

29 SEPTEMBER 2022

# Green Hydrogen Breakfast – Hamburg 2022

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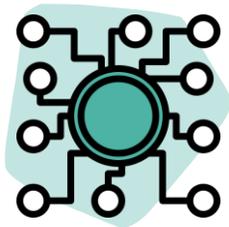
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# Green hydrogen plays an essential part of the global energy transition



Green hydrogen is produced from renewable electricity and water, emitting **zero carbon emissions**



Hydrogen can be used in a **wide range of markets**, from heavy industry to transportation



Directly linked to renewables, green hydrogen is already **competitive with fossil fuels**

## Hydrogen is distinguished based on its production method

- **Green:** produced using renewables; zero CO<sub>2</sub> emission at point of use
- **Grey:** produced using natural gas, with significant CO<sub>2</sub> emission
- **Blue:** same as grey but with carbon capture, utilisation and storage (CCUS), reducing CO<sub>2</sub> emission
- Other low-carbon hydrogen options are using nuclear or hydro power

## Clean hydrogen can decarbonize entire sectors

- Clean hydrogen can decarbonize sectors such as heavy industry, long-haul transport and heating
- Recent estimates suggest that upwards of 20% of future world energy supply will need to be from low carbon hydrogen to hit net zero targets

## Decreasing costs of renewables makes green hydrogen competitive

- Cost-competitive green hydrogen requires low-cost, large scale, high-capacity factor renewable energy production

## Governments recognize the role of hydrogen in the energy transition

- COP26 breakthrough agreements for hydrogen are supported by majority of nations including Canada, EU, UK, US, India and Japan

# Green Hydrogen Breakfast – bringing all green hydrogen players together

Green Giraffe, in cooperation with Eversheds Sutherland, hosted the **Green Hydrogen Breakfast** on 29 September 2022 during the WindEnergy conference in **Hamburg**

The event was attended by a wide range of **hydrogen industry leaders**, providing a great opportunity to meet with players in the sector and **discuss the market and opportunities**

Hosted by Udo Schneider and Jubilee Easo, our two speakers gave an **insight in the development and challenges** of their hydrogen projects

- Molly Iliffe shared her experience on **ERM Dolphyn** and hydrogen from offshore wind
- Jimmie Langham shared his views and insights into the development of **hydrogen infrastructure**

In the following slides you can get an insight into the discussions and main take-aways from the event

We at Green Giraffe want to thank all speakers and attendees for a fruitful event and we look forward to **working together to enable the energy transition!**



If you are interested to discuss green hydrogen opportunities, please contact [hydrogen@green-giraffe.eu](mailto:hydrogen@green-giraffe.eu)

# Green Giraffe

UDO SCHNEIDER - MANAGING DIRECTOR



## Background

- 20 years of experience in project finance and M&A
- Focus on offshore wind and integration of renewables in the energy system

## Hydrogen as a new market brings new challenges

**The market is moving fast** and the hydrogen sector has established itself as a quickly growing solution for decarbonisation

**Supply chain issues** are a major problem for renewables, but even more pressing in hydrogen with unmeasurable growth but limited signed agreements

Integrating renewables into hydrogen and ammonia production creates **new interfaces** between developers, contractors and offtakers

Most importantly, **now is the time for pioneers** to drive forward their projects and accelerate the energy transition



**Green Giraffe** is the financial advisor for the energy transition, with an unrivalled track-record in raising equity and debt for renewable energy projects, platforms and technologies

# Eversheds Sutherland

JUBILEE EASO - GLOBAL ENERGY PARTNER



## Background

- 20 years of experience in energy project development and M&A, acting for international energy companies, national energy companies and financial institutions
- Focus on energy transition including hydrogen, renewable fuels and gas

## Hydrogen is a necessary opportunity that should not be missed

Hydrogen economy needs **corporate action, funding and regulation**

**Private funding will follow government support** and funding. The various types of support (IPCEI, H2Global, UK allocation round) have spurred some development in recent years

Lots of regulation is still missing and **governments need to act quickly** to provide this so that the infrastructure can be put in place

Companies on their end should become part of the solution and **build joint ventures** to accelerate their own projects and the market in general

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**Eversheds Sutherland** is a global top 10 law practice, providing legal advice and solutions to an international client base. Our Global Energy group has deep experience across all aspects of the hydrogen value chain

# ERM

MOLLY ILIFFE - CONSULTING DIRECTOR



## Background

- 15 years of experience in renewable energy and hydrogen
- Focused on green hydrogen project development and commercial optimisation

## Floating offshore wind and hydrogen are a natural combination

With **75% of the world's best wind resources** in deep water, floating offshore wind provides a great opportunity to **produce hydrogen in bulk**

Exporting energy from offshore wind farms in the form of hydrogen is especially cost effective for **wind farms far off the coast**

**Involvement of the supply chain** in the project is key when developing new concepts and technologies, as it ensures access to best-in-class knowledge and commitment from contractors and suppliers as well as optimization of local content, cost and lifecycle carbon emissions

These points are reflected in the commercial development plan for the **ERM Dolphyn** green hydrogen project, which is currently going through FEED and is expected to reach deployment in 2025



**ERM** is the world's largest pure play sustainability consultancy, with expertise across the hydrogen value chain. It is developing the ERM Dolphyn floating offshore wind to green hydrogen project

# cruh21

JIMMIE LANGHAM - FOUNDER



## Background

- 10 years in offshore wind project development at e.on Climate & Renewables and RWE Renewables in strategy and regulatory affairs
- Conceptional mastermind and first general manager for the AquaVentus Initiative

## A coordinated approach to make hydrogen into a commodity

**Hydrogen backbones**, as currently being developed by gas TSOs, are expected to **kickstart the hydrogen economy** by linking hydrogen producers with hard to abate energy consumers

This transport and storage infrastructure will also **spur the import of hydrogen** from regions with high availability of low-cost renewable energy

Additional **storage and transport** options to connect the backbone to local and regional "island" projects will be key

Cooperation between all stakeholders is needed to **align production and consumption** of hydrogen (and derivatives), both in time and location

**cruh21**  
enabling energy innovation

**cruh21** is a strategic project consultancy, working along the complete value chain of renewables, hydrogen and sector-coupling. The team is also advising clients on hydrogen production offshore and offshore tenders

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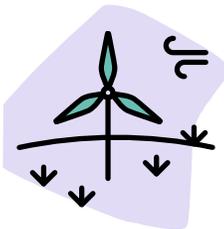
# We focus on the energy transition, working with people, technologies and markets that we believe in



>**EUR 32 bn** funding raised  
**12 yrs** of specialised advisory



**120+** professionals globally  
**9** offices in **9** countries on  
**5** different continents



>**250** transactions or projects  
>**180 GW** total capacity

## A specialised financial advisory firm launched in 2010

- Proven track record in renewable and energy transition technologies
- Operating from Boston, Cape Town, Hamburg, Madrid, London, Paris, Singapore, Sydney and Utrecht
- Multi-disciplinary skillset, including project & corporate finance, M&A, tendering, contracting, and legal expertise

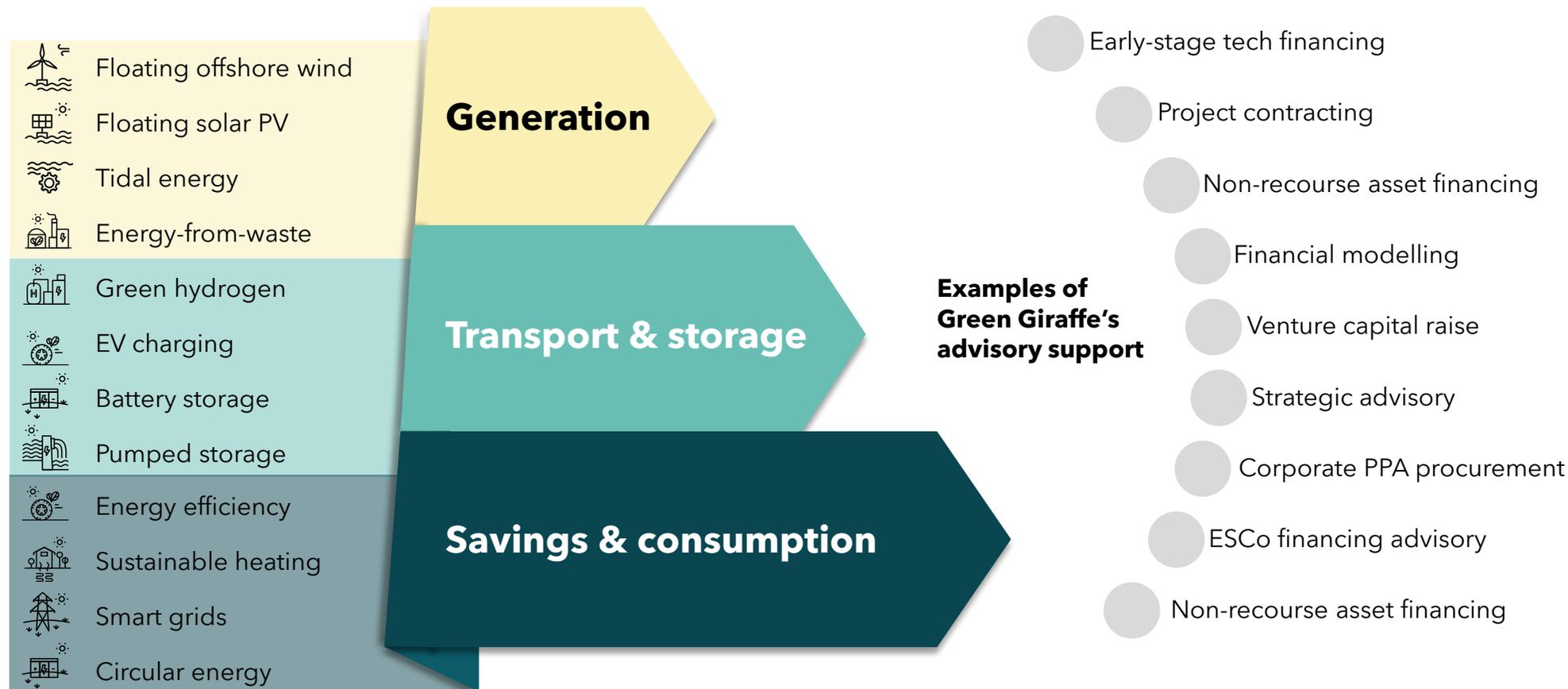
## An ambition to provide high quality, specialised advice

- We only work on projects where we can actually add value
- We build long-term relationships with our clients
- We foster a shared approach to transactions and risks

## Green Giraffe follows a simple strategy

- Provide a holistic approach, coupling sector-specific tasks and traditional debt or M&A advisory services
- We continue to outperform the competition in Europe whilst growing in developing markets on other continents
- We are committed to the industry, we believe in the countries we are active in and we have the skillset it takes to **get deals done**

# Green Giraffe's services have been instrumental to the success of ground-breaking technologies



# Green hydrogen is a key market for the energy transition and we are part of it







# Green Giraffe

[GREEN-GIRAFFE.EU](https://www.green-giraffe.eu)

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