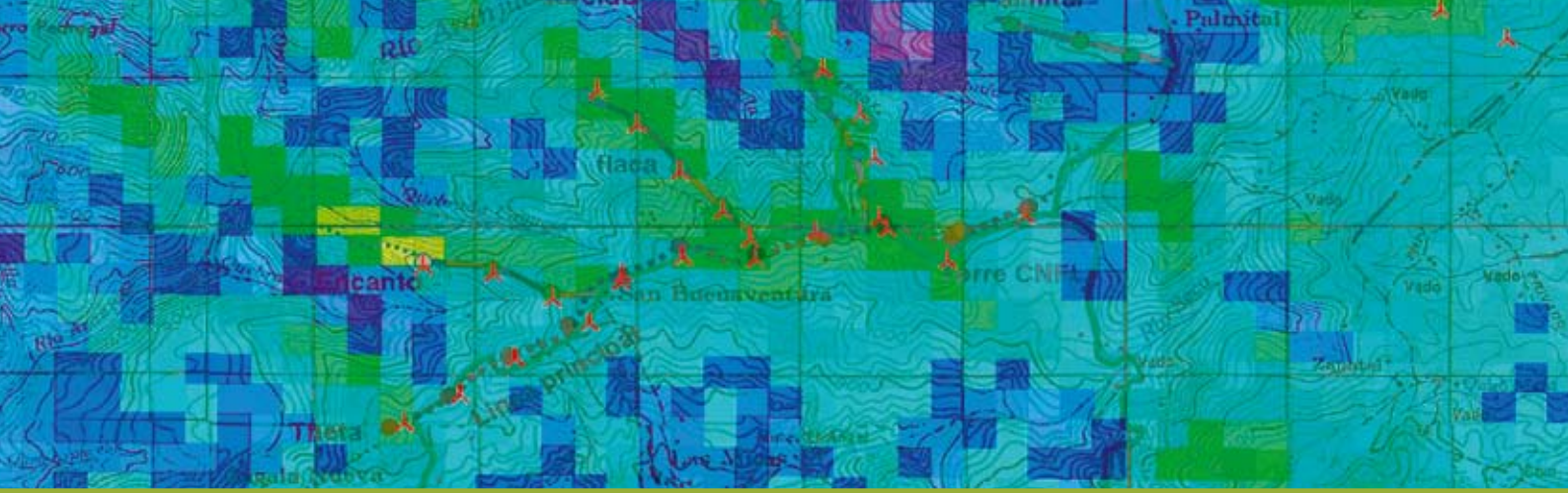


Due diligence for wind farms on Sicily

Ecofys specialises in providing due diligence services to investors, developers, owners, operators and banks. We offer a rapid response and high quality services, including:

- a second opinion on energy output calculations at the feasibility stage
- assessment and validation of wind resource studies
- assessments of wind turbine technology and technical risks
- evaluation and diagnostics of power performance
- financial, contractual and legal matters reviews.

For example, Ecofys carried out technical, economic and permit-related due diligence studies for an Italian bank which was considering providing finance for two wind farms on Sicily. We also performed on-site inspections during construction, covering the site, foundations, installation and grid connection.



Assessing the viability of an onshore wind project in Costa Rica

Ecofys regularly carries out onshore wind resource assessments around the globe. For example, in close cooperation with a local partner, we were engaged in extensive pre-feasibility and feasibility studies for the Costa Rican National Energy and Light Company's 8 MW wind farm at San Buenaventura, including:

- wind measurements in a variety of locations and at different altitudes
- detailed modelling and yield predictions
- a grid integration study and
- an Environmental Impact Assessment.

Teamwork approach

Our experts have long experience of tackling the technological and organisational challenges of wind projects, providing unique solutions. We have extensive international experience and our network is second to none.

That is why we are able to add so much value to wind projects, both onshore and offshore. Independent and entrepreneurial, we offer reliability and 'bankability': banks regularly provide loans on the basis of our studies and analyses.

We are good at what we do and good at bringing stakeholders together, recognising that this is a people's business. We are willing to share risks and we get the job done on schedule for a quality-based fee. We offer high-level services and the reassuring experience of working with expert partners.

Our clients include:

OFFSHORE AIRTRICITY • BARD • BELWIND • DARWIND • ENECO • ENERGIEKONTOR • EUROPEAN COMMISSION • EVELOP • MARAKALLEN VINDBRUK
PLAMBECK • SENTERNOVEM • SHELL/NUON (NOORDZEEWIND) • SIEMENS • STATOILHYDRO • SUSTAINABLE ENERGY ISLAND • TENNET
Q7 HOLDING • UMWELTKONTOR

ONSHORE CW WATERLAND • DELTA ENERGY • DELTARES • DUTCH MUNICIPALITIES • EDF • ENECO NEW ENERGY • EVELOP • GROWIND BV
KOEGORSPOLDER CV • KOOP • MAESTRALE GREEN ENERGY • NIBC • PROVINCE OF NOORD-HOLLAND • TENNET • TRIODOS • VATTENFALL EUROPE
WIND LIFE ENERGY • WINWIND

Moving the frontiers through continuous innovation

Achieving the full potential of wind energy requires more than just hard work, it also requires creativity. Creativity in new technologies, in project finance and in the way wind development companies interact with stakeholders. We combine a solid reputation with just such a creative approach, which is why we can take projects through to completion where others struggle to find solutions.

We were one of the first companies to adopt the revolutionary Sodar technology for wind measurements, onshore and offshore (nowadays, we use both standard anemometer equipment and Lidar technology). We have contributed to the design of 4.5 MW direct-drive offshore wind turbines and onshore turbines for urban environments. We also successfully introduced the concept of consumers participating financially in wind farm projects, thus increasing public acceptance.

Our visualisations and animations of wind farms have contributed to a more realistic understanding of the impact of wind farms for stakeholders and objectors alike. Our visual impact assessments are acknowledged for their accuracy and reliability.



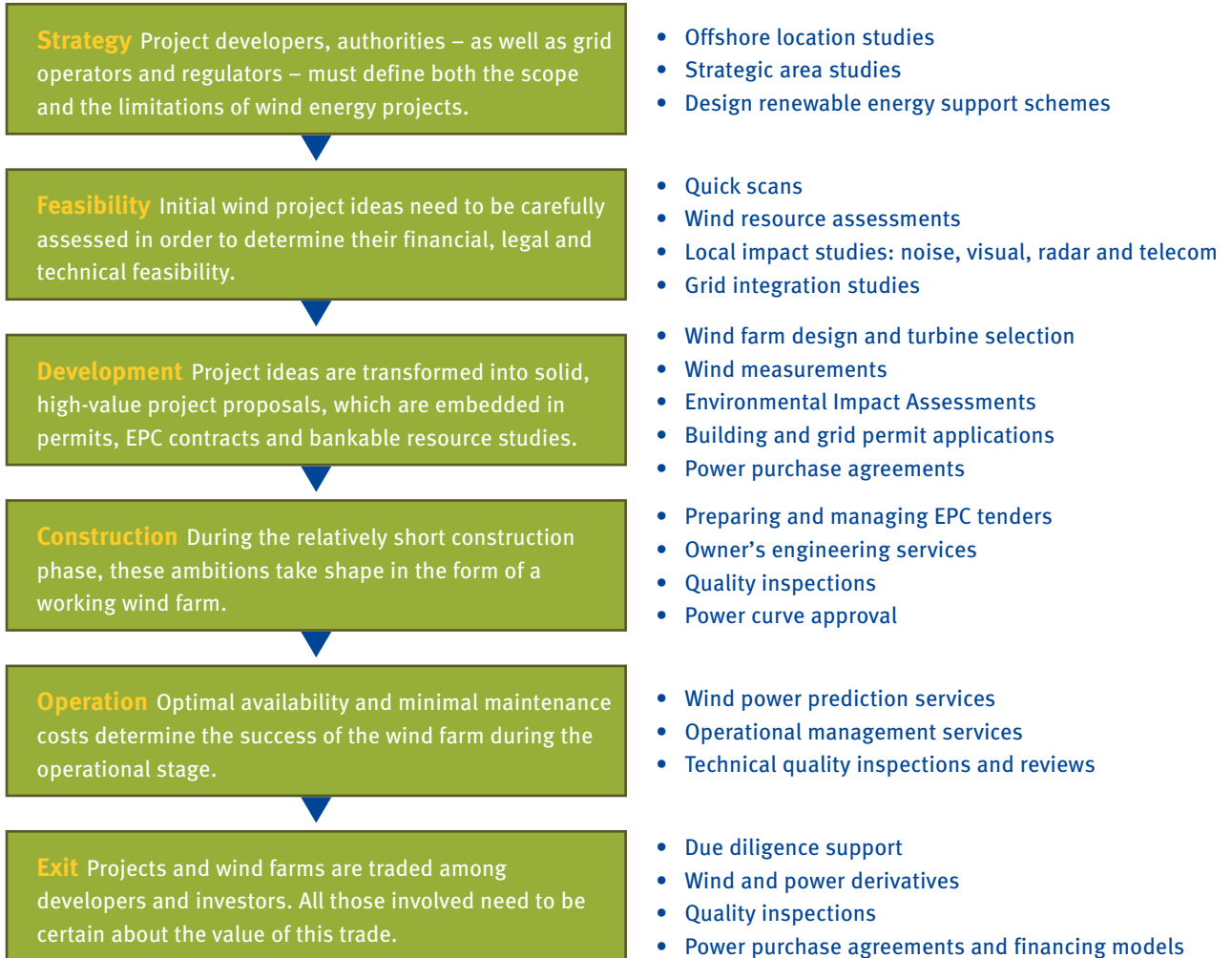
Predicting yields and wind patterns for the Princess Amalia wind farm

The Princess Amalia offshore wind farm, which started operation in November 2007, is located further from the coast (23 km) and in deeper water (19 - 24 m) than any other offshore wind farm. Sixty turbines will deliver a total capacity of 120 MW. Our contribution includes:

- accurate wind yield calculations (the basis for financing the project)
- permits, sound measurements and environmental assessment
- advanced animations (the wind farm can be seen on Google Earth)
- ensuring solid foundations, quality pile-driving, plus effective construction and laying of power cables
- daily wind power projection services, enabling the windfarm to operate seamlessly within the client's energy programmes.

Your business – our solutions

Wind power is not harnessed over night. Ecofys can help you to fully harvest its potential, while at the same time safeguarding the interests of all stakeholders. We have the necessary experience and knowledge to be able to support project developers, investors, as well as other stakeholders at each stage of the project life cycle.



Total project support for Scira

Since 2000, Ecofys has made a major contribution to a large number of offshore wind energy projects off the Dutch, Belgian and UK coasts. For example, we provided technical project management and specialist services to a highly successful, cost-effective North Sea wind power project 20 km off the Norfolk coast. Scira Offshore Energy is developing a 315 MWe offshore wind farm (90 wind turbines). Our contribution includes:

- wind resource studies
- Environmental Impact Assessment
- grid integration studies
- wind farm layout design
- visualisation, animation, communication support
- operation & maintenance models and analysis.

This visualisation shows the future wind farm



Ecofys is a leading company in the field of sustainable energy services and innovations

To find out how Ecofys can help you achieve your ambitions, please contact us.
For a complete overview see www.ecofys.com.

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