



MARCH 2025 - GREEN TRANSFORMATION (GX) FINANCING LANDSCAPE AND OPPORTUNITIES IN JAPAN

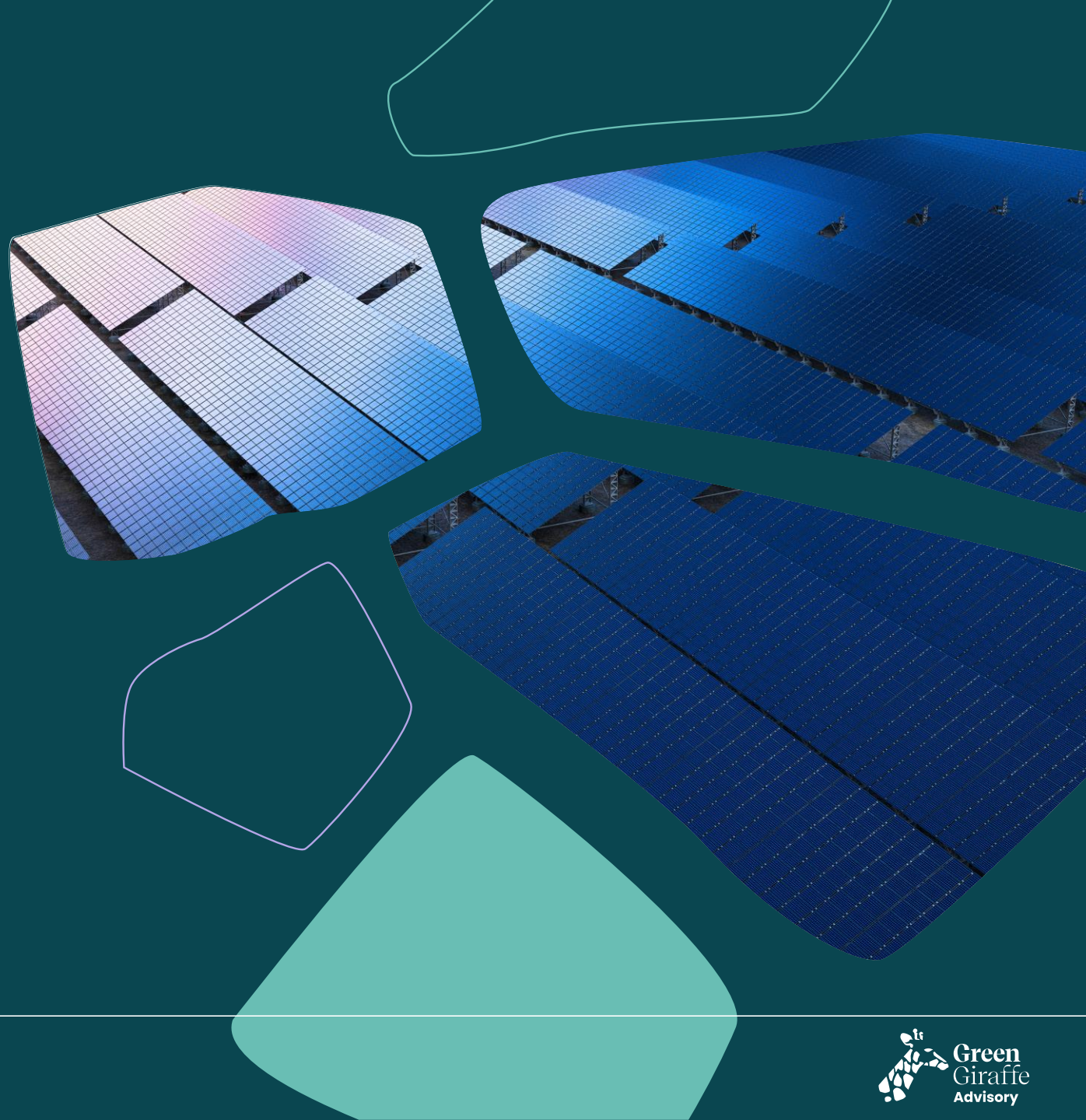
Opening presentation – Financing the energy transition



**Green
Giraffe
Advisory**

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Barbara Zuiderwijk

Close to two decades in renewables

Managing director and founder of Green Giraffe

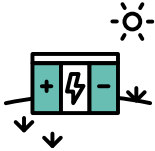
Recognised as one of the top 100 professionals leading the energy transition in the 2024 Tamarindo Power List



Energiepark Duurkenakker

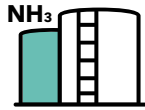
DEBT ADVISORY	
2020	NETHERLANDS
SOLAR	64 MW

**sunvest**
Natuurlijke zonneparken



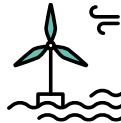
Undisclosed BESS

STRATEGIC ADVISORY	
2024	NETHERLANDS
BESS	+2,000 MW



Project Katanes

DEBT & EQUITY ADVISORY	
Ongoing	ICELAND
Green Ammonia	



Project Lely

DEBT ADVISORY	
Ongoing	NETHERLANDS
Offshore	2,000 MW

Advised on 310+ GW globally through our network of energy transition specialists



Offices



Paris



Utrecht



London



Hamburg



Cape Town



Boston



Singapore



Madrid



Sydney



Tokyo

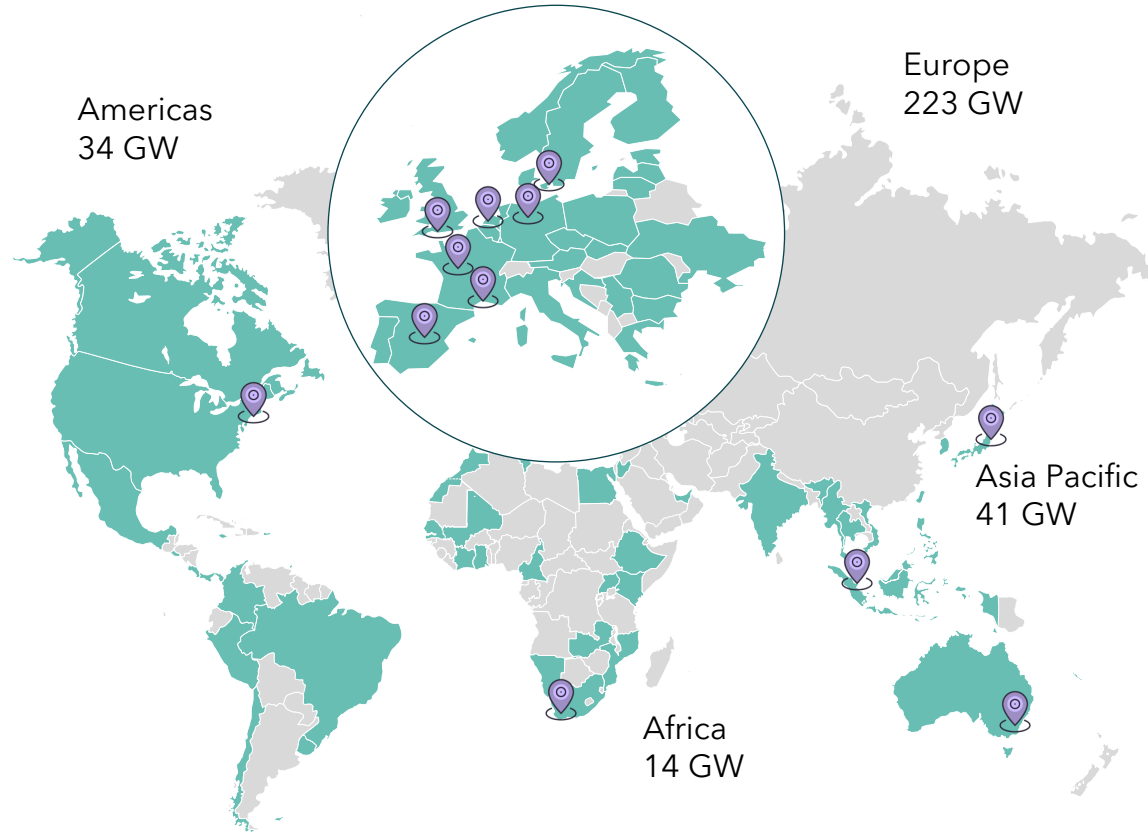


Marseille



Copenhagen

Over a decade of growth and commitment to the energy transition



Countries in which Green Giraffe Advisory has been active

More than

EUR 45 bn | USD 50 bn

funding raised over **15 years** of financial advisory



385+ transactions and projects



310+ GW total capacity



110+ professionals globally in **twelve offices** across **five continents**

Over a decade of growth and industry recognition as a leading financial advisor



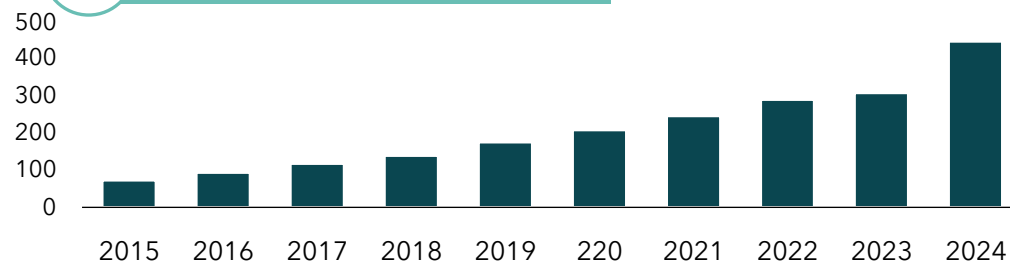
Leading renewables financial advisor by global rankings

Rank	Company ¹	Total (USD bn) ¹
1	Macquarie	90
2	Santander	75
3	BNP Paribas	66
4	Green Giraffe	57
5	Société Générale	55
6	EY	54
7	Citigroup	50
8	Mitsubishi UFJ	46
9	PwC	42
10	KPMG	37

Ranked
in the world
by deal values
over the last
decade



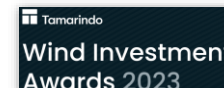
10-year growth in deal count



¹ IJGlobal – global renewable financial advisors by deal value as of Q1 2025 for the period 2010-2024



Best Financial Adviser
Renewables



Financial Advisory
of the year



Deal of the year
Baltic Power



Financial Adviser
of the year
Energy Transition Europe

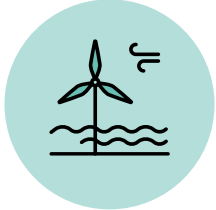


Renewable Energy Deal
of the year
Baltic Power
OW Europe



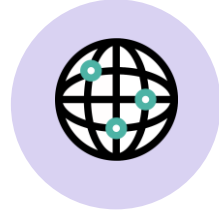
ESG Renewable
Energy Award
Eavor
Geothermal Europe

A history of pioneering first-of-a-kind transactions



2010

First billion-euro financing for offshore wind



2012

First tenders won with debt-financed projects¹



2015

First refinancing with public investment grade rating



2019

Largest ever pan-European corporate PPA procurement process on behalf of a global corporate offtaker



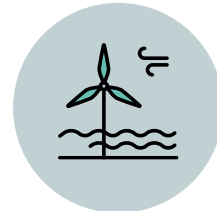
2021

First tender with renewables beating fossil fuels



2022

Support initiated for a major green ammonia project in Canada which has raised equity and debt funding



2023

Financing of the largest offshore wind project in the European Union and first of its kind in Poland



2024

Debt financing for "groundbreaking" new geothermal technology project

¹ Won in France, the Netherlands, the UK and Taiwan

² First in the US / Asia / Europe

With deep market expertise and experience, we actively support leading projects in Japan



**Murakami Tainai
(tender)**

TENDER SUPPORT

2023	JAPAN
OFFSHORE	684 MW

RWE  OSAKA GAS




**Progression Energy
Japan (sell-side)**

M&A ADVISORY

2022	JAPAN
FLOATING	800 MW


progression
energy™




Green Ocean (Equity)

M&A ADVISORY

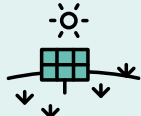
2021	JAPAN
OFFSHORE	299.5 MW






**Ongoing
Japan**

Development support for a **BESS** developer



**Ongoing
Japan**

Pipeline sale process for a **solar** developer



**Undisclosed
2024, Japan**

Market study on global **FOW** for a Japanese developer



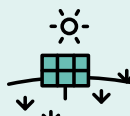
**Undisclosed
2024, Japan**

Tender support for a Japanese developer for Round 3 **OW** bid



**Undisclosed
2022, Japan**

Tender support for a Japanese developer for Round 2 **OW** bid

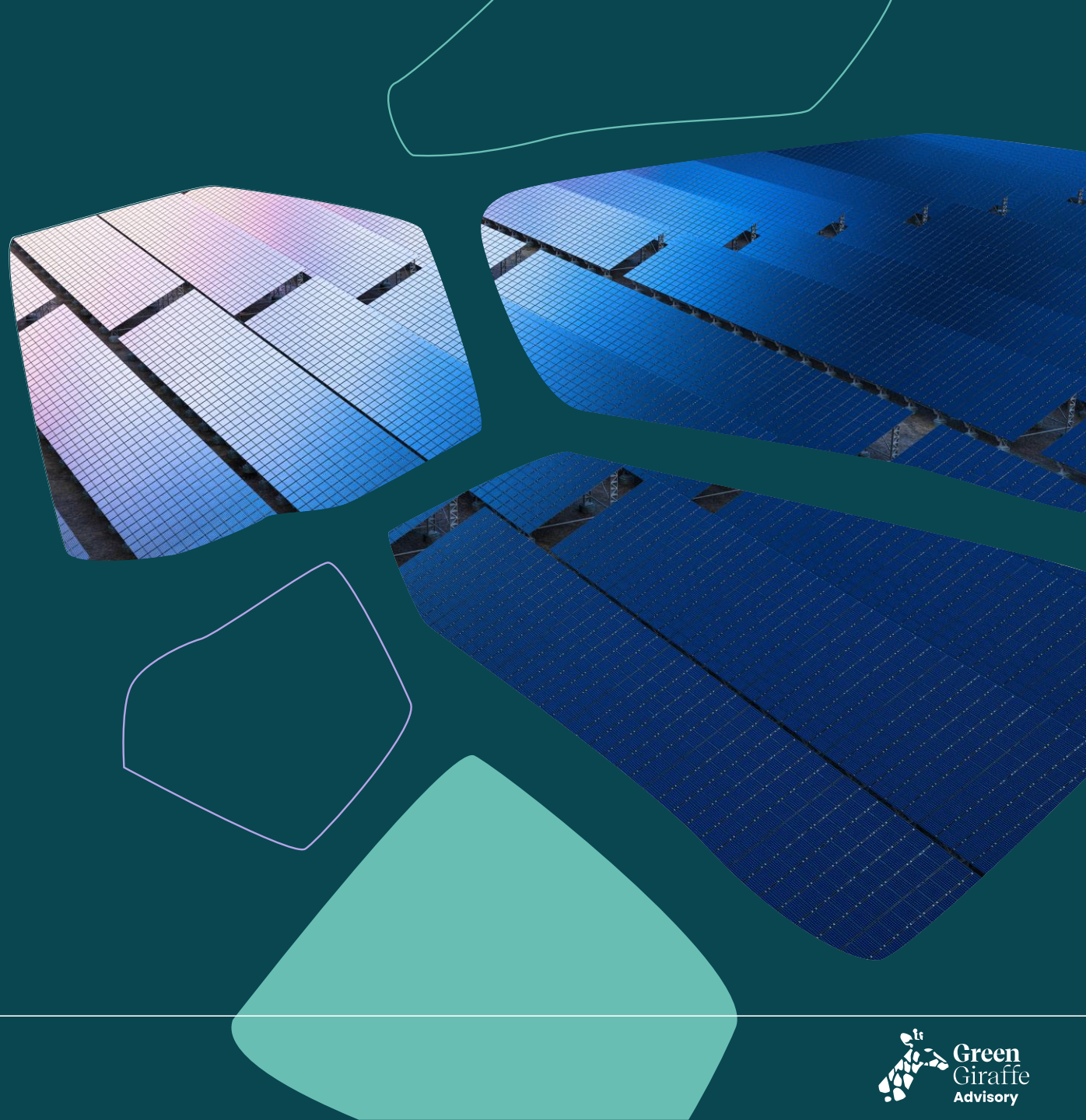


**Ongoing
Japan**

Asset sale process for a **solar** developer

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Key sectorial considerations

1 The geopolitical landscape, particularly developments within and from the US, is creating a degree of uncertainty in the energy transition sector. The broader implications of this trend remain to be seen

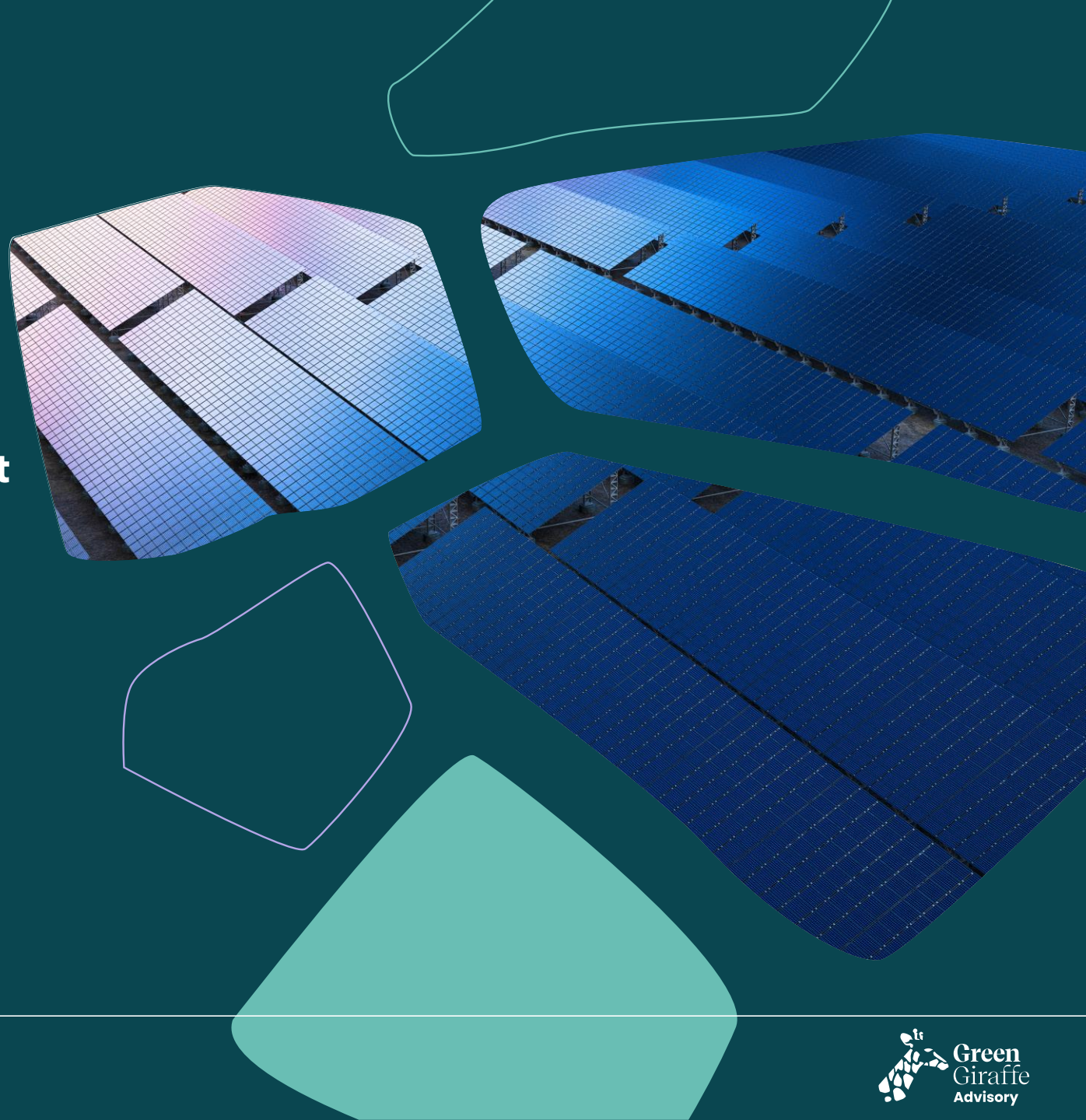
2 The sector is maturing, with funding volumes continuing to grow as businesses prioritise the rationalisation of their plans to enhance profitability

3 Economics of the sector are under pressure, particularly in the generation sector, where high renewable penetration in key advanced markets is driving down energy capture prices

4 The higher interest rate environment is exacerbating financial challenges for individual projects, even as it signals the early stages of a new super cycle characterised by declining capital costs

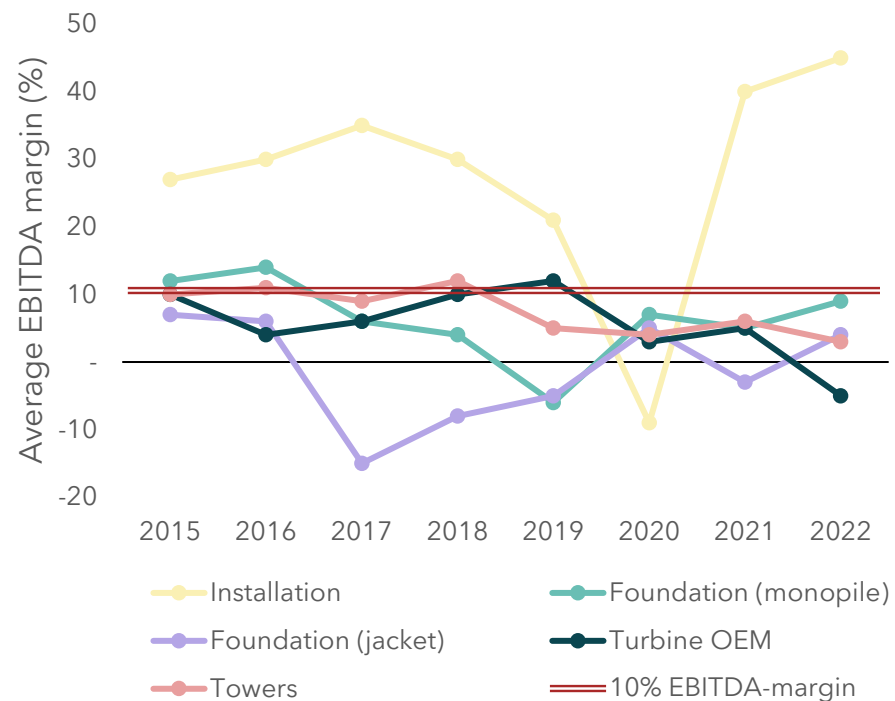
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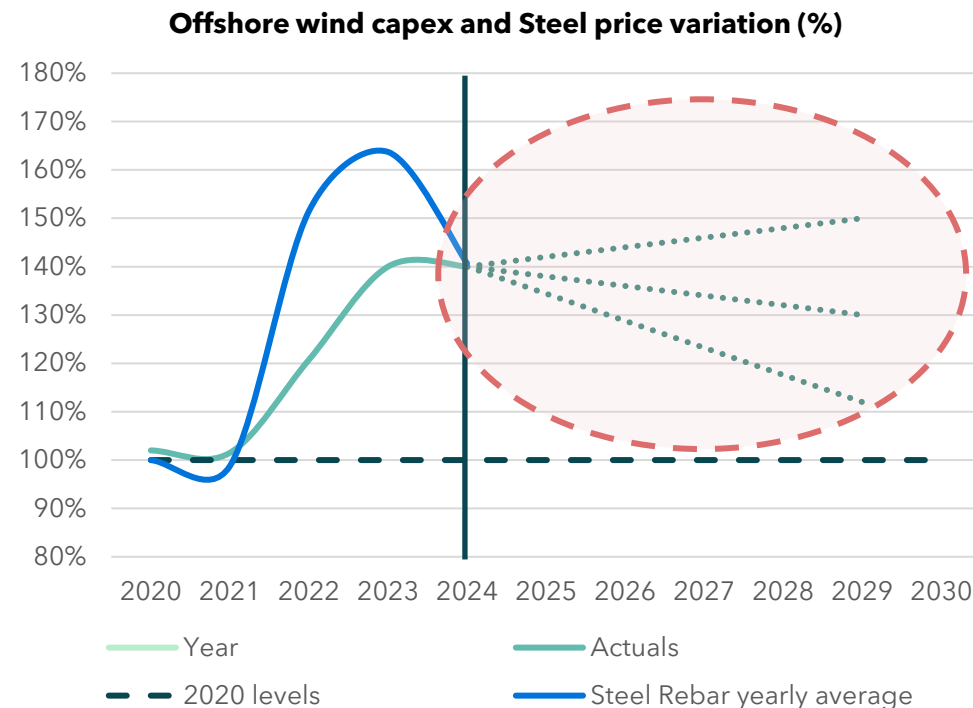
We expect a lasting shift in the balance of power between projects and suppliers ...

Unsustainable OW supply chain margins to date



Source: Wood Mackenzie

Part of the additional CAPEX is here to stay



Source: Green Giraffe, LME

OW contractors have suffered extremely low EBITDA margins and shouldered the burden of LCOE reduction - we expect part of the CAPEX to stay in the LCOE in the long run

Imbalance between manufacturing capacity and capacity targets is a challenge to be faced

Supply chain market development

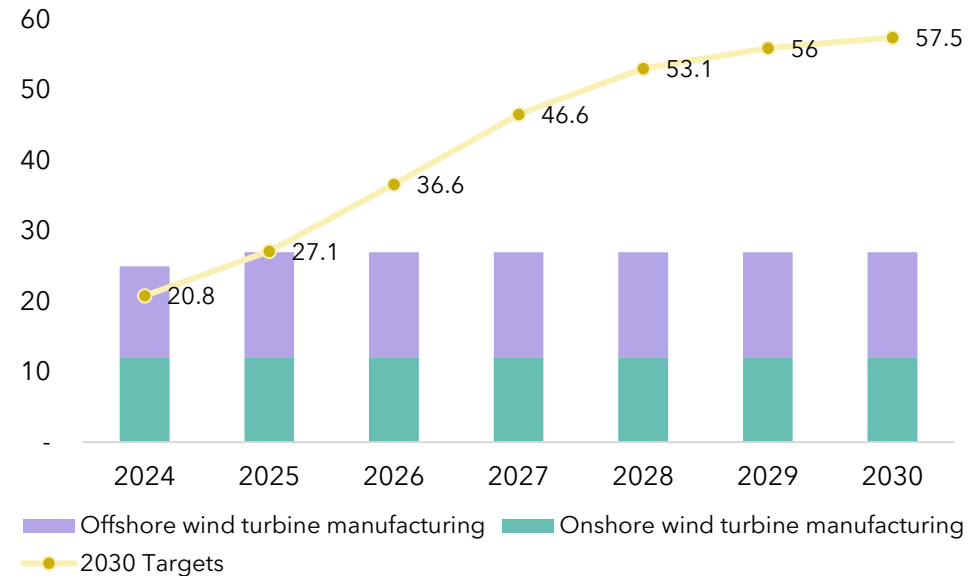
According to the announced manufacturing capacity, the industry will not be able to satisfy demand based on 2030 Targets scenario

- **30 GW capacity gap** between turbines produced and capacity added is expected by 2030 under 2030 Targets projections¹
- While a share of demand can be met by non-European suppliers, such a trend still contributes to the **power shifting** towards European manufacturers
- However, following certain project cancellations there is still **uncertainty** around the **economic viability** of certain projects and whether developers will actually take investment decisions in time. This problem got amplified by the negative bidding seen in certain European markets

¹Source: Rystad Energy report, March 2024

European annual wind capacity

Turbine manufacturing capacity, annual capacity additions, Europe, GW¹



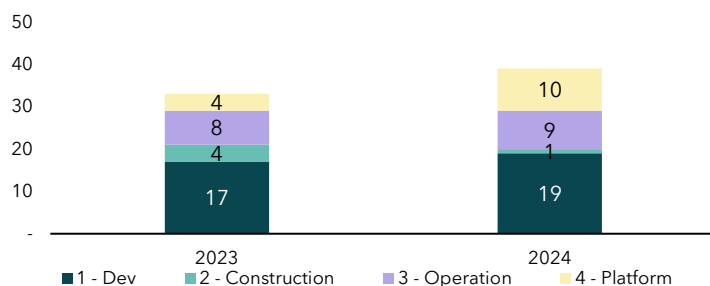
We expect developers to focus on core markets and jurisdictions with the most attractive regulatory framework



Despite the challenges, M&A activity in OW continues, JERA Nex tie-up with BP as an example

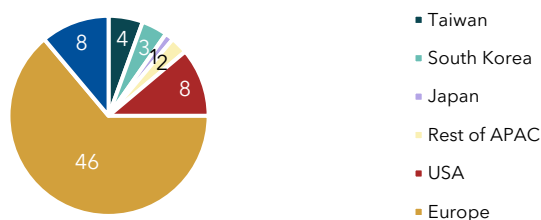
Annual global M&A activity for OW assets, portfolios or platforms

Number of transactions



Global OW M&A activity per geography

Number of transactions



A mutually beneficial tie-up

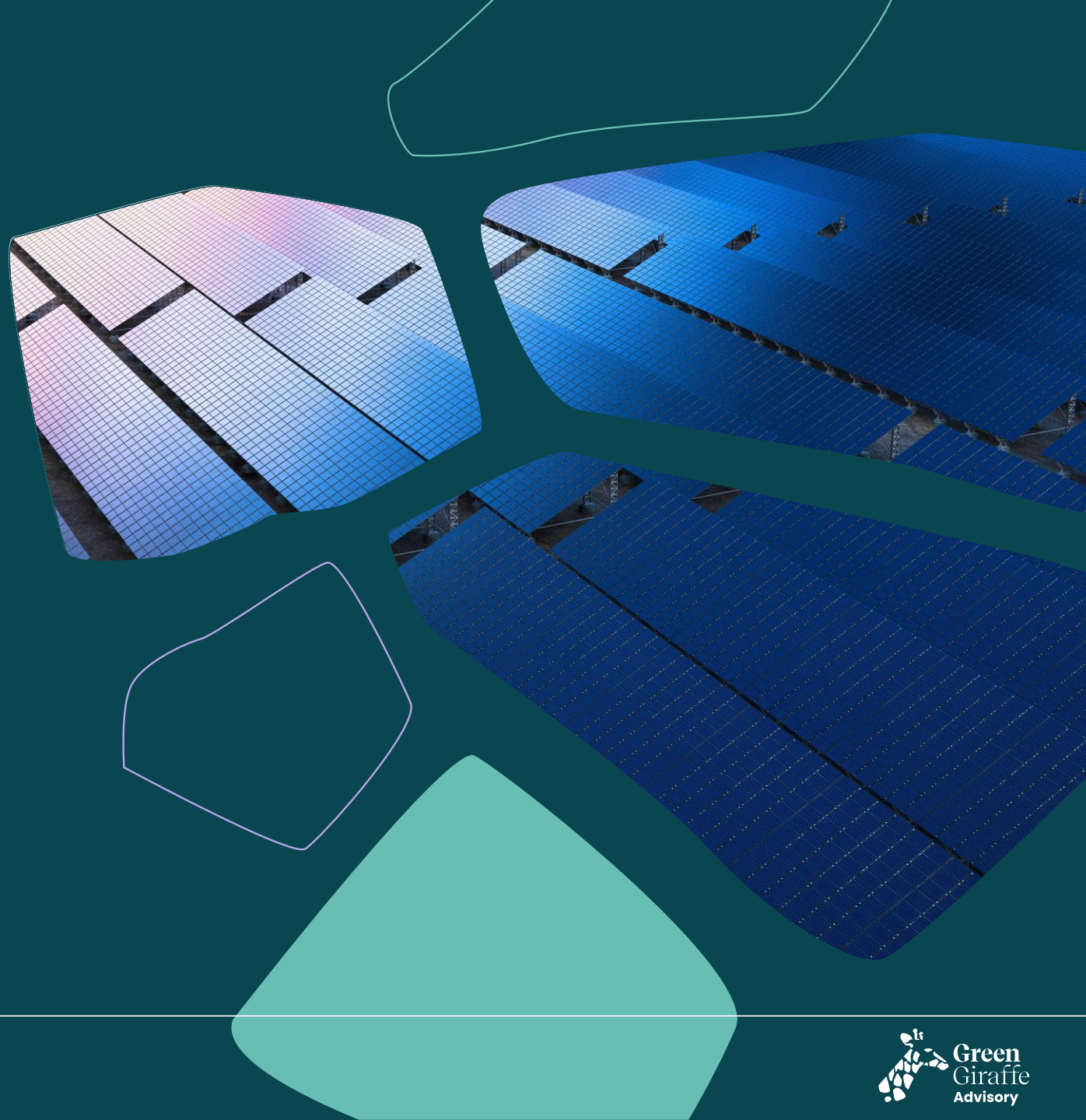
- The creation of the "JERA Nex bp" vehicle into which each party will contribute its OW assets
- BP has been in the market for some time, with different deal shapes discussed
- Contrary to the decision of Shell to step back fully, BP has decided to remain present in the sector, giving it optionality and access to operational electricity-generating projects
- The transaction follows the trend of consolidation and dominant positions being struck by a smaller group of large, industrial actors
- Making the business case for offshore wind turn requires specific expertise, which is still held by a relatively small number of parties (JERA Nex has this via Parkwind)
- The arrangement will bring material pipeline to the Jera Nex/Parkwind team
- BP will continue to have a foot in the sector, albeit in a less capital-intensive manner, and will benefit from the seasoned Parkwind team



- Recent activity shows oil majors recognising the complexity of the offshore wind business case and its deliverability, and we see a similar view from financial investors such as infrastructure funds but for different reasons
- While these players are long-term believers in the necessity for offshore wind in the energy transition, the current view is that the further buildout of the industry needs to be led by industrial and strategic actors first

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The PtX sector is experiencing a correction from years of unrealistic optimism



How to unlock PtX projects going forward	
What we must manage	True costs are higher than expected, driven by immense engineering complexity, utilisation trade-offs, and exacerbated by inflation
What we can fix	Target the best projects in the best use cases, relentlessly de-risk to meet banks' needs, and help the right teams bring them to close

Navigating the evolving PtX landscape: trends, challenges, and investor sentiment



Understated costs and complexities

Capex for green hydrogen plans has been badly underestimated, which in turns makes under-utilisation very expensive, often requiring a change of plant design. We still see developers going into pre-FEED with vastly more optimistic assumptions, and then seeing significant upward cost revisions at end of FEED



Regulatory uncertainty

On top of underestimated costs and logistical complexities, projects in development are facing global delays due to regulatory uncertainty, leading to difficulties in securing offtake agreements, lack of pricing visibility, and major uncertainties about the optimal final products (e.g., green methanol, green ammonia, other derivatives)



Macro-economic and political risks

Current inflationary and high-interest economic environment, high development costs related to long-lead items and supply-chain challenges, and political environment in some key geographies that could affect necessary policies, are causing investors to hesitate and be selective about opportunities in the sector

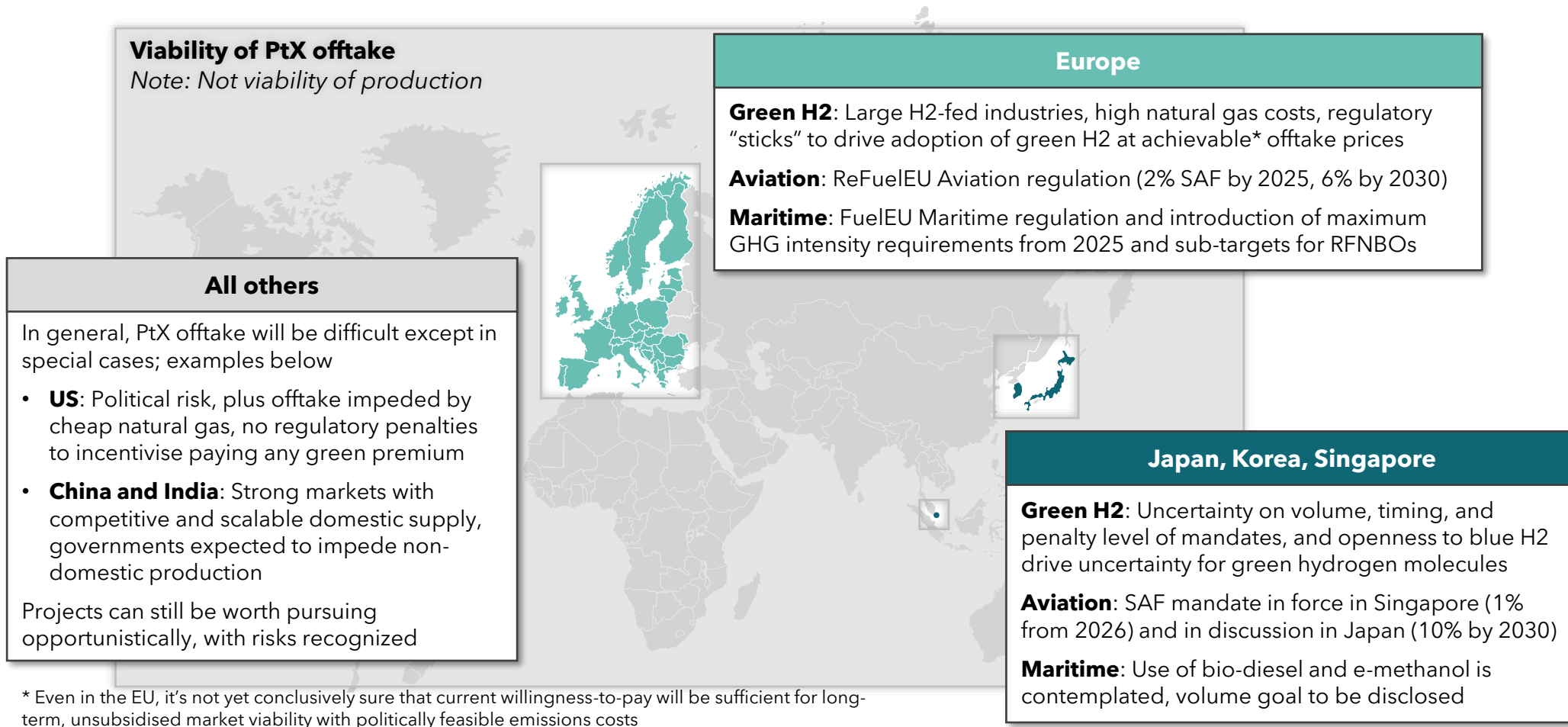


Scepticism from investors








Investors are more reluctant to deploy additional capital into PtX projects. Some are adopting a “wait-and-see” approach due to numerous barriers to entry, such as finding the right project and geography, conducting thorough due diligence on complex technical configurations, and getting comfortable with the outstanding risks

Many investors are taking a follower approach, letting first movers figure out key challenges

We have mapped the highest-confidence offtake regions for PtX and sustainable fuels



We know how to make PtX projects bankable and understand lenders' expectations

Key elements	Banks' demands	Next steps
<div>Team</div>	Proven expertise in complex project development in both renewables and industrial gas sectors	<ul style="list-style-type: none">• Even the best-positioned projects are still struggling to sign bankable offtake contracts – but progress is being made• Offtakers hoped for lower prices, but reality is finally setting in as EU mandate escalation comes closer• However, offtakers still have their pick today – they will engage with only the best-positioned projects• Banks' PtX diligence teams will have limited bandwidth, and engage with only the best projects too• To lead, projects must be strong on all points, ready to move when they secure offtake
<div>Technical contracts</div>	Tier 1 EPC, proven technology , full-wrap EPC contract or airtight multi-contracting; initial O&M contract	
<div>PPA electricity</div>	<div>DE-RISK</div> <div>High-confidence development or sourcing strategy for cost-effective, sufficiently diversified renewables assets</div>	
<div>Grid electricity</div>		
<div>Permitting and site</div>		
<div>Phasing</div>		
<div>Offtake</div>	Binding offtake , for full debt tenor, at sufficiently high price, from strong credit-worthy counterparty	

The first bankable green hydrogen projects must be near-perfect to balance the sector's inherent risks to banks



Green Giraffe Advisory

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