

CfD: ‘Where are we now, where might we go?’

9th July 2024

Logistics

Recording

Session will be recorded.
Slides and recording will
be circulated shortly

Mute and cameras

We will keep all
participants on mute with
cameras off



Questions welcomed
throughout, we will answer
them all at the end

Duration: 60 mins

With plenty of time for
questions.

Topics we'll cover

- 01 Overview of LCCC's role
- 02 CfD regime
- 03 Allocation Round 6
- 04 Evolving the CfD
- 05 New Schemes

LCCC overview





Why are we here?

Our mission is...

“...to shape and implement schemes which enable low-carbon investment at least cost to the consumer”

Our vision is...

“...to accelerate the delivery of net zero”

Our Guiding Principles are to:

- maintain investor confidence
- minimise costs to consumers

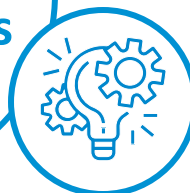
LCCC has delivered...

£61.4bn
investments



We will have mobilised investment in new low carbon projects (up to AR5 projects)

12
technologies



Technologies supported by the CfD, which enables investment in both nascent and mature technologies

11
Hydrogen
production projects
that LCCC are a
counterparty



CfDs to account for 125MW from Hydrogen allocation round 1

407

Capacity providers,
from a diverse range
of technologies



Capacity Market provides security of supply

239
Renewable
electricity
contracts

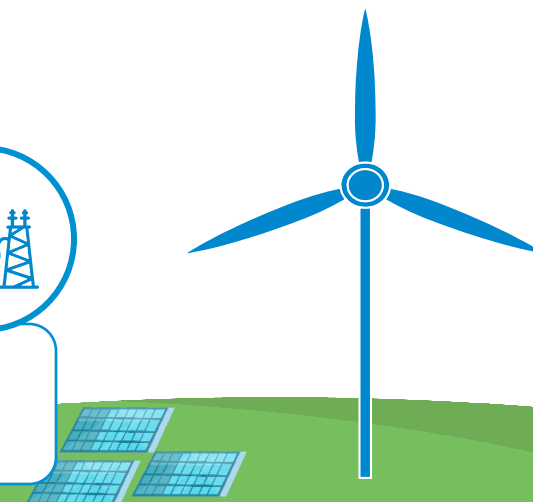
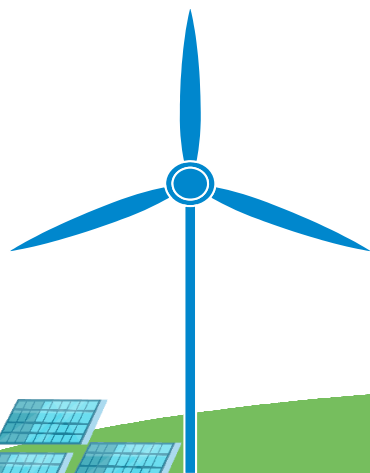


CfD contracts under management (excl. H2)

~30%
GB energy
demand



By 2030 if all CfDs generating (AR4) and 120TWh energy generated annually



Overview

The roles we play...

Today – our current schemes:

- Independent Counterparty to the low carbon electricity Contracts for Difference (CfD) scheme
- Settlement Body for the Capacity Market scheme
- CfD counterparty (Hinkley Point C)
- Counterparty to first Hydrogen Production contracts

Tomorrow – we are working with industry to develop and implement schemes where we are the counterparty to:

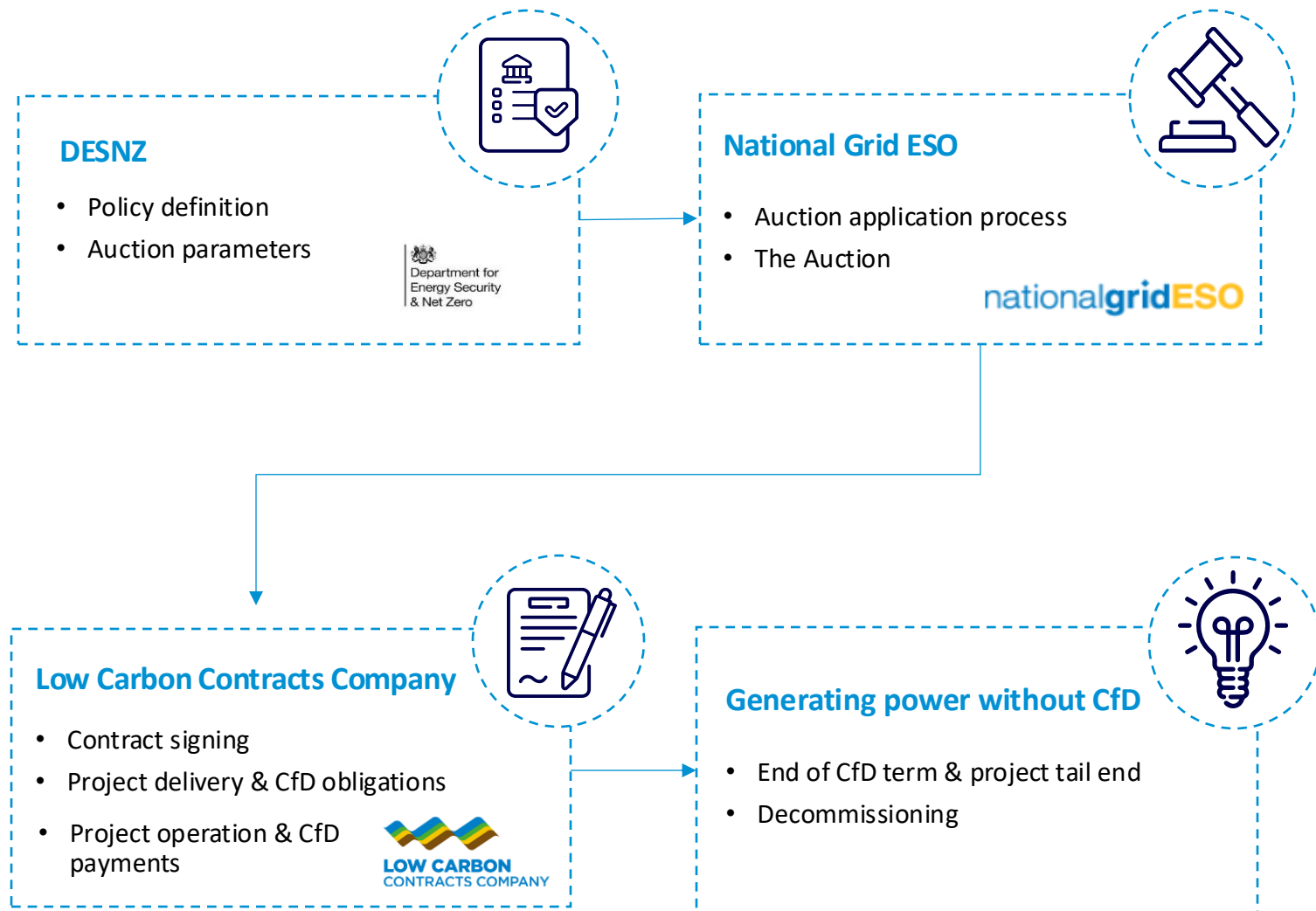
- Industrial Carbon Capture Usage and Storage (CCUS)
- Energy-from-Waste CCUS
- Dispatchable Power Agreement (power CCUS)
- Settlement body for Nuclear Regulated Asset Base (Sizewell C)

Key characteristics of the CfD

- CPI indexed
- 15-year revenue stability
- LCCC have levy raising powers reducing counterparty risk
- Supported by legal provisions and protections (i.e. force majeure, change in law)
- Quoted as “the gold standard” by the investor community
- Supporting new technology – AR5 (2023) welcomed geothermal and tidal stream energy generation into the UK’s portfolio



Roles & responsibilities



CfD regime



Contracts for Difference (CfD)



Designed to:

1. Provide efficient and cost-effective price stabilization by reducing exposure to the volatile wholesale electricity price
2. De-risk investment and provide price certainty for generators over the contract length (15 years)



Outcome:

Renewables now account for over 40% of all UK electricity generation, up from 7% in 2010 – due to government policy interventions i.e. CfD to drive investment



Offshore wind



Solar



Advanced Conversion Technologies



Onshore wind



Biomass Conversion



Nuclear



Remote Island wind



Dedicated Biomass with CHP



Tidal



Floating Offshore wind



Energy from Waste with CHP



Geothermal




CfD Portfolio







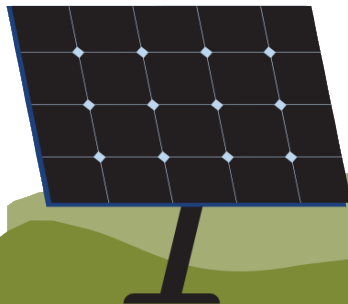
Solar Energy

Illuminating the path to Net Zero

112   
CONTRACTS
Number of contract agreements
awarded up to AR5

  
3.72GW
The contracted capacity up to AR5




0.02GW
   
Amount of Solar PV currently
operating under CfDs






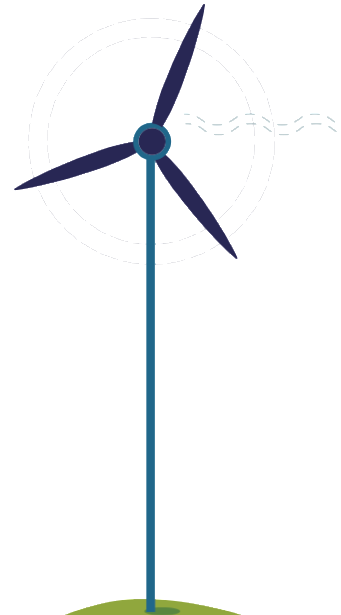
Remote Island Wind

Harnessing power to Net Zero

9   
CONTRACTS
Number of contract agreements
awarded up to AR5

  
0.98GW
The estimated contracted capacity
delivered up to AR5




  
Amount of Remote Island Wind currently
operating under CfDs







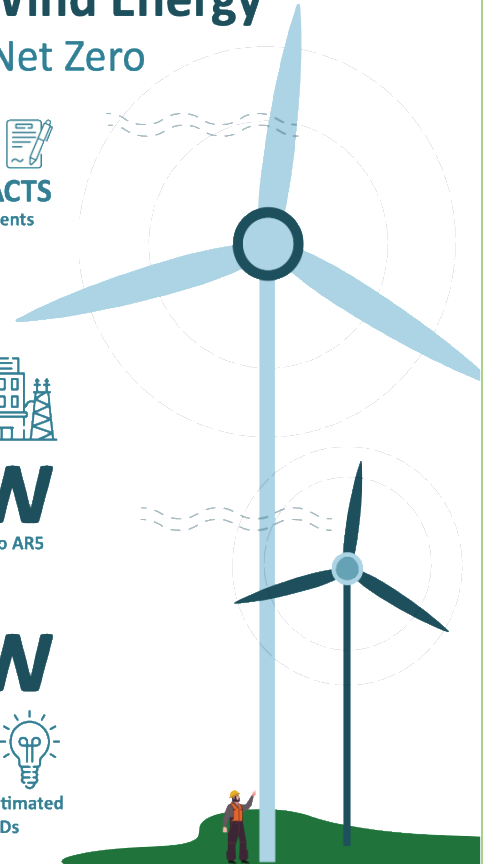
Onshore Wind Energy

Channeling Net Zero

46   
CONTRACTS
Number of contract agreements
awarded up to AR5

  
2.8GW
The contracted capacity upto AR5

2.8GW
   
Amount of onshore wind estimated
capacity operating under CfDs




Some of the World's Largest Offshore Wind Farms have CfDs




Offshore Wind Energy

Harnessing the power of Net Zero

47 
CONTRACTS
Number of contract agreements awarded up to AR5


17.1GW
Estimated contracted capacity up to AR5


6.9GW
Amount of offshore wind capacity currently operating under CfDs

Hornsea Two: world's largest operational offshore windfarm - **1.3GW** (August 2022) – **89km** off Yorkshire coast

Hornsea One: world's second largest operational offshore windfarm – **1.2GW** (May 2019) – Approx. **75km** off Yorkshire coast

Dogger Bank Offshore Wind Farm: **3.6GW** (2025, AR3) Currently the world's largest offshore wind under construction (3 phases) – **130km** off Yorkshire coast

Hornsea Project Three: **2.1GW** (2028, AR4) – **120km** off Norfolk coast



Floating Offshore Wind

Powering Net Zero

1 
CONTRACT
Number of contract agreements awarded up to AR5

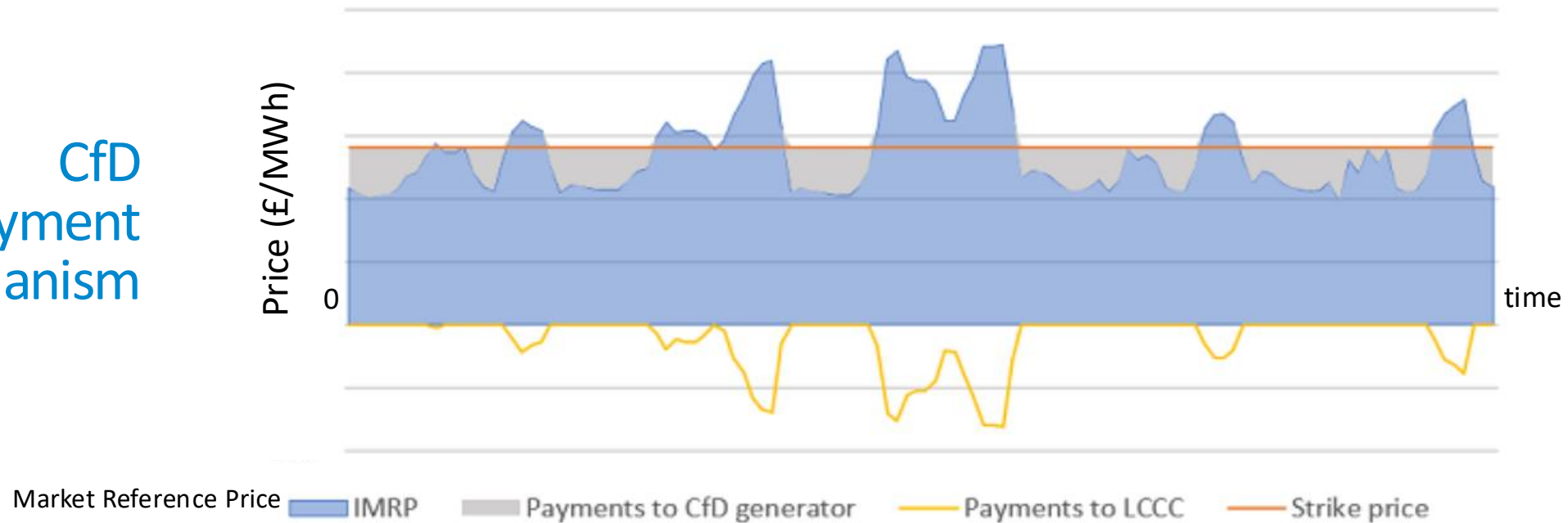

32MW
The contracted capacity up to AR5



TwinHub Floating Offshore Wind farm: **32MW** (2027, AR4) - **16km** off the coast of Hayle in Cornwall.

How the CfD scheme works

CfD Payment mechanism



Generators receive (or pay back) a £ per Megawatt-hour (MWh) value based on the difference between a wholesale market reference price and the strike price

Strike price = pre-agreed price for production of low carbon electricity

Market reference price = traded wholesale market electricity price used as a reference for any top-up value to the generator

- **Funded through a supplier obligation on electricity suppliers mandated by UK Government regulation**

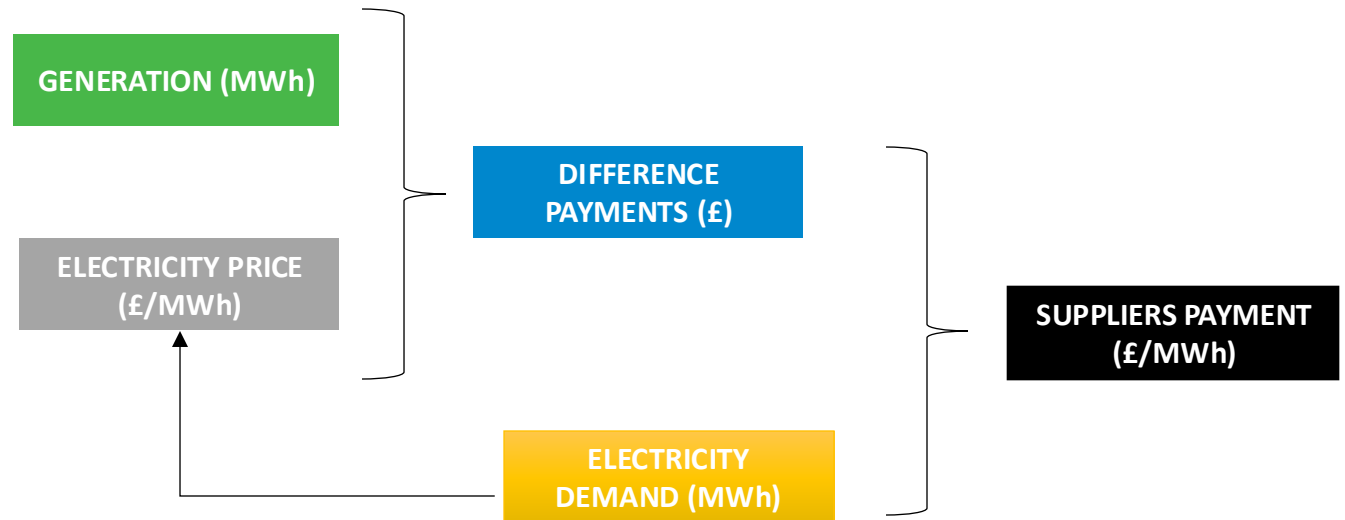
We forecast supplier costs each quarter

- LCCC must **forecast** or “determine” the scheme’s cost and give notice to suppliers ahead of a given quarter
- LCCC is a **not-for profit**; aiming to collect only the required funds to ensure generator payments are met
- Effective forecasting provides greater certainty for suppliers and by extension **reduces costs for consumers**
- In addition, LCCC provides a 24 months advanced forecast



*LCCC must determine payments and notify every active electricity supplier roughly **3 months ahead of the quarter***

What do we forecast?





AR6

Budgets, ASPs and more

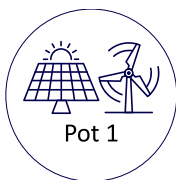
CfD AR6 Core Parameters

Summary of Pot Structure, Delivery Years and Administrative Strike Prices

The Government has published the core parameters for **Allocation Round 6 (AR6)** of the **Contracts for Difference (CfD)** scheme alongside the **Administrative Strike Prices**, pot structure and **delivery years**.

2026/7

2027/8



Pot 1

Pot 1 - reflects the fact that solar and Onshore wind can build faster

2027/8

2028/9

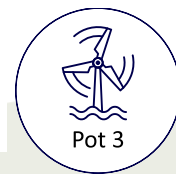


Pot 2

Pot 2 - a later delivery year compared with Pot 1 to reflect slightly longer build-out times.

2027/8

2028/9



Pot 3

Pot 3 - as with Pot 2, later delivery years to reflect the longer build-out times.

Technology

AR6 Final ASP £/MWh

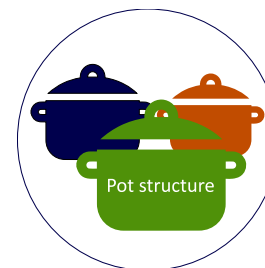
Onshore Wind	64
Solar PV	61
Landfill Gas	69
Hydro	102
Energy from Waste	181
Sewage Gas	162
Remote Island Wind	64

Advanced Conversion Technologies	210
Anaerobic Digestion	144
Dedicated Biomass with CHP	179
Geothermal	157
Floating Offshore Wind	176
Tidal Stream	261
Wave	257

Offshore wind	73
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*The strike prices announced are the maximum a developer can bid

*Delivery years represent the earliest point at which projects can receive their CfD payment



Pot structure

AR6 will feature a three-pot structure with offshore wind returning to its own pot. This decision reflects the strong pipeline of projects ready to participate in AR6.

Year 2030
50GW
offshore wind

AR6 will adopt a three-pot structure, isolating offshore wind due to a substantial project pipeline. The aim is to support the UK's diverse renewable technologies and achieve the goal of up to 50GW of offshore wind, including 5GW of floating offshore wind, by 2030.

AR6 budgets

Total budget: £1.025 billion

Pot 1: Established Technologies	Pot 2: Emerging Technologies	Pot 3: Offshore Wind
E.g. Solar and onshore wind	E.g. Floating offshore wind, tidal stream and geothermal	E.g. Offshore Wind
£120m	£105m	£800m
<ul style="list-style-type: none">Budgetary maximums of £120m each for onshore wind, solar and remote island wind	<ul style="list-style-type: none">Ringfenced budget of £10m for tidal streamBudgetary maximum of £8m for geothermal	<ul style="list-style-type: none">Budgetary maximums of £800m each for 'permitted reduction' and new offshore wind projects

What does that mean?

Budgetary maximums

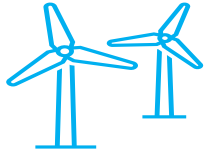
Ringfenced budget

Permitted reduction

Evolving the CfD



CfD Sustainable Industry Reward overview



Offshore wind & floating
offshore wind CfDs **only**



SIR Minimum standards

- Mandatory for all generators (OSW & FOSW).
- Minimum Standards are required to enter the subsequent Allocation Round.
- Parameters to be *determined by DESNZ – set in the SIR Allocation Framework. (Likely £/GW criteria)*
- *Submission ~7/8 months before the CfD AR*
- Under-delivery subject to **penalties**. proportionate to how far the recipient is below the minimum standard.

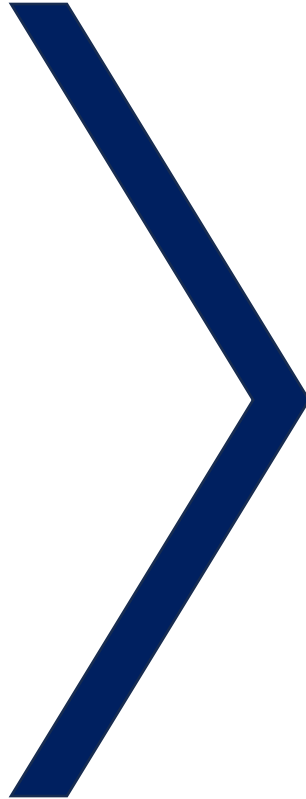


SIR commitments auction

- SIR commitment auctions take place ~4months before a CfD AR.
- The commitments are on top of the minimum standards.
- Not mandatory for participation in CfD AR.
- Proposals will be ranked based on **quality** (60% weighting) and **cost** (40% weighting) criteria.
- Highest-ranking proposals draw from the budget first, until the budget is fully used up.
- Effectively a top-up payment for delivering additional SIR criteria

SIR Consultation November 2023

- 1 Deprived areas
- 2 SMEs
- 3 Project carbon-intensity
- 4 Supply-chain sustainability



Government Response March 2024

- 1 **Shortening supply chains, in deprived areas in the UK**
Example: investment in a port or tier 1 manufacturing capacity close to development zones
- 2 **Investments in more sustainable supply chains, anywhere in the world**
Example: sourcing blades from a tier 1 supplier that complies with science-based sustainability targets, even if that's not the most cost-competitive option.
- 3 **Combination of both**

Evolving the CfD

REMA

Review of electricity market arrangements



Review of metering arrangements

To enable colocation of solar and battery assets



Pot structure

Continually reviewing and evolving the pot structure to support technologies



CfD indexation

Reviewing if CfD indexation should be revised to better reflect inflation risk.



Repowering – Onshore wind

‘Decommissioning and recommissioning of the existing site, incurring similarly high upfront capital costs to that of a new build’



Strengthening non-delivery incentives

Providing incentives to operationalise and deliver projects



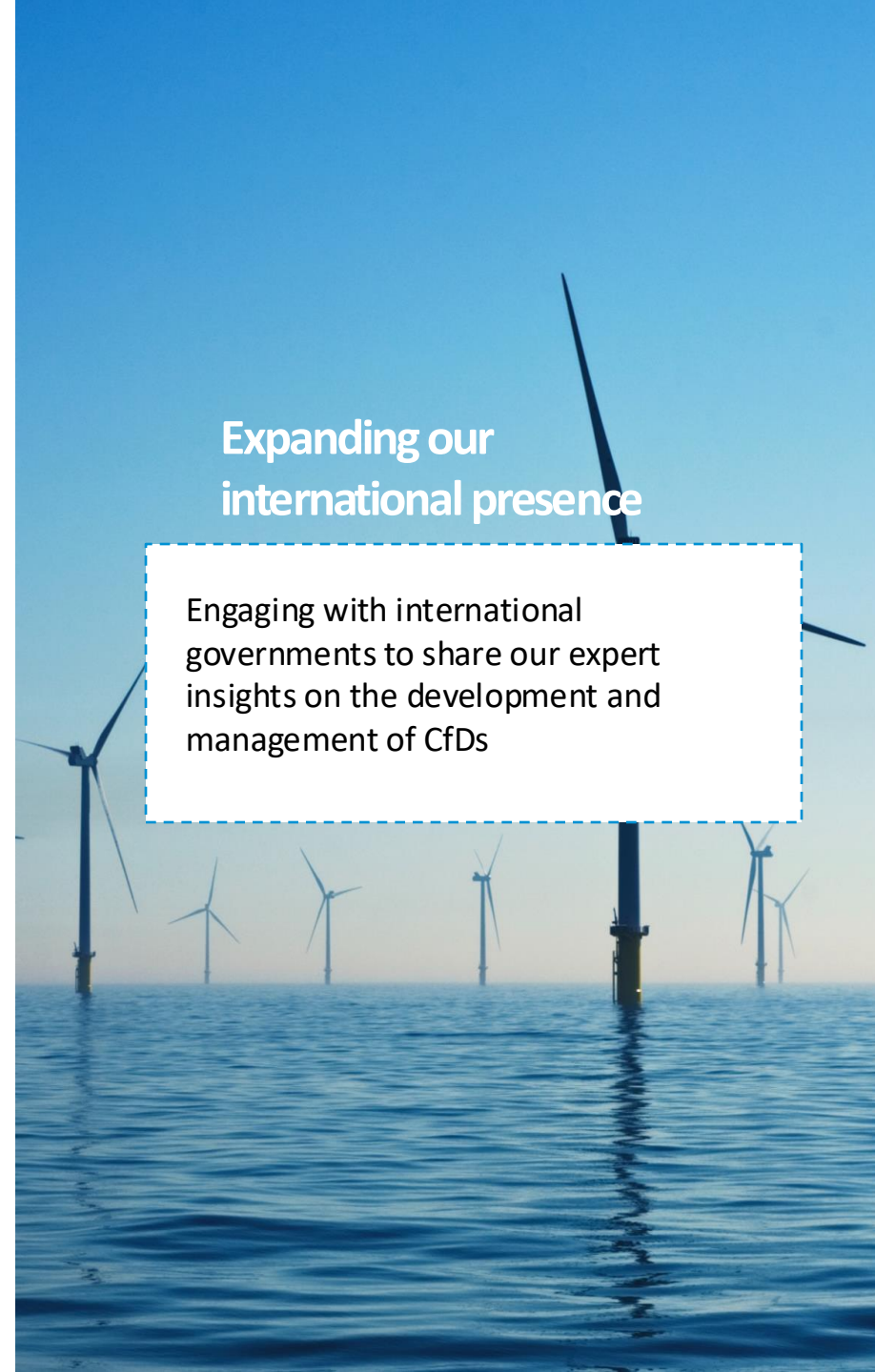
Macroeconomic factors

Ensuring the CfD continues to deliver against wider international challenges



Expanding our international presence

Engaging with international governments to share our expert insights on the development and management of CfDs





New Schemes

Current/future work

Preparing & Implementing

- Hydrogen Production (LCHA)
- Industrial/Waste Carbon Capture
- Dispatchable Power Agreement
- Regulated Asset Base for New Nuclear
- Revenue Support Agreement for Carbon Capture
- Power bio-energy with Carbon Capture (power BECCS)

Advising

- Hydrogen Certification
- Hydrogen Levy
- Hydrogen Storage
- Hydrogen Transport
- Hydrogen Competitive Allocation
- Engineered Greenhouse Gas Removals
- Sustainable Aviation Fuels
- Northern Ireland Renewables

Other opportunities

- Nuclear small/advanced reactors
- Long duration electricity storage
- Hydrogen to power
- Renewables Obligation to fixed price certificates
- Dispatchable Power Agreement competitive allocation
- Industrial/Waste Carbon Capture competitive allocation



Any questions...



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Thank you



Have further questions?
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