

Building a bankable BESS investment case

ESS presentation

Feb 2025



Timera Energy
Level 12
30 Crown Place
London EC2A 4ES

timera-energy.com
+44 (0) 207 965 4541



Contents

BESS investment landscape	4
BESS revenue stack drivers	5
Offtake, financing & downside protection	9
5 key investment case challenges	10

Disclaimer

While Timera Energy Limited considers that the information and opinions given in this work are sound, all parties must rely upon their own skill and judgement when interpreting or making use of it. The examples, facts, and analysis summarised in this report represent our interpretations. Nothing herein is intended to provide investment or legal advice. Timera Energy Limited cannot, and does not, accept liability for losses suffered, whether direct or consequential, arising out of provision of this report. No warranty or representation is provided, nor liability assumed, in relation to the report's accuracy, completeness, suitability or validity.

Timera offers expertise on value & risk in energy markets

Specialist energy consultancy

Focus on LNG and European gas & power assets

Extensive industry expertise

Practical knowledge from senior industry roles

Pragmatic commercial focus

Investment, value monetisation & market analysis

Strong client base

leading energy companies (producers, utilities, funds)

Leading industry blog

30,000+ regular readers, publications, conferences

Our clients include



nationalgrid



Goldman Sachs



Partners Group



Rabobank

OMERS

J.P.Morgan

voltwise



Green Investment Group

CIP
Copenhagen Infrastructure Partners



INFRAVIA

RWE



AngloAmerican



TotalEnergies



Shell

BESS investment: state of play

'Mature & scaling' markets










'New frontier' markets



'Emerging' markets



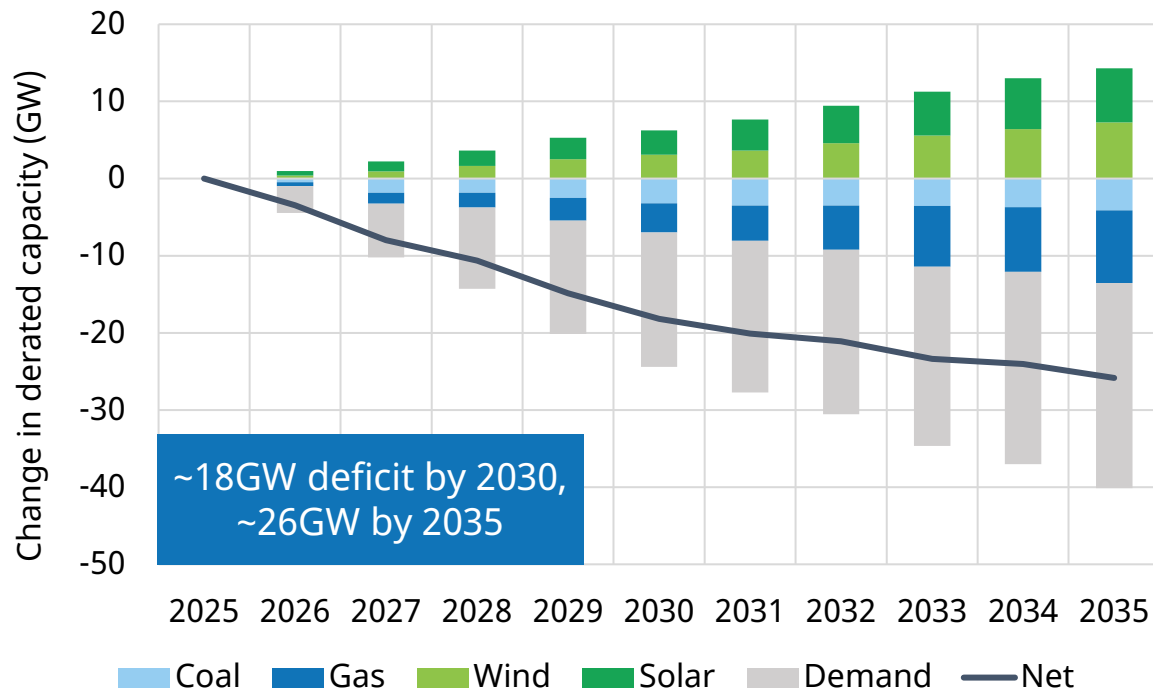
Policy tailwinds & strong investment momentum are driving scaling of BESS capacity across key European markets

Country	Opportunities	Challenges	Ranking
GB 	Large wind growth & thermal closures	Strong BESS development pipeline	
DE 	Strong RES penetration & thermal closures	Grid connection / access constraints	
IT 	Downside protection: 15 yr MACSE & CM contracts	Merchant price signals less sharp vs NW Europe	
NL 	Strong merchant revenue stack & RES growth	Higher grid fees; ancillary saturation risk	
BE 	Strong merchant revenue stack & RES growth	Ancillary saturation risk	
PL 	Attractive capacity market & BESS price signals	Policy & regulatory risks	
ES 	Solar growth & thermal closures	Requirement for CM & ancillary revenue reform	

3 structural drivers supporting BESS investment

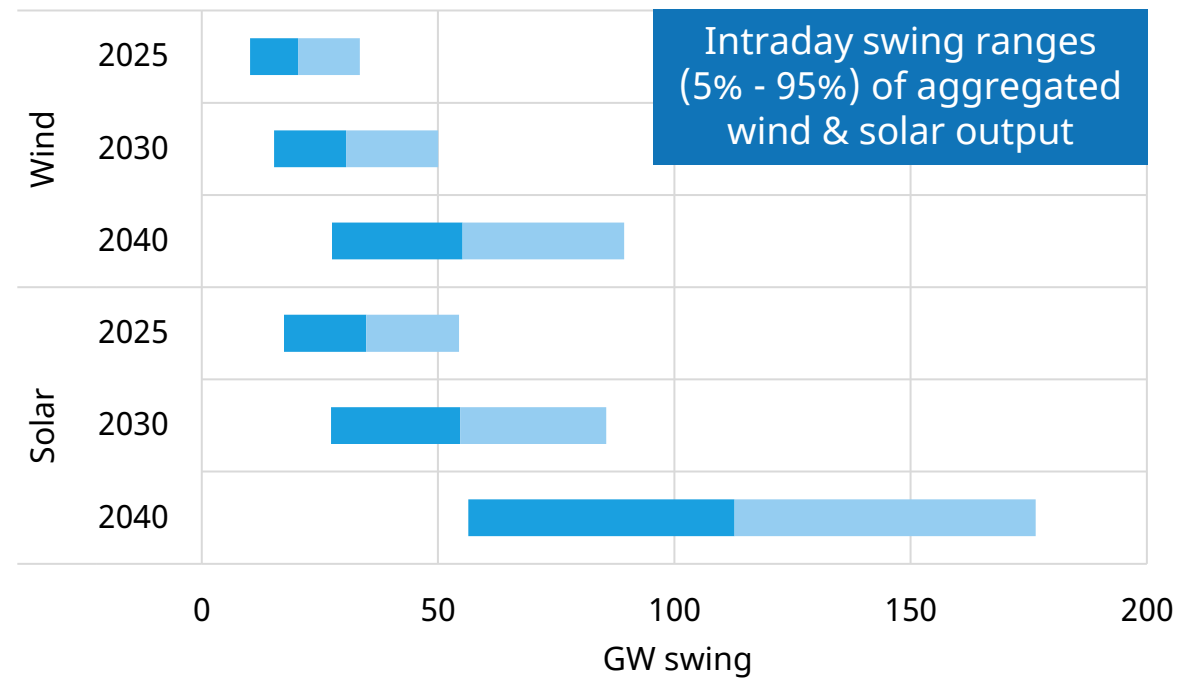
1. RES penetration
2. Thermal closures (coal, CCGTs, nukes)
3. Demand growth (e.g. electrification, AI)

Thermal closures outpace renewables e.g. German power market



Source: Timera Energy

German RES output intraday swing distributions (GW)

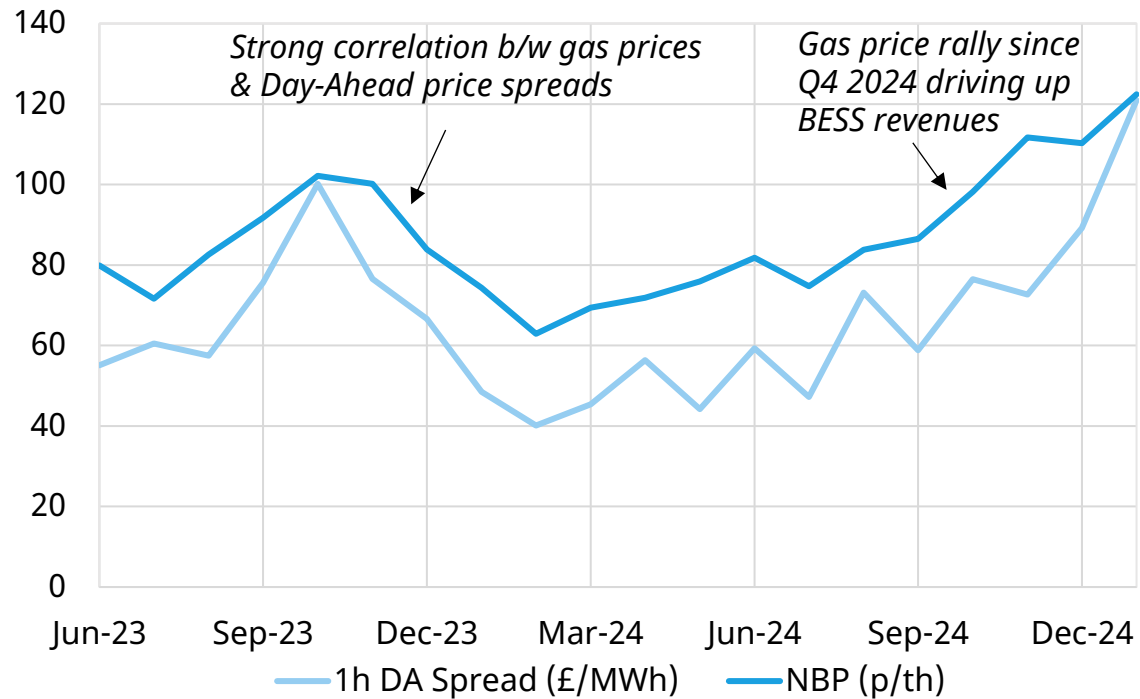


Source: Timera Energy

Gas prices & RES swings driving BESS revenue capture

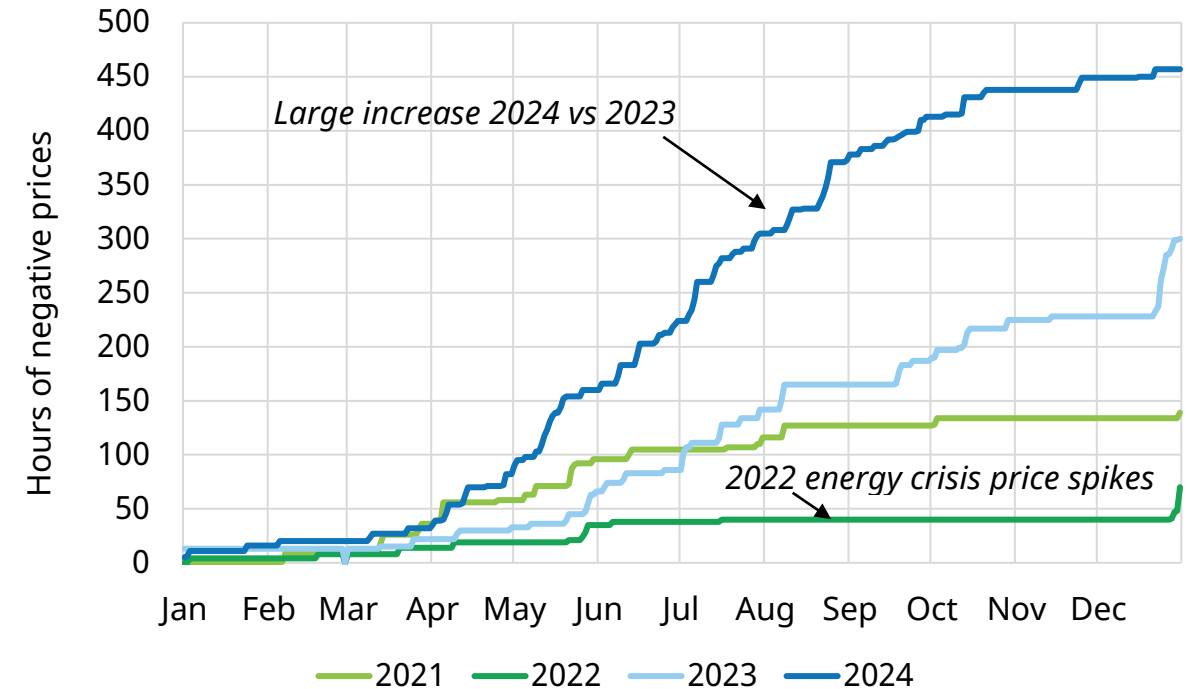
BESS revenues rising into 2025... supported by from rising gas prices & increasing RES penetration swings

Gas price (NBP) against 1hr DA spreads (GB market)



Source: Timera Energy, ICE, Nordpool

Cumulative negative price hours (German market)

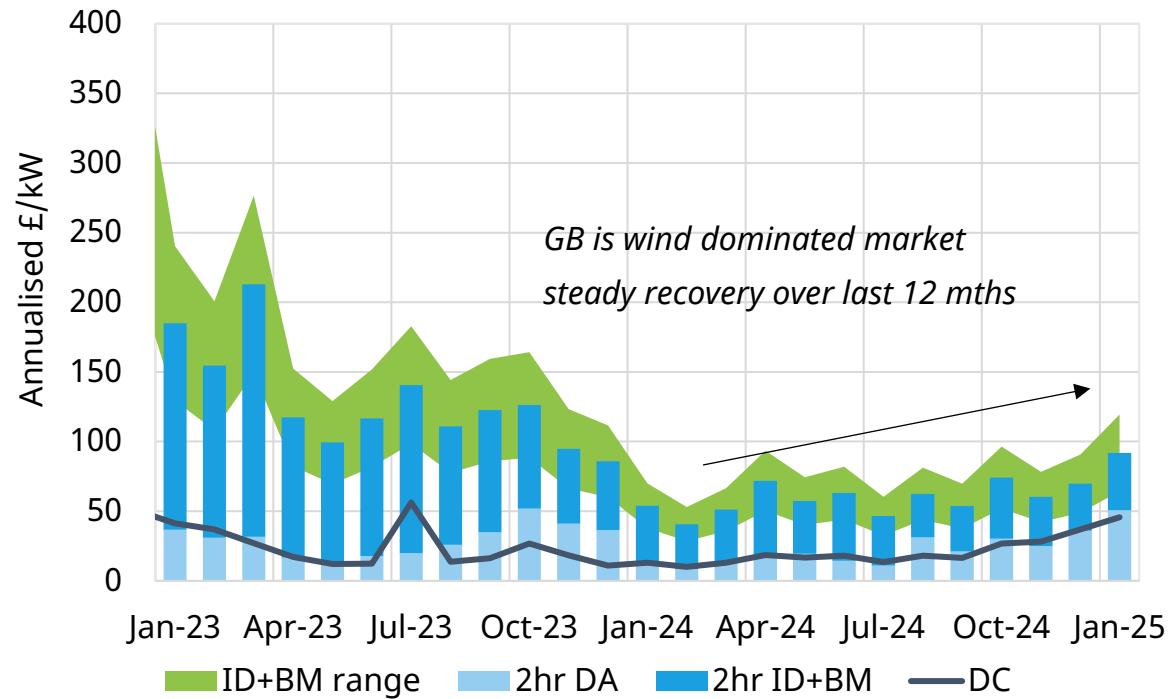


Source: Timera Energy, EPEX

Revenue recovery: GB vs DE

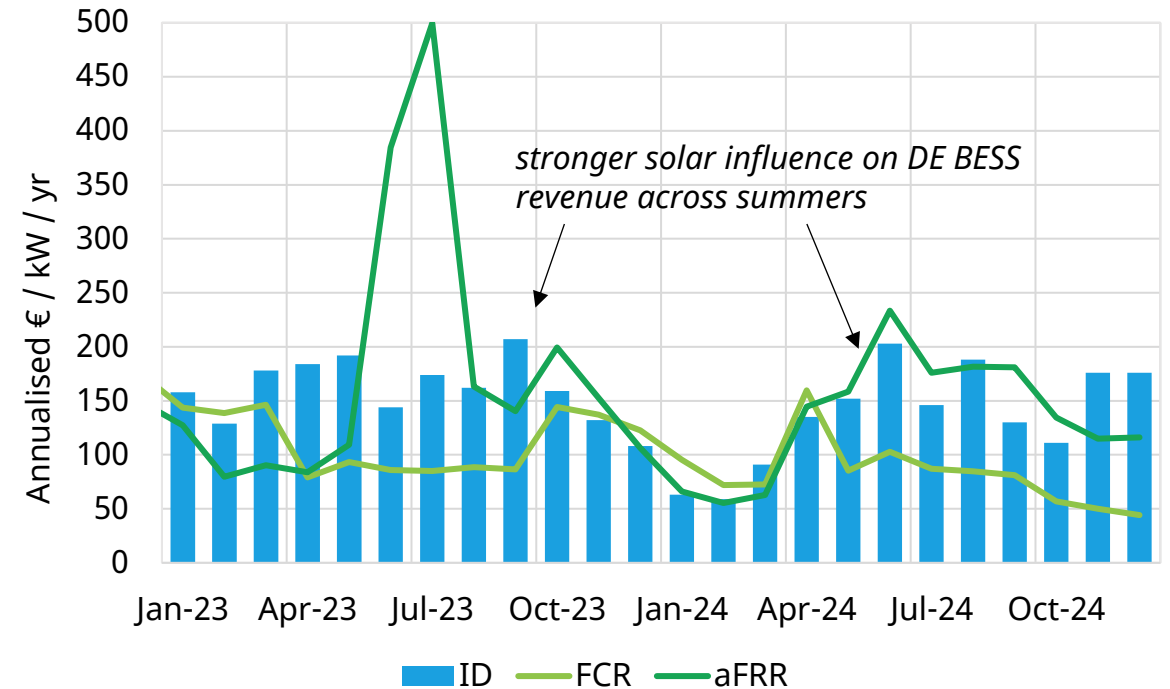
BESS revenue stacks recovering after very weak Q1 2024.. helped by gas price recovery & RES output growth

GB 2hr BESS achieved revenue backtest



Source: Timera Energy

DE 2hr BESS achieved revenue backtest



Source: Timera Energy

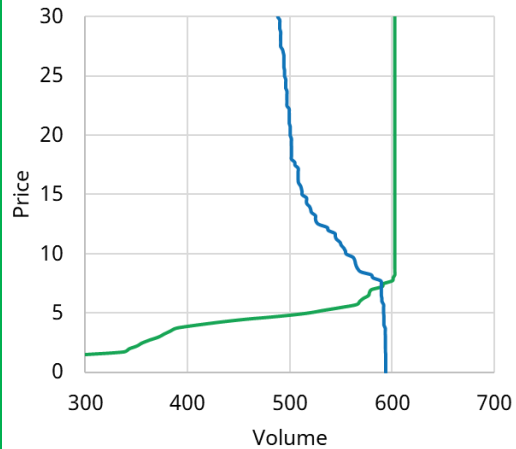
Modelling to support bankable analysis

Valuing BESS without stochastic market & asset modelling is like flying a plane without radar...

Step 1: Gas market model

Explicitly model gas prices as a key driver of price spreads & volatility captured by BESS

LNG supply and demand curves

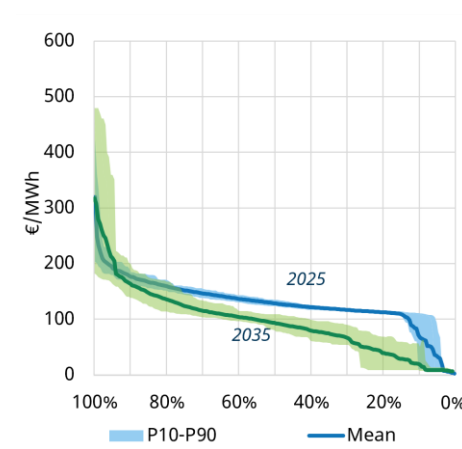


*gas price
curves &
volatility*

Step 2. Power market model

Stochastic scenario modelling of power market evolution & key drivers (e.g. wind, solar, load)

Power price duration curve

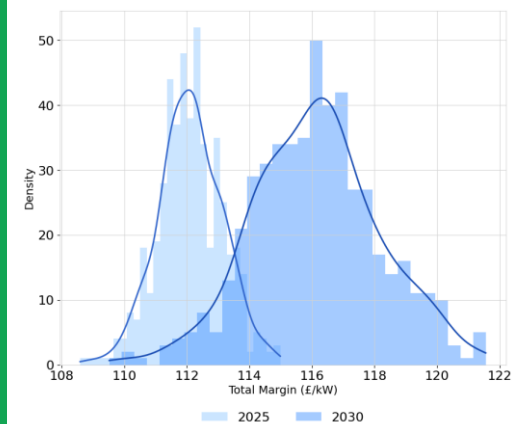


*power
price levels,
shape &
volatility*

Step 3. BESS asset model

Stochastic BESS dispatch optimisation modelling to generate revenue stack distributions

Battery revenue distribution



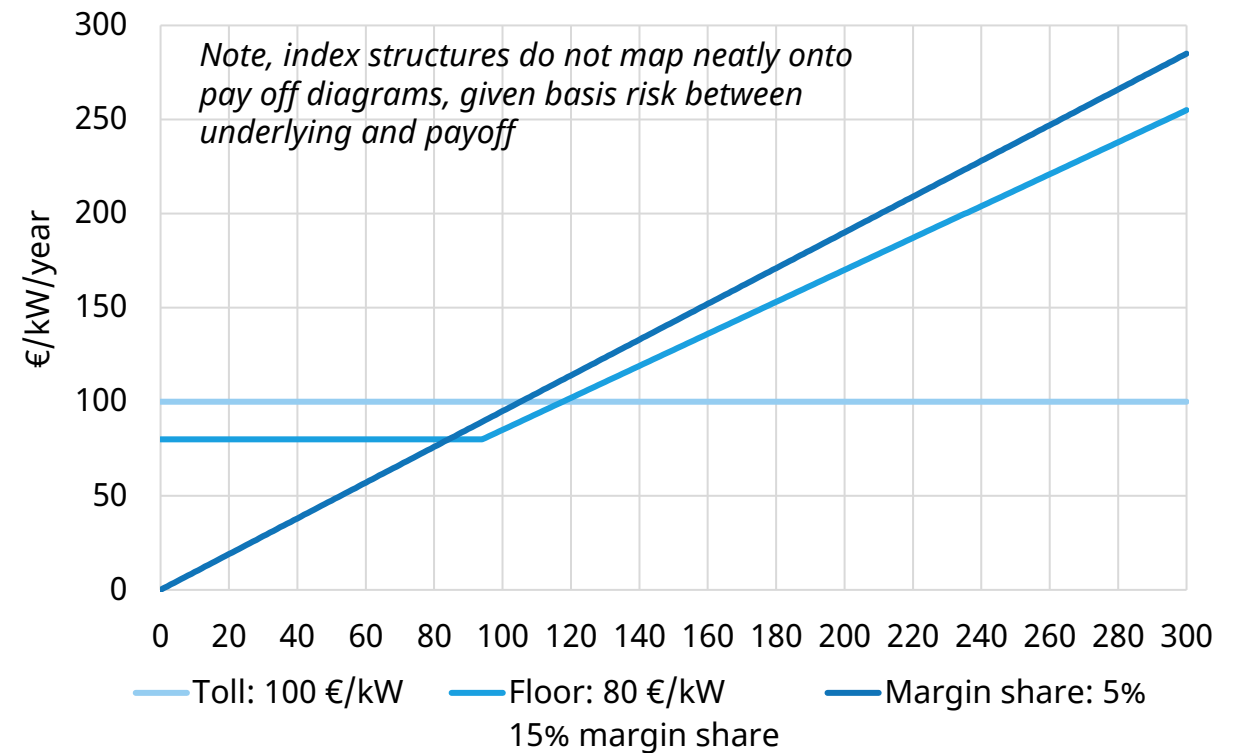
Overview of key commercial structures

Offtake market is maturing quickly... with 4 main commercial structures targeting different risk / return profiles

Route to market structures

Risk & return ↑ Low ↓ High	RTM Structure	Description
	Toll	<ul style="list-style-type: none"> Fixed fee for offtake. Operational restrictions on cycling, minimum availability guarantee.
	Floor + margin share	<ul style="list-style-type: none"> Revenue sharing with guaranteed minimum. Typically offered by balance sheet backed offtaker (e.g. Statkraft, Engie, Vattenfall).
	Indexed / benchmarked offtake	<ul style="list-style-type: none"> Revenue sharing based on pre-defined benchmark formula with pre-defined price index.
	Margin sharing	<ul style="list-style-type: none"> Revenue sharing based on asset returns. Offered by 3rd party optimiser w / w.o. own portfolio.

RTM structure payoff



Source: Timera Energy

5 key challenges building a bankable investment case

Challenges	Comment
1. Robust revenue stack	Built on sustainable capture of energy arbitrage revenues (intraday & balancing returns key).
2. Risk management & appetite	Stochastically quantified revenue distribution downside + tailored risk management structures.
3. Route to market	Competitive & well-structured offtake considering risk management (or capable in-house optimisation).
4. Market & policy tailwinds / risks	Quantified BESS value impact of fundamental market drivers & potential policy evolution.
5. Competitive advantage	Clearly defined advantage vs competitors e.g. commercial team, location, route to market, cost.

Timera services

What does Timera do?

BESS consulting advice

- BESS revenue analysis (e.g. GB, DE, FR, NL, BE, IT, ES)
- Market & price analysis
- Transaction support & DD
- Investment targeting
- Offtake structuring & trading performance benchmarking

Battery subscription services (GB, DE, IT)

- BESS investment tool updated (Qtrly)
- GB BESS Report (Bi-annual)
- Bespoke workshop (Bi-annual)

Find out more: Steven Coppack, Power Director steven.coppack@timera-energy.com

or come & see us at **Stand 49**

Contact us

Steven Coppack
Director

steven.coppack@timera-energy.com
+44 (0) 7817 916 581

David Stokes
Managing Director

david.stokes@timera-energy.com
+44 (0) 7957 656 337

Address: L12, 30 Crown Pl, London, EC2A 4ES, UK
Tel: +44 (0) 20 4619 0045

www.timera-energy.com