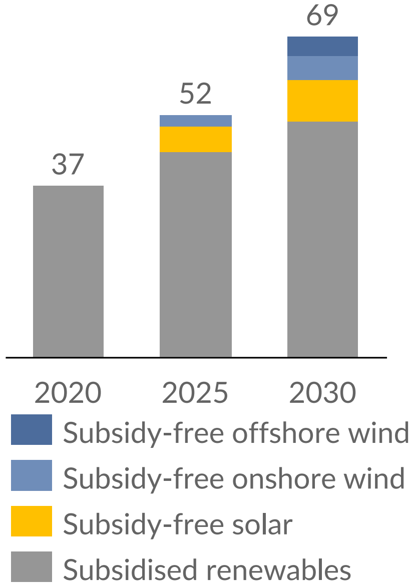
Introduction to Aurora's

GB Renewables Service

Market analysis and forecasts for offshore wind, onshore wind and solar

The rise of merchant risks and subsidy-free business models is rewriting the rules of renewables investment

GB renewable capacity potential, GW, estimated



Investment in renewables is rapidly becoming more merchant:

- Sustained cost declines unlock the potential for subsidy-free build-out; 2017 saw first unsubsidised GB projects
- With no subsidies available, merchant models are the only route to deployment for onshore wind and solar
- Competition drives offshore wind CfD auctions down, increasing significance of merchant tails
- First subsidised assets approach the end of support period

This is a big challenge to investors, who need to understand and quantify increasingly complex price risks

It also fosters innovation – revenue-stacking, battery co-deployment and long-term PPAs can provide the critical edge

The prize is big: Aurora sees more than 30 GW of new subsidised and subsidy-free RES by 2030 – an ~£40bn investment opportunity

New business and financing models are emerging fast

Aurora can provide quantitative answers to the key questions

Understanding the opportunity

- How big is the investment opportunity in subsidy-free wind and solar?
- Which RES business models become investible first?
- When do they become investible at scale?
- What are the key regulatory and market risks?

Analysing the market impact

- How will subsidy-free build-out affect capture prices, including for subsidised assets?
- How will batteries, interconnectors, EVs and turn-up DSR affect price cannibalisation?
- How high are the balancing costs in a RES-dominated world?

Making the economics work

- How big will be the corporate PPA market and how best to hedge?
- How much value can renewable projects derive from ancillary, balancing and EFC capacity markets?
- What are the opportunities for pairing with batteries, and are they scalable?

Financing the projects

- How much debt can merchant projects sustain and at what rates?
- What price curves should be used for financing, and how low can capture prices go if key risks materialise?
- What is the realistic upside and equity case of subsidy-free projects?

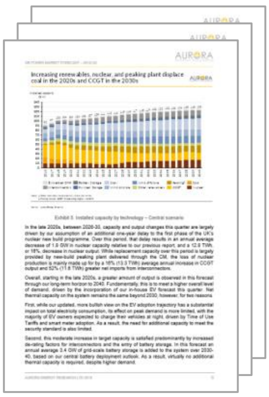
Introduction to Aurora's

GB Renewables Service

Market analysis and forecasts for offshore wind, onshore wind and solar

What's included in the subscription package?

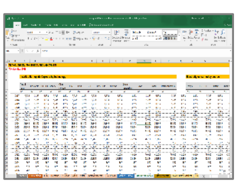
1 GB Renewables Market Forecast, published twice a year



- Forecasts of wholesale prices and capture prices until 2040, and other revenue streams: embedded benefits, ROCs, balancing mechanism, and ancillary services revenues accessible by renewables
- Regional capture prices and embedded benefits, ready to use in asset valuations and for financing cases
- All forecasts under High and Low ("break-even") scenarios, including lower bound income forecasts for financing cases
- Impact of P10/P90 weather years on prices and revenues, reflecting negative correlation between load factors and capture prices
- Expected volumes and prices for future CfD rounds
- Forecasts of imbalance costs and subsidy cut-offs
- Market updates, policy review and outlook plus projection of technology cost and performance
- Investment case analysis for different subsidy-free business models for offshore wind, onshore wind and solar, including pairing with batteries and revenue stacking

All intelligence to build a successful renewables business, based on bankable price forecasts

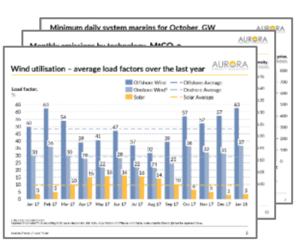
2 Granular forecast data in Excel, published twice a year



- Full forecast dataset in Excel until 2040 including:
  - Wholesale price forecast, capture prices by technology and region
  - ROC and CfD prices, capacity market, balancing market, ancillary services prices
  - All under various scenarios including lower bound case
  - All relevant cost projections: CAPEX, OPEX, imbalance prices & subsidy cut-offs
  - Detailed investment case data for various subsidy-free business models

Giving you everything you need to build your own investment case

3 Monthly market summaries



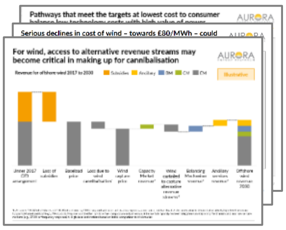
- Monthly summaries on key performance parameters of the GB market to put market results into perspective, to assist management in staying on top of developments
  - *GB Wind Performance Summary:* monthly snapshot of financial and operating performance for individual wind farms
  - *GB Power System Performance Summary:* key operating characteristics for the GB power system like demand, fuel mix and capacity margin

Introduction to Aurora's

GB Renewables Service

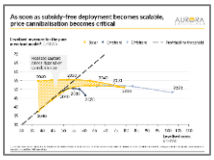
Market analysis and forecasts for offshore wind, onshore wind and solar

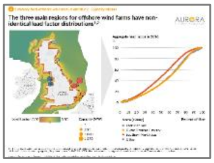
4 Strategic insight reports



- Regular in-depth analysis offering unrivalled insight on critical topics for the GB renewables industry – prepared in connection with the Group Meetings
- Planned topics to be covered:
  - *How low can capture prices go? Understanding merchant risks in subsidy-free world*
  - *Additional revenue stream from participation in balancing mechanism and ancillary services markets*
  - *Co-location business models for wind and solar with battery storage*
- At least two reports are published per annum

5 Group Meeting participation





- Our subscribers participate in our regular Group Meetings to discuss highly relevant topics to the industry, and network with other industry participants
- In collaboration with our subscribers, we select the topics, prepare in-depth analysis, present our views and implications, and invite participants to challenge them
- Future meetings are planned on (indicative):
  - *Design of Equivalent Firm Capacity (EFC) auctions and prospects for additional revenues for renewables*
  - *De-risking strategies for merchant price risk and the development of a corporate and utility PPA market*
- Participants will include leading offshore wind, onshore wind and solar developers, renewables-focussed investment funds, financiers, grid operators as well as government
- At least two meetings are held each year in London

6 Analytics and data platform EOS

AURORA EOS

- Access to detailed historical and real-time GB wind farm and other market data
- Data includes output, load factors and capture prices on all large wind farms and other large power stations, power price and commodity price data
- Data can be viewed, charted and downloaded

7 Bilateral meetings & analyst support

- Bilateral workshops with senior members and subject experts of Aurora' team to discuss Aurora's analyses and views on the market
- Short-notice support by our analysts on questions arising from our research

8 Invitation to Aurora's annual Spring Forum

- In our by invitation-only annual Spring Forum in Oxford industry leaders discuss the challenges of the energy industry of tomorrow
- Keynote speakers of our 2018 Forum included Claire Perry (Minister for Energy, BEIS), Magnus Hall (CEO, Vattenfall) and Alastair Phillips-Davies (CEO, SSE)

For more information and pricing, contact
Sebastian Just, Head of Commercial
Aurora Energy Research

sebastian.just@auroraer.com
+44 (0)7827 810 656
2-3 Cambridge Terrace, Oxford OX1 1TP