

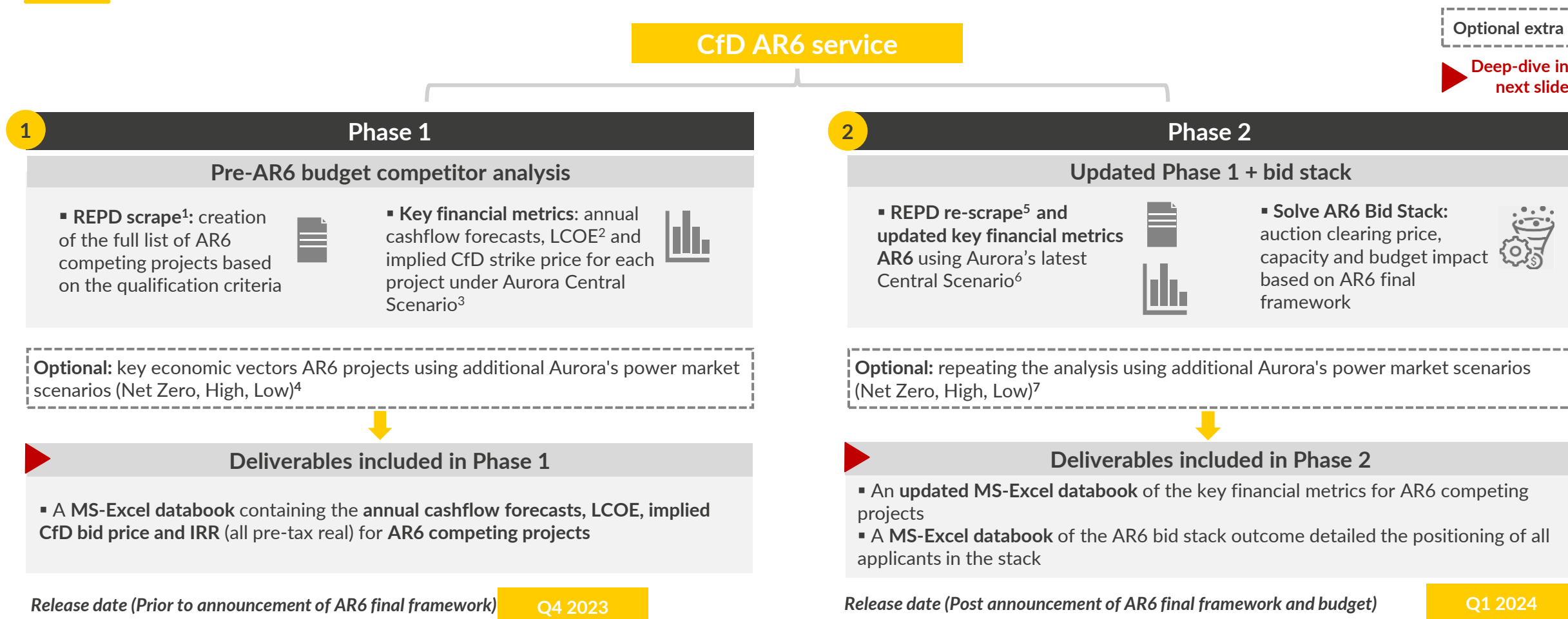
# Competitor Analysis for CfD AR6

September 2023



- I. Aurora's offering
- II. Fees
- III. Aurora credentials

# The **CfD AR6 service** will provide a robust competitor analysis on Allocation Round 6 to inform potential eligible projects on optimal bid strategies



This service will be using **Aurora's wind valuation software**  **AMUN** to calculate asset-specific wind revenue forecasts

1) Aurora will use 2023 Q3 Renewable Planning Database (REPD) release to generate the list of competing projects for AR6. 2) Levelised cost of energy. 3) Aurora's Central Scenario from Q4 2023, October release. 4) Aurora Q4 2023, October release. 5) Aurora will use 2024 Q1 Renewable Planning Database (REPD) release to generate the list of competing projects for AR6. 6) Aurora's Central Scenario from Q1 2024, January release. 7) Aurora Q1 2024, January release.

# Summary of Aurora's CfD AR6 Competitor Analysis deliverables

## Deliverables included in Phase 1

- The MS-Excel databook will include the following results:

### List of input criteria for all AR6 projects<sup>1</sup>

Criteria	Description
Project name and developer	As listed in the REPD <sup>2</sup>
Capacity and technology	As listed in the REPD
Location (post code) and Eligibility	As listed in the REPD
Transmission or Distribution and zone	From project planning application
Existing CfD AR4 <sup>3</sup>	As listed in the REPD
CAPEX, Fixed O&M, Variable O&M	Function of the technology, Aurora Central view
Project life and hurdle rate/WACC	Function of the technology, Aurora Central view

### Key economic vectors

Economic vector per MW of project	Unit	Aggregation of forecast (all annual)
Annual generation <sup>4</sup>	MWh	Forecast per applicant
Annual capture price <sup>4</sup>	£/MWh	Forecast per applicant
Annual Wholesale market revenue	£/MWh	Forecast per applicant
Annual REGOs <sup>5</sup> revenue	£/MWh	One REGOs forecast for Aurora Central
Annual Balancing Mechanism revenue	£/MWh	Forecast per technology
Annual Capacity Market revenue	£/MWh	Forecast per technology
Annual embedded benefits	£/MWh	Forecast per applicant
Annual network charges	£/MWh	Forecast per applicant
Annual imbalance costs	£/MWh	Forecast per technology
Annual ORPS <sup>6</sup> revenues	£/MWh	Forecast per technology
Annual cash flows - fully merchant	£/MWh	Combined annual cashflows per project
Annual cash flows - CfD	£/MWh	Combined annual cashflows per project

### Financial metrics for all AR6 competing projects<sup>1</sup>

Key financial output	Unit
LCOE <sup>7</sup>	£/MWh
Implied CfD bid price	£/MWh
IRR if fully merchant	%
IRR if CfD	%

1) Aurora will be considering the main technologies applicable in Pot 1 AR5: Solar PV, Onshore wind, Offshore wind, Remote Island Wind and Floating Offshore Wind. 2) Renewable Planning Database (REPD). 3) Fixed offshore wind projects that received AR4 CfD contracts and could pull out of AR4 will be included in the competing project list. 4) Calculated for each onshore and offshore wind project using Aurora's AMUN tool; Solar PV projects will be aggregated into 10 unique solar regions for calculating these vectors. 5) Renewable Obligation. 6) Obligatory Reactive Power Service. 7) Levelised cost of electricity.

## Deliverables included in Phase 2

Phase 2 deliverables will include:

- An updated MS-Excel databook of the key financial metrics as shown on the left-hand side of this slide
- A MS-Excel databook of the AR6 bid stack outcome detailing the positioning of all applicants in the stack as below:

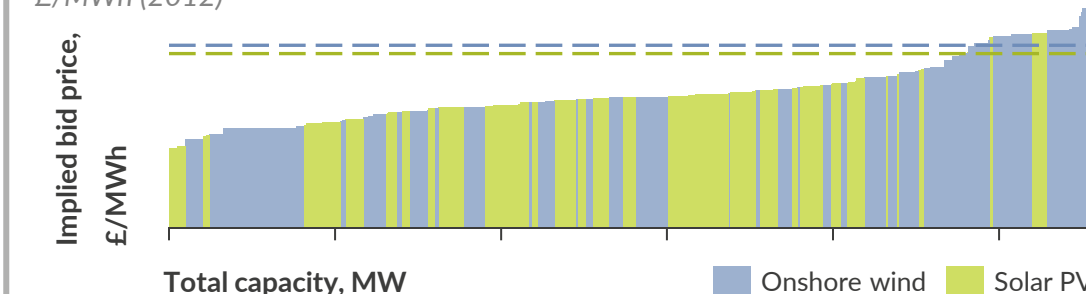
### Overview of bid stack outcome (illustrative)

#### Pot 3 bid stack detail, AR4, Aurora central case

Project scenario	Technology	Operator	Site name	Capacity	Eligibility	Implied bid price	Success	IRR if under CfD	IRR if fully merchant	LCOE
				MW		2012 £/MWh	2012 £/MW %	%	%	£/MWh
Aurora central	Offshore wind					Data redacted				
Aurora central	Offshore wind									
Aurora central	Offshore wind									
Aurora central	Offshore wind									
Aurora central	Offshore wind									
Aurora central	Offshore wind									

#### Pot 1 bid stack capacity vs price, AR4, Aurora central case

£/MWh (2012)





# AMUN The #1 wind valuation software

Amun delivers bankable asset-specific revenue forecasts for wind assets in minutes

**Power your key decisions:** Amun combines your unique asset profile with Aurora's detailed, tried and tested price data

**Valuing the biggest portfolios in the world:** Amun is used on the largest wind transactions in the world, including Hornsea One

**Relied on and used by industry leaders:** Amun enables you to identify the hidden bankable value in wind assets

**Save time:** Amun does everything consultants do, instantly, whenever you need



## Intuitive 4-step process:

Select your  
wind data

Select your  
turbine data

Select your  
scenario

Analyse  
your result

## What can Amun be used for?



Transactions



Site Selection  
& Optimisation



Portfolio  
Valuation



PPAs

Trusted by  
industry leaders:

equitix

acciona

ONTARIO  
TEACHERS'  
PENSION PLAN

Statkraft

mirova  
Investing in sustainability

IMCO  
Investment Management  
Corporation of Ontario

GLOBAL  
INFRASTRUCTURE  
PARTNERS

GREENCOAT  
CAPITAL

ESB

BELLTOWNPOWER

INFINERGY

Foresight  
FOR A SMARTER FUTURE

BARCLAYS

BLACKFINCH

CIP  
Copenhagen Infrastructure Partners

BLACKROCK

low  
carbon

enel

OW  
OCEAN WINDS

NTR

Orsted

ENERGY  
INFRASTRUCTURE  
PARTNERS

edp  
renewables  
powered by nature

BANKS  
Group

Vestas

Peel L&P  
ENERGY

Eurus Energy

MACQUARIE

Green  
Investment  
Group

Shell

amp

# Contents

---

I. Aurora's offering

II. Fees

III. Aurora credentials



# Our proposal for the CfD AR6 Competitor Analysis service

**Subscriber discount:** All quoted prices below include an Amun subscriber discount. Amun can be added for **£20,000 per year** for non-subscribers if purchased with the options below.

Package	Scenario	Product Scope	Release product date	Fees (excl. VAT)
Phase 1	Aurora Central	AR6 competing project list, annual cashflow forecasts, LCOE and CfD strike price for each project	Q4 2023	£20,000
Phase 2	Aurora Central	Final AR6 competing project list, final annual cashflow forecasts, LCOE and CfD strike price for each project, AR6 bid stack and clearing price	Q1 2024	£20,000
Phase 1 + Phase 2	Aurora Central	Product Phase 1 Product Phase 2	Phase 1 – Q4 2023 Phase 2 – Q1 2024	£30,000
Optional Add-on	Aurora High, Low and/or Net Zero	Repeating the analysis using additional Aurora's power market scenarios	Phase 1 – Q4 2023 Phase 2 – Q1 2024	£8,000 per additional scenario per product

- **Optional Add-on Example:** £8,000 will be charged for each additional scenario run per product. For example, £8,000 will be charged for running Phase 1 under Aurora High and an extra £8,000 for running Phase 2 under Aurora High scenario
- Please contact [pio.pius@auroraer.com](mailto:pio.pius@auroraer.com) for any queries on the scope, fees or Amun subscription

# Contents

---

I. Aurora's offering

II. Fees

III. Aurora credentials



# Amun: Supporting winning bidders in offshore auctions & tenders

- Used by 30+ leading offshore wind players
- The benchmark software behind major offshore auction wins
- Identifies all additional hidden bankable value in projects
- Select proprietary turbine technology and quantify the upside
- Expert support from our Amun analysts
- Precision calibration with measured site data or energy yield assessments



# A global benchmark trusted by industry leaders



**Vestas**



**CORIO**

**INFINERGY**

**Jera**



**Ørsted**

**BLACKROCK**

**bpi**france

**amp**



**BANKS**  
Group



**Foresight**  
FOR A SMARTER FUTURE



**Triodos Bank**



octopusenergy



**MARTIFER**  
GROUP



**AMUN**

50+ subscribing companies  
across 17 markets

Supports the largest  
transactions globally

Values the biggest wind  
portfolios

Underpins major debt  
financings

Sets prices for wind  
PPA deals

Used by leading developers  
for site selection and  
optimisation

# Aurora provides market leading forecasts & data-driven intelligence for the global energy transition

A U R  R A

Power markets



Renewables



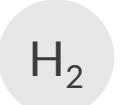
Storage



Electric vehicles



Hydrogen



Carbon



Natural gas



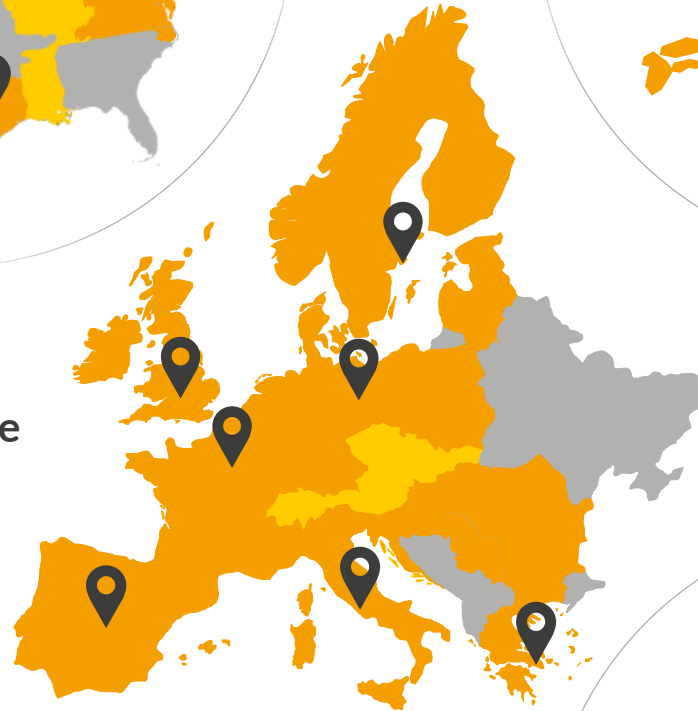
United States



Japan



Europe



Australia



 Regular detailed coverage  Analytics on demand



**11 Offices**

Oxford | Berlin | Madrid | Athens  
Paris | Rome | Stockholm | Sydney  
Austin | Oakland | Tokyo



**330+**  
market experts

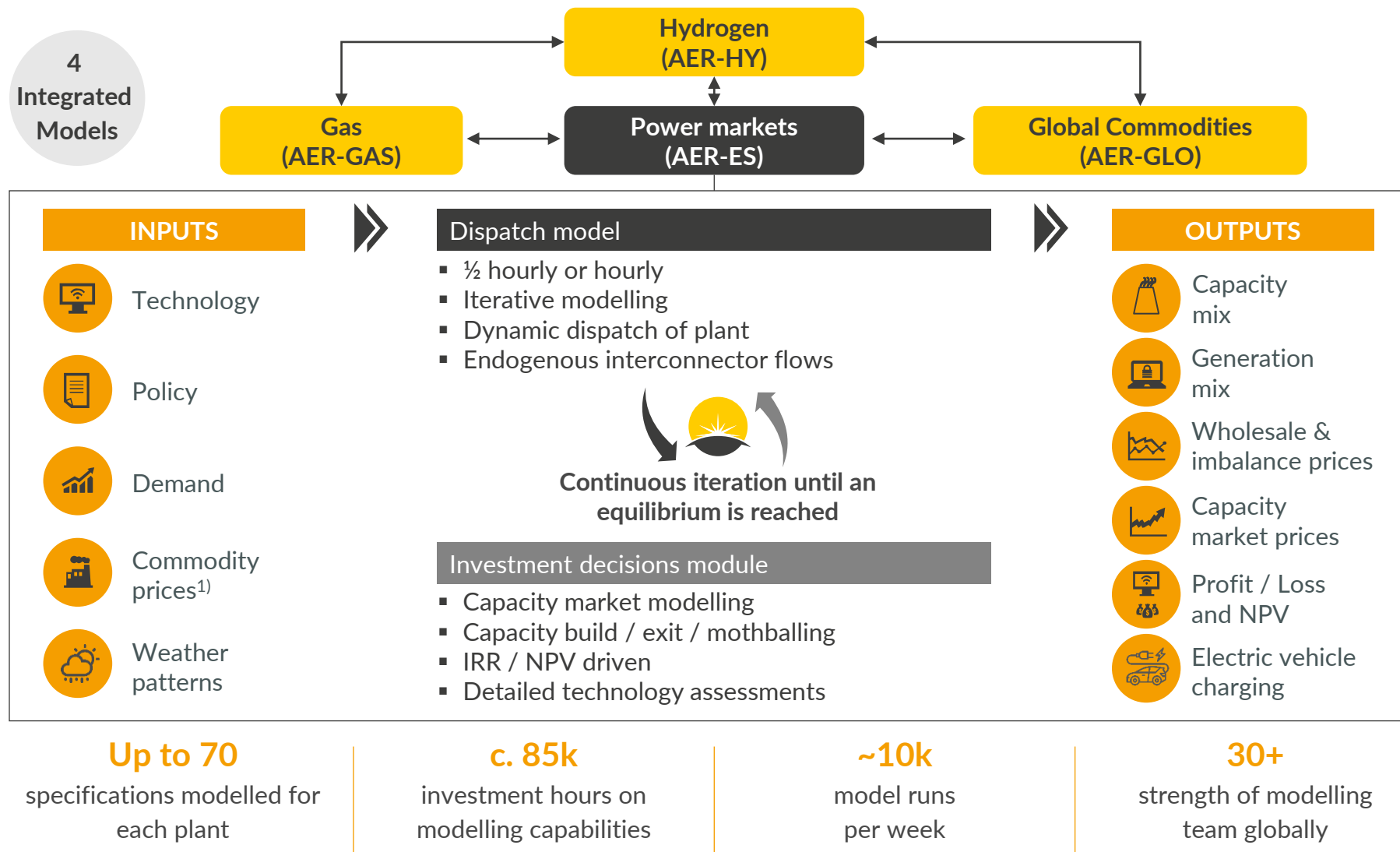


**600+**  
subscribing companies



**120+**  
transactions supported in 2021

# Unique, proprietary, in-house modelling capabilities underpin Aurora's superior analysis

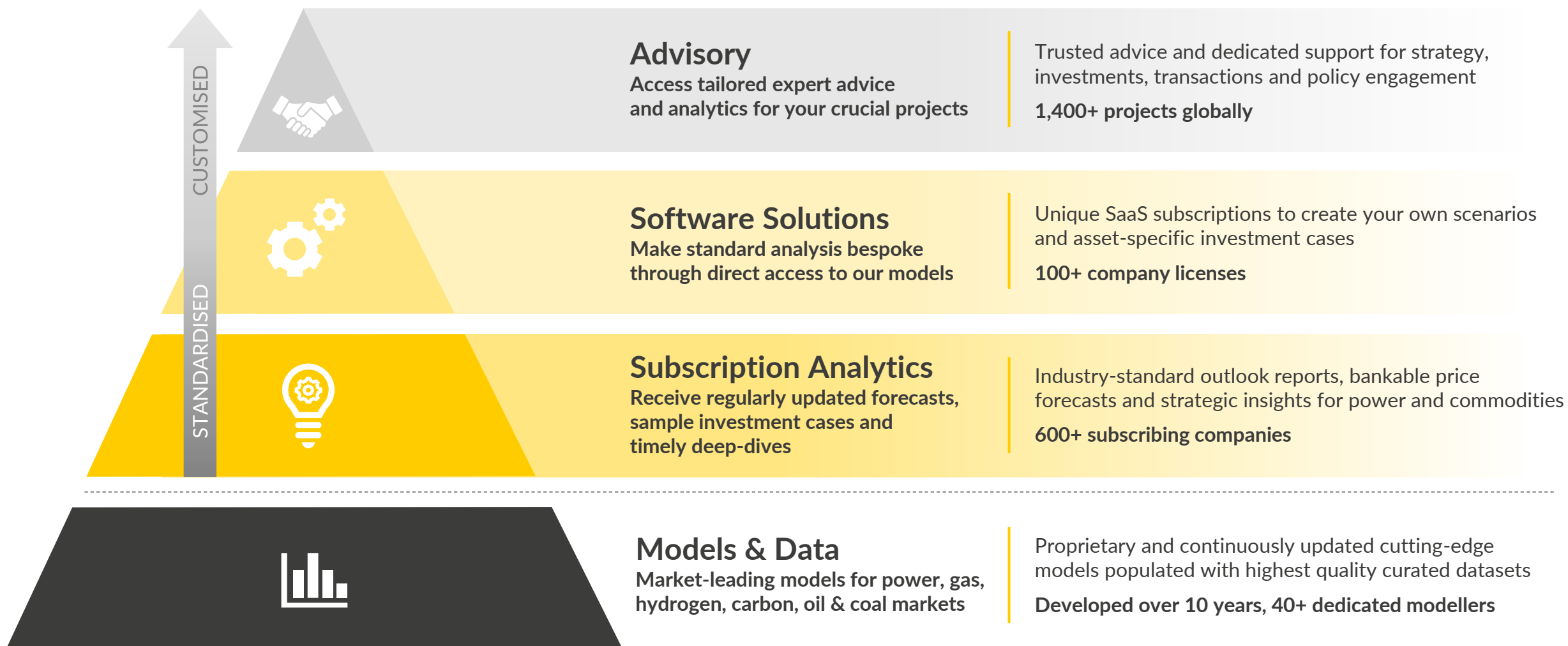


## Advantages of Aurora approach

- Aurora have invested heavily in developing our dispatch models since 2013 and believe they are the most sophisticated available
- Our models have been rigorously tested and refined in a wide range of client contexts
- Flexible and nimble because we own the code
- Transparent results
- State-of-the-art infrastructure
- Zero dependence on black-box third-party software (e.g. Plexos)
- Constantly up to date through subscription research
- Ability to model complex policy changes quickly

1) Gas, coal, oil and carbon prices fundamentally modelled in-house with fully integrated commodities and gas market model

## Our market-leading models underpin a comprehensive range of seamlessly integrated services to best suit your needs





# We work with a very broad range of clients ... their constant challenge keeps us up on our toes and ensures our independence



"With its capabilities, intellect and with its credibility Aurora plays an essential role bringing the dialogue [in the global energy transition] to a different plane."

Ben van Beurden, CEO, Shell



"Aurora analysis and the provision of reliance was crucial for our debt funding. Their ability to explain market logics and revenue streams was vital for this successful financing."

Jeremy Taylor, Director, Green Frog Power



## Power & utilities



## Oil & gas



## Energy consumers



## Project developers



## Financial sector & investors



## Policy & regulation



## Our clients tell us there are five areas in particular where we distinguish ourselves from our competitors



### Analytical rigour and objectivity

- Independence is hard wired into our operation: we give the balanced answer, not the convenient one
- Our business combines industry-standard subscription reports with cutting edge bespoke consultancy services, providing all-encompassing analyses



### Dedication to wholesale markets

- We are Europe's largest dedicated wholesale power market analytics company
- Executive and board level commitment to this strategy means no distractions from the core business



### In-house modelling

- We own our own power and commodities models and do not rely on black box third-party models
- Our model is highly sophisticated and continuously enhanced and tested



### Centre of the industry

- Our annual flagship event, the Aurora Spring Forum, is the meeting point for energy industry seniority
- Our broad subscriber base encompasses all facets of the energy industry



### Close proximity to policy

- We are well-connected with policy makers, government and industry leaders who keep us updated on upcoming and unexpected policy amendments
- Our directors are advisors to the government further strengthening our relationship



*"Aurora Energy Research is, I think, one of the smartest energy modelling companies around, and helped us on this Energy Outlook and continue to help us"*

Spencer Dale, Chief Economist, BP



*"We have worked with Aurora in various occasions and value their in-depth forecasts and analysis. It helped to support our understanding of the UK electricity market."*

Guillaume Leprieur, Director, MUFG





---

## General Disclaimer

This document is provided "as is" for your information only and no representation or warranty, express or implied, is given by Aurora Energy Research Limited and its subsidiaries Aurora Energy Research GmbH and Aurora Energy Research Pty Ltd (together, "**Aurora**"), their directors, employees agents or affiliates (together, Aurora's "**Associates**") as to its accuracy, reliability or completeness. Aurora and its Associates assume no responsibility, and accept no liability for, any loss arising out of your use of this document. This document is not to be relied upon for any purpose or used in substitution for your own independent investigations and sound judgment. The information contained in this document reflects our beliefs, assumptions, intentions and expectations as of the date of this document and is subject to change. Aurora assumes no obligation, and does not intend, to update this information.

## Forward-looking statements

This document contains forward-looking statements and information, which reflect Aurora's current view with respect to future events and financial performance. When used in this document, the words "believes", "expects", "plans", "may", "will", "would", "could", "should", "anticipates", "estimates", "project", "intend" or "outlook" or other variations of these words or other similar expressions are intended to identify forward-looking statements and information. Actual results may differ materially from the expectations expressed or implied in the forward-looking statements as a result of known and unknown risks and uncertainties. Known risks and uncertainties include but are not limited to: risks associated with political events in Europe and elsewhere, contractual risks, creditworthiness of customers, performance of suppliers and management of plant and personnel; risk associated with financial factors such as volatility in exchange rates, increases in interest rates, restrictions on access to capital, and swings in global financial markets; risks associated with domestic and foreign government regulation, including export controls and economic sanctions; and other risks, including litigation. The foregoing list of important factors is not exhaustive.

## Copyright

This document and its content (including, but not limited to, the text, images, graphics and illustrations) is the copyright material of Aurora, unless otherwise stated.

**This document is confidential and it may not be copied, reproduced, distributed or in any way used for commercial purposes without the prior written consent of Aurora.**

AURORA



ENERGY RESEARCH