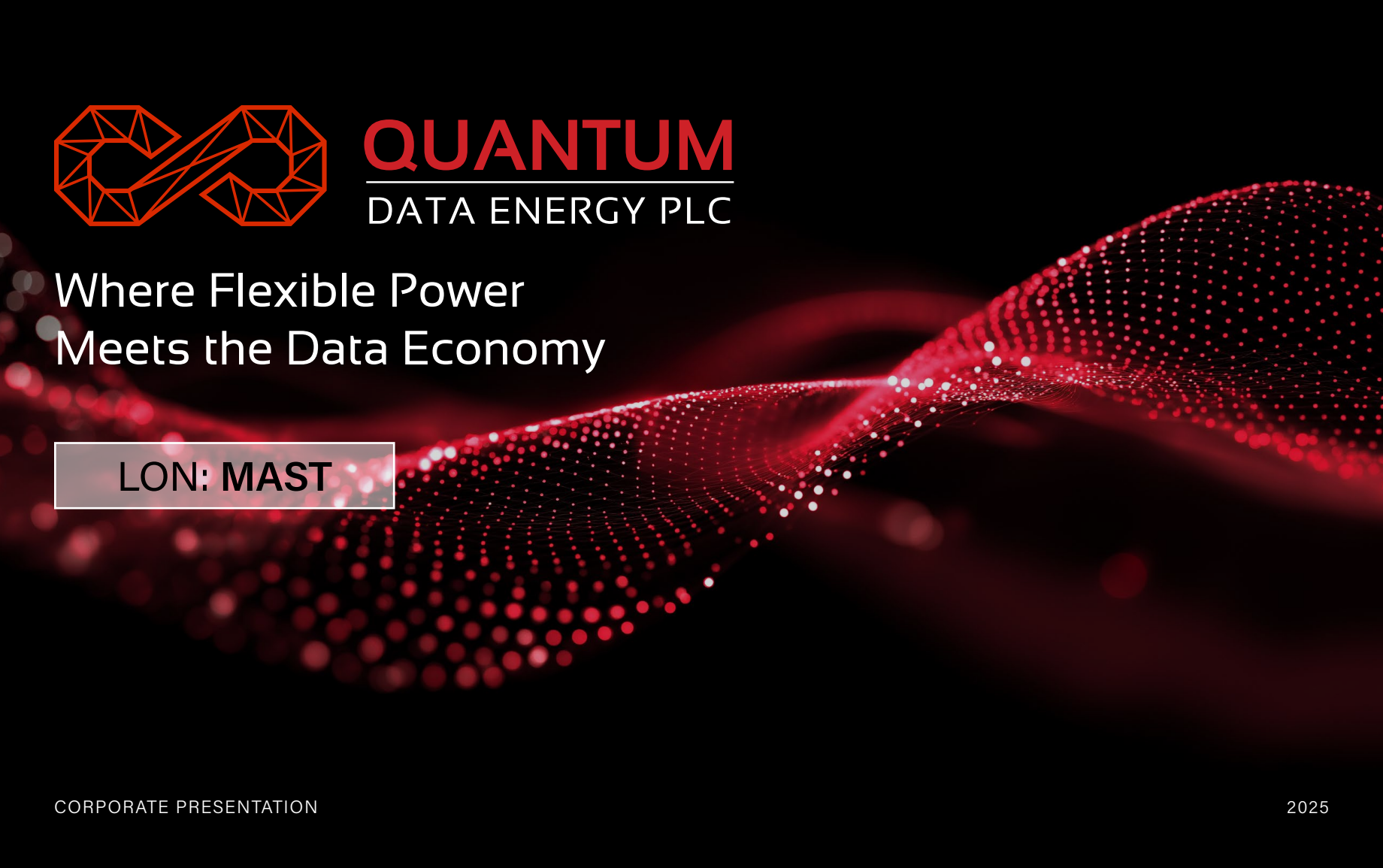

QUANTUM
DATA ENERGY PLC
Where Flexible Power
Meets the Data Economy
LON: MAST
CORPORATE PRESENTATION
2025

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# Artificial Intelligence (“AI”) Datacentre Power Supply Strategy Target of 1 GW

AI demand is surging across all sectors, exemplified by ChatGPT processing about 2.5 billion prompts daily—a scale Google took over a decade to reach, achieved in under two years.



## AI Datacentres Drive Growth

Rapid AI expansion is powered by datacentres with critical demand for stable, reliable electricity.



## Government Support

The UK aims to be a global AI leader, targeting a 20× increase in public AI computing capacity by 2030.



## Major Investment Momentum

OpenAI, Nvidia, and BlackRock plan significant UK datacentre investments.



## Power Opportunity

UK datacentre demand is set to quadruple to ~8 GW by 2030 — positioning MAST to be a key power provider fueling the nation’s AI revolution.

# The QDE Solution

## Powering the AI Era with Scalable Energy Infrastructure

Over the next 36 months, QDE plans to develop, acquire, and operate 1 GW of AI power campuses across the UK — representing approximately 12% of projected national AI datacentre demand by 2030. Each project will be deployed in modular 25–50 MW blocks, allowing rapid scalability and localised grid support.

### Core Business

Developer, operator, and owner of flexible power generation assets in the UK with strong expertise in planning, grid access, and power delivery.

### Strategic Shift

Refocusing on powering the UK's rapidly growing AI datacentre sector, leveraging proven infrastructure capabilities.

### Growth Plan

Targeting 1 GW of AI datacentre power campuses within 36 months—about 12% of UK demand by 2030—through modular 25–50 MW developments.

### Vision

To become the LSE's leading AI infrastructure platform, combining power resilience with the development of integrated AI campuses.

**PHASE 1** • • • •

100 MW shovel-ready sites

—

**PHASE 2** • • • •

300+ MW across AI campuses

—

**PHASE 3** • • • •

Scale to 1+ GW pipeline

—

# Highlights

Quantum's vision is to be a leading provider of transitional energy capabilities  across multiple markets, ultimately providing dividends to investors from the energy transition.

Quantum operates modular, quick-to-cashflow Dynamic Electricity Generating (DEG) assets — including RGTs, batteries, and green gas — to balance and complement renewable power.

There is currently 8GW of active RGT assets in UK, expected to grow to 15 GW by 2040.

Most DEG assets are provided by private and PE-backed companies. We are seeking to be the leading publicly listed company in the sector.

Quantum is initially focused on growing its RGT assets to 300+ MW and will over time deploy batteries and "green gas" assets, as well as geographic expansion.





# Reciprocating Gas Turbine Electricity Generation ('RGT')

## Reciprocating Gas Turbine Electricity Generation (RGT) systems are a key part of the UK electricity grid

RGT assets are modular quick-to-cashflow electricity generating assets, to generate electricity to complement and stabilise intermittent renewable electricity generation. RGT assets are also flexible and can potentially be repurposed to use hydrogen and/or host battery storage.

### RGT assets provides two main capabilities:



Supply electricity to fill demand when there is a lull in renewable electricity generation due to volatile weather patterns

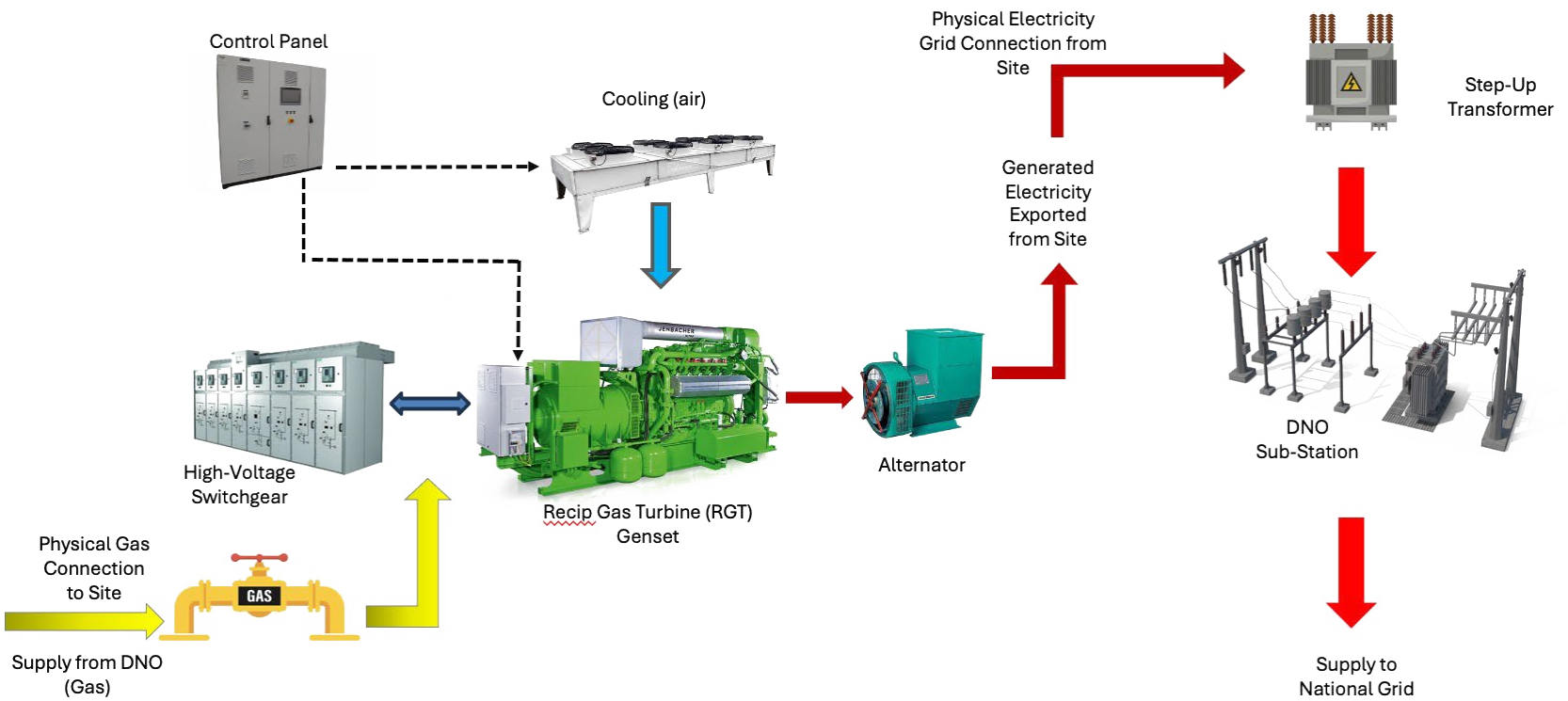


Provide electricity to maintain grid electricity balance (during times of peak demand and outages).

RGT assets generate revenues from four diversified and reliable key sources:

- **Power Purchase Agreement (PPA)**
  Generating trading revenue via PPA with Statkraft from arbitrage opportunity in electricity price volatility vs input costs
- **Embedded Benefits**
  Payments based on electricity generated (irrespective of electricity price) being delivered straight into national grid distribution system
- **Capacity Market (CM)**
  Guaranteed minimum payments from government to provide capability (capacity payment) up to 15 years
- **Balancing Mechanism (BM)**
  Additional income earned to balance the national grid when there are deficits between supply and demand

# RGT Site Schematic



# Electricity Trading Partner

Statkraft

- Founded in 1895, Statkraft is a Norwegian state-owned energy leader and Europe's largest renewable power generator, operating in 20+ countries.
- With over a century of expertise in flexible hydro and energy management, Statkraft has become a pioneer in algorithmic and real-time energy trading.
- Launched the UK's first Flex PPAs (2018) and was first to trade the Intraday market algorithmically the same year.
- Statkraft is the UK's largest real-time and flexible energy trader (2024).




**128**
Assets Contracted

**1642**
MW Contracted

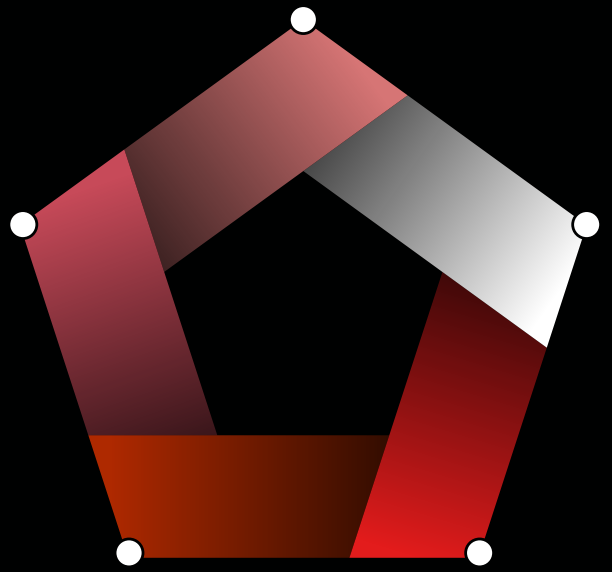
**30%**
Approx Market Share

**#1**
Portfolio Size

# Market Analysis

RGT's are expected to play a critical role in balancing the UK power system over the next 20+ years as the power system decarbonises.

RGT's are standard & modular so can be reliably deployed with highly flexible operating capabilities within a short lead time



Engines have high residual values that support asset-backed financing (with capabilities for redeployment)

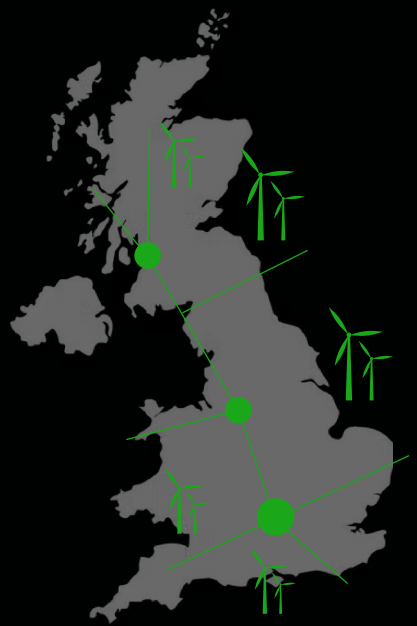
Mature engine technology with very fast ramp rates, capable of producing and delivering power up to 50% cheaper than alternatives (CCGTs)

Monetisation through liquid markets, with a significant component of longterm contracted cashflow through the Capacity Mechanism

High security of supply for the grid operators through distributed structure of despatch

# Market Analysis

Rapid response fast-ramping RGT engines have an integral role to play as one of the flexibility solutions addressing system balancing to support renewable integration.



| | ⊕ | ⊖ |
|---|---|---|
| **Demand side response** | Reduces pressure on the grid from supply side, with incentives for higher system flexibility | Consumer dependent, less reliable & limited capacity due to slow deployment |
| **Gas reciprocating engines (“recips”)** | Fast response, capable of multi-hour/ day operations to enable National Grid to manage various system needs & can generate power to support positions in wholesale power markets | CO2 emmisions, albeit for relativity short periods of operation that can be offset with carbon allowances, and higher marginal cost than traditional thermal generation used for sustained baseload running |
| **Batteries** | Very fast response time supports frequency regulation application and able to “absorb” power from the grid and dispatch power to it | Short duration with charge cycle limits restricts ability to respond to multi-hour balancing demands beyond frequency and restricts ability to perform in wholesale markets |
| **Pumped hydro** | Fast response, capable of multi-hour operation at reduced load | Limited viable resources & used for larger-scale frequency response with restricted ability to respond to short-term balancing needs |
| **Large scale conventional ramping** | Substantial existing capacity | Slowest response, relatively high CO2 emissions due to ramping needs, high capital cost & cost to manage short to medium run responses. Limited ability to provide required fast response flexible solution |
| **Interconnectors** | Greater pan-EU regional connectivity increases system flexibility | Limitedcapacity, long lead-times to construct & availability less reliable given that interconnectors respond to price signals rather than system needs |

LOWER CAPEX

HIGHER CAPEX

# Market Opportunity

## UK Capacity Market is a proxy for the market opportunity for DEG.

Capacity Market is a government-managed scheme to encourage deployment of DEG assets to ensure electricity sufficiency. The government pays DEG providers to deploy and operate DEG assets.

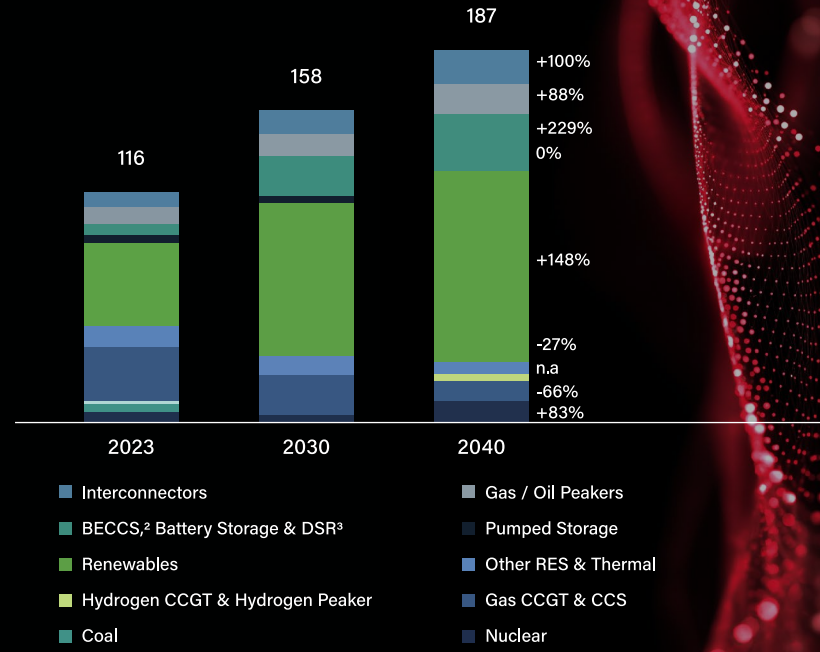
Capacity Market introduced in 2014 and since then RGT generation capacity grew from zero to 8 GW1

RGT generation capacity is expected to almost double to 15 GW by 20401 to accommodate large increase in intermittent renewables capacity (thus significant room for growth)

**Successful PE-backed players in market, notably:**

- Hartree Partners, Forsa Energy, Quinbrook, and Balance Power

UK Power Market Supply Outlook (GW)[1]



# Quantum Overview

**Invest in Operating, Low-Risk, High Return, Proven Business Model, with Scope for Significant Growth**

UK Energy Market has critical need for flexible generation, with demand to grow with 7 GW, and RGT assets are proven and attractive solution

Quantum has tested and proven first asset, with clear plan to grow portfolio

Each additional site is quick to cashflow post acquisition, and will be acquired in phases

Increasing free cashflow will enable regular dividends and distributions to shareholders of Quantum

Long-term sustainability of business model supported with diversification into alternative technologies in future, such as batteries and "green" gas

Portfolio growth will enable economies of scale, aggregated purchasing power, cost reductions, and increased profits

Ability to continue to grow total portfolio to 300+ MW

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# Revenue Model

## Power Purchase Agreement (PPA)

- Long-term PPA with Statkraft, between 7-15 years, with option to renew / extend
- Statkraft employs each site's generation in Wholesale Market Optimisation (WMO)
- Statkraft also supplies gas to each site, via Corona (UK's largest gas supply aggregator) at reduced cost (due to aggregated buying power)
- Trading strategy based on operational and commercial parameters controlled by MED
- Statkraft takes % share of trading gross margin (with % reducing over larger portfolio)

## Capacity Market (CM) Contract

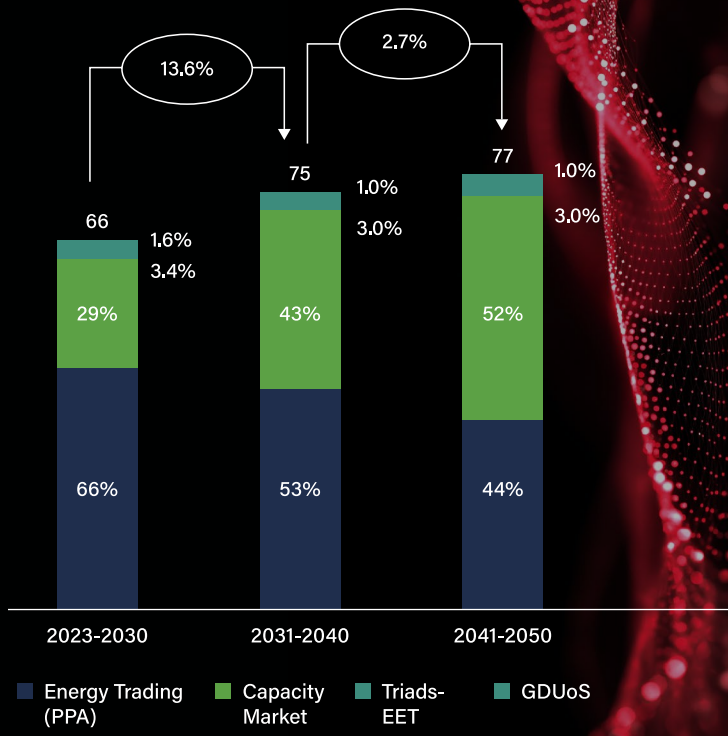
- Capacity Mechanism introduced by the UK government in 2014 in order to balance grid and sustain base-load, due to growing intermittent renewables, and planned and unplanned outages
- CM contracts are awarded to qualified generators, and each contract's tariff are determined during a formal bid auction process
- Payments are made to generators with contracted capacity on the system irrespective of whether generating or not (i.e. payments are guaranteed)
- Capacity Mechanism payments provide 15-year UK government backed index-linked income, which in aggregate covers c.80% of capex

# Revenue Model

RGT's have an attractive business case locking in a large share of contracted revenue through the Capacity Mechanism.

## Contracted / reliable margins

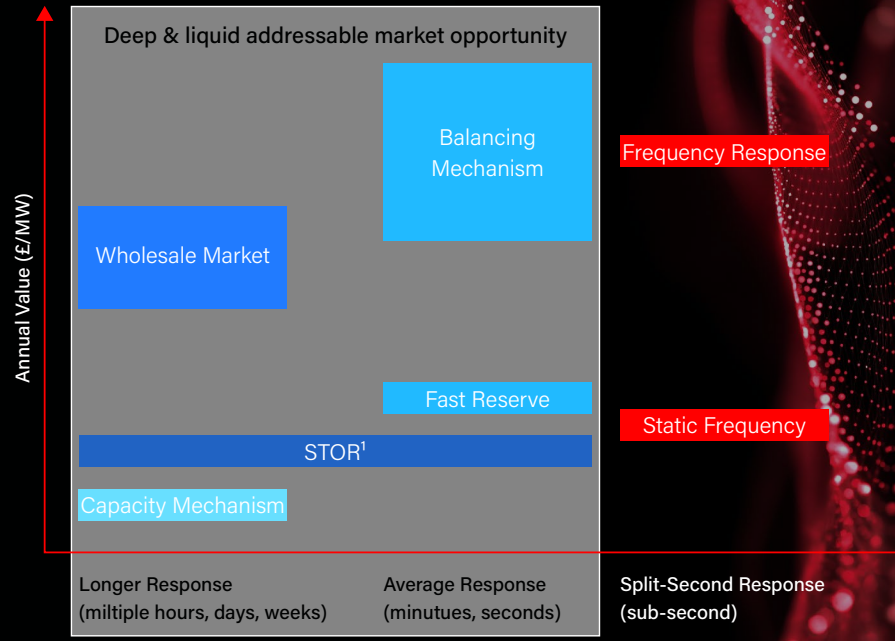
- The Capacity Mechanism provides 15 years of contracted revenue and represent a large share of total revenue for RGT's
- In addition to the Capacity Mechanism, RGT's have proven highly efficient in energy trading particularly during cold snaps and at times of unexpected events whether macro or due to dislocations arising from the transition of the energy system given their fast ramp rapid response capability
- RGT's also benefit from other reliable revenue streams including Embedded Benefits (such as Triads and GDUoS, due to Generators distribution use of systems), contributing directly to gross margin
- Over time RGT's gross margins are expected to grow driven mainly by the Capacity Mechanism
- Assets with existing Capacity Mechanism contracts can participate in subsequent Capacity Mechanism auctions once the initial contracts are over and re-secure contracted revenue



# Revenue Model

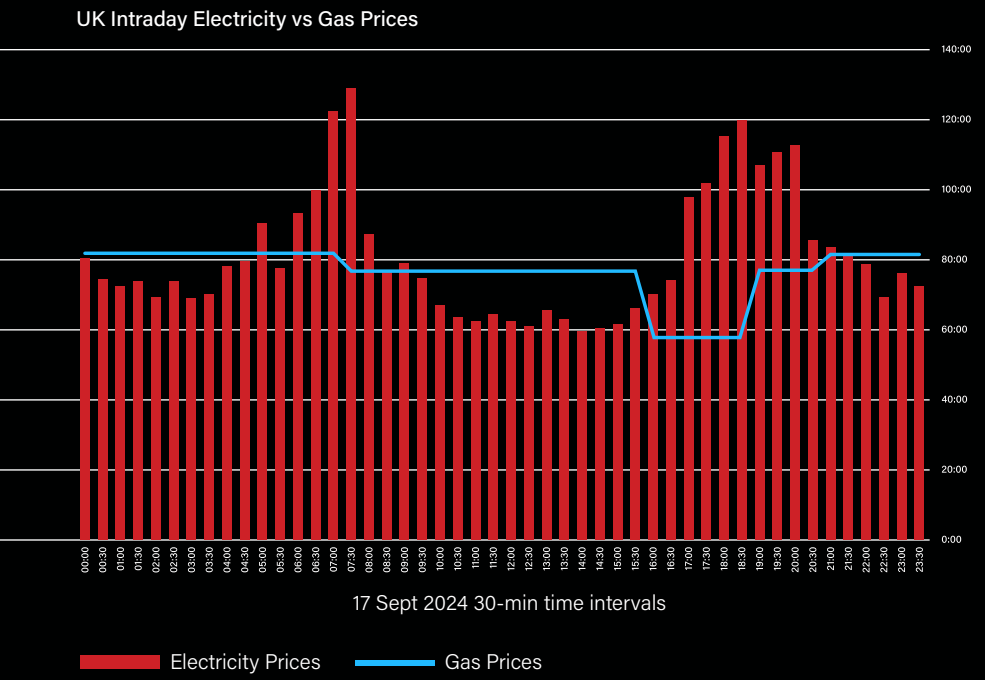
## Revenue is derived from deep and liquid markets through a "stacking" model that diversifies RGT revenue profile.

- National Grid contracts directly with generators and flexibility providers to balance the grid
- Given the operating capabilities of RGT's, this asset class is able to participate in the BM and ancillary services, and looking to gain capabilities in frequency control
- Liquid wholesale power auctions allow markets to balance their immediate requirements, with substantial price "spikes" when the market is short
- There are opportunities to buy and sell power forward, up to two years ahead with longer-term structured PPA-style solutions developing
- Payments are made to generators with capacity on the system irrespective of whether generating or not
- Capacity Mechanism payments provide 15-year UK government backed index-linked income which in aggregate covers c.80% of construction costs



# RGT Revenue Model

## Generating trading revenue from arbitrage opportunity in electricity price volatility.




- The graph illustrates the UK intraday electricity vs gas prices over a 24-hour trading period
- Typical daily morning and evening price peaks are clearly available
- Flexibility to set up turn-off/turn-on parameters deemed appropriate for revenue generation strategy, i.e. required spread between gas and electricity prices.

# THANK YOU

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