



NOVGERA

HYDROGEN
Solutions

For customers

Our ambition is to use hydrogen to help to achieve their net zero emissions by 250

Hydrogen is a versatile energy carrier, which can help tackle various critical energy challenges. Today, hydrogen is mainly used in the refining and chemical sectors and produced using fossil fuels such as coal and natural gas, and thus responsible for significant annual CO₂ emissions.



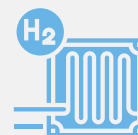
What we do

Novgera is a clean energy company. We can develop projects to produce, hydrogen from renewables (wind and solar), excess grid capacity and stranded natural gas assets. We also can provide hydrogen fuel cells to provide on-site power generation. As well as hydrogen consultancy, so that you can get your business, organisation or facility hydrogen ready.



Green H2

Hydrogen from wind and sustainable electricity.



H2 Fuel Cells

We supply fuel cells for H2 electricity generation



Infrastructure

Hydrogen Fuelling Stations



Blue H2

Producing hydrogen from natural gas with carbon capture.

We want to use hydrogen to provide a sustainable future.

Clean hydrogen produced with renewable or nuclear energy, or fossil fuels using carbon capture, can help to decarbonise a range of sectors, where it has proven difficult to reduce emissions. These sectors include: long-haul transport, chemicals, and iron and steel,

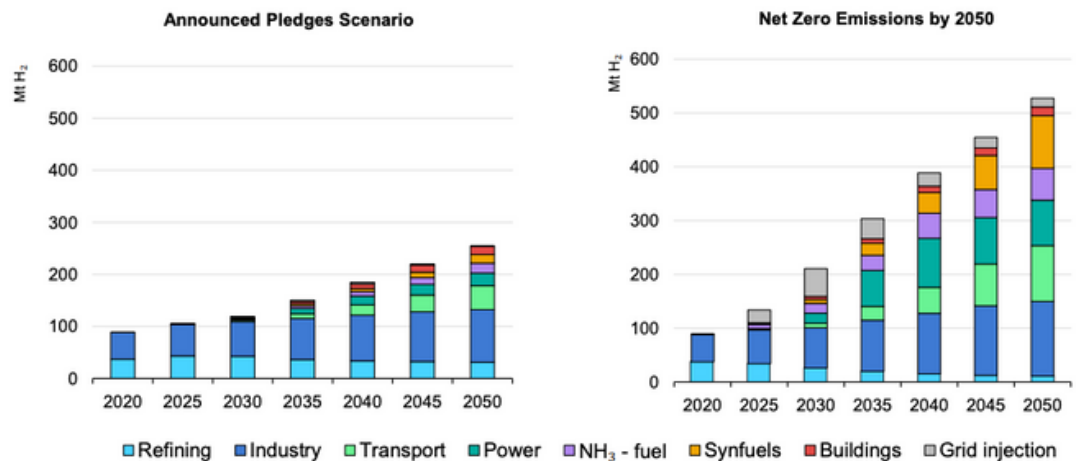
Hydrogen-powered vehicles would improve air quality and promote energy security. Hydrogen can also support the integration of variable renewables in the electricity system, being one of the few options for storing energy over days, weeks or months.





Hydrogen demand is projected to grow in the IEA Net Zero Emissions Scenario and Announced Pledges scenarios.

Hydrogen demand by sector in the Announced Pledges and Net zero Emissions scenarios, 2020-2050

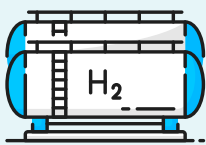


IEA. All rights reserved.
 Notes: "NH₃ - fuel" refers to the use of hydrogen to produce ammonia for its use as a fuel. The use of hydrogen to produce ammonia as a feedstock in the chemical subsector is included within industry demand.

How to build cleaner future with Hydrogen



Production



Storage



Transport



End Use



Hydrogen can accelerate the energy transition by enabling large-scale renewable energy integration, power generation and decarbonising various sectors including:

- transportation sector
- industrial energy use
- buildings heat and power
- feedstock and chemicals for industry, e.g., ammonia, methanol, synthetic fuels, etc.

Despite the benefits of H2 we still face challenges when implementing H2 solutions.



94Mt

H2 production in 2030



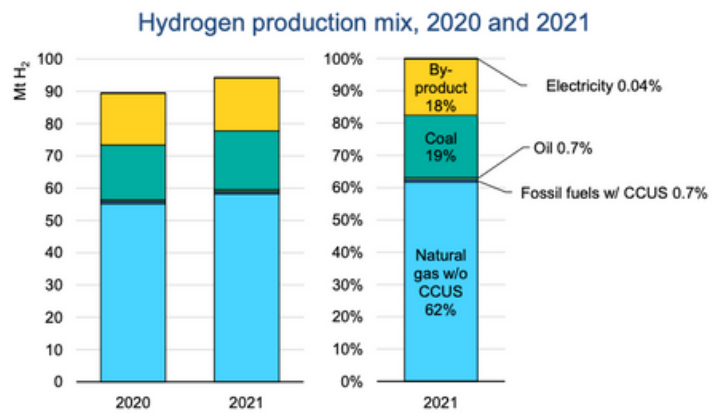
62%

H2 production is Natural gas without CCUs



900Mt

Of CO2 from hydrogen production in 2021



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Note: CCUS = carbon capture, utilisation and storage.



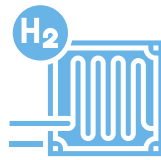
Global demand for hydrogen grew around 3% in 2022, but still remains concentrated in traditional applications with slow penetration in new uses. In addition to this much of hydrogen today is produced from fossil fuels.

Our H2 solutions are centred around Our Net Zero Ambitions

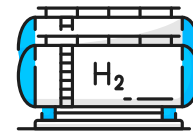
Our near term goal is replacing unabated fossil fuel-based hydrogen with low-emission hydrogen in existing applications (namely refining and industry sectors). This represents a relatively low technical challenges as it is a like-for-like substitution rather than a fuel switch which is significantly more challenging



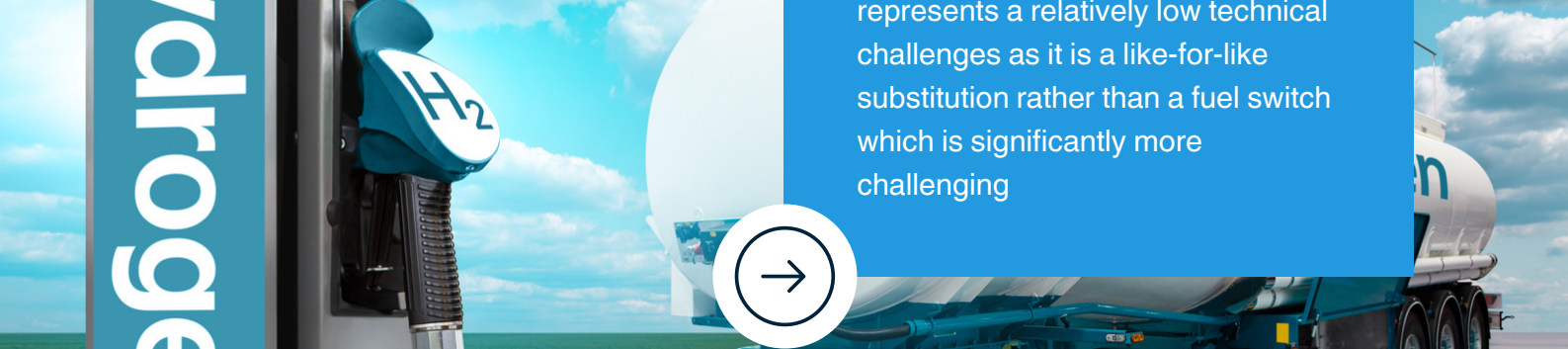
**Sustainable
Hydrogen**



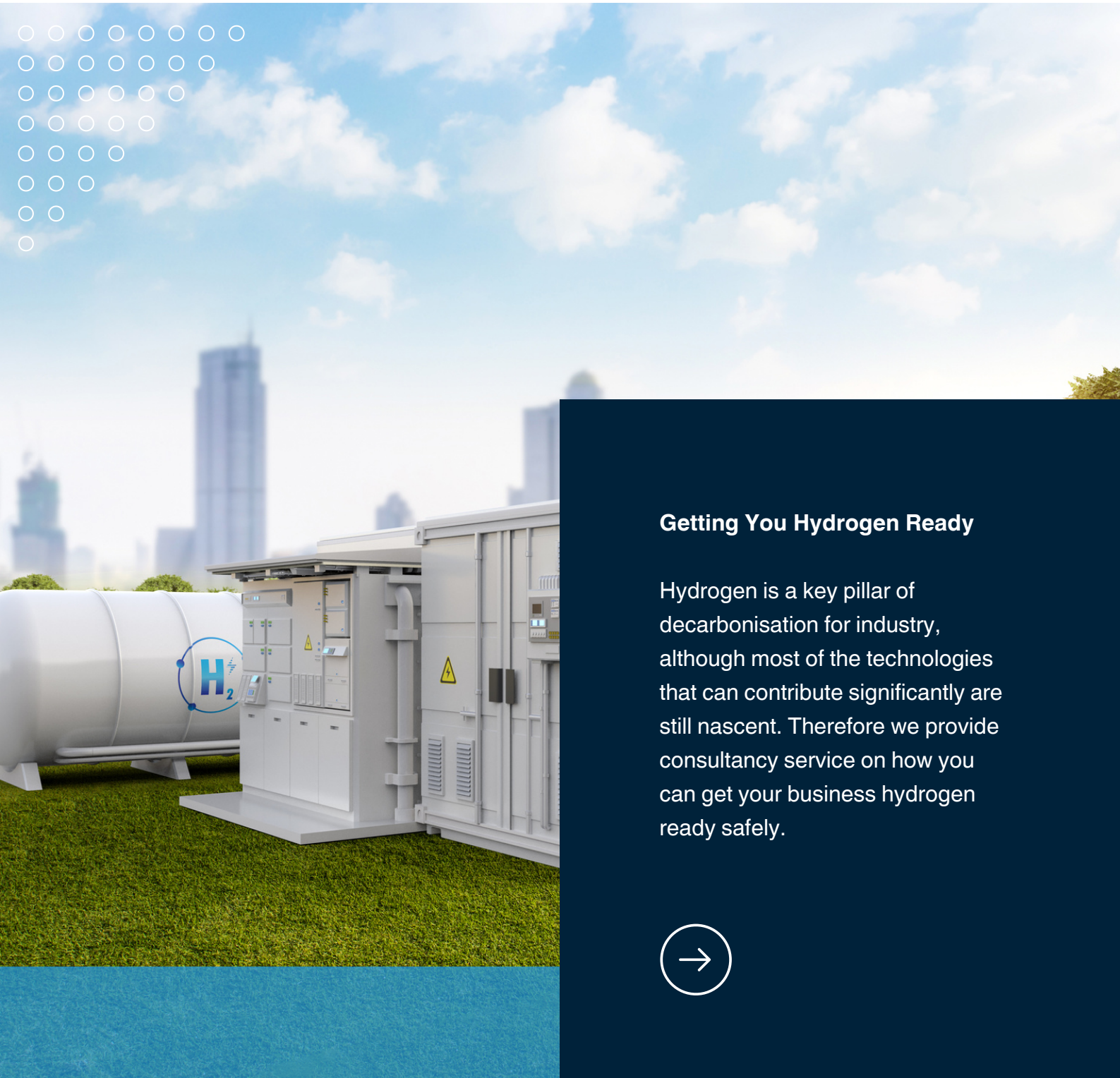
**Hydrogen
Applications**



**Hydrogen
Consultancy**



H2 Consultancy



Getting You Hydrogen Ready

Hydrogen is a key pillar of decarbonisation for industry, although most of the technologies that can contribute significantly are still nascent. Therefore we provide consultancy service on how you can get your business hydrogen ready safely.



Hydrogen Production



1%

Of hydrogen production was from low emission hydrogen.



5%

Of new hydrogen projects have undertaken a final investment decision



10Mt

Targeted production in the EU

Producing Hydrogen in regions committed to hydrogen development.

A key barrier for low-carbon hydrogen is the cost gap with hydrogen from unabated fossil fuels. At present, producing hydrogen from fossil fuels is the cheapest option in most parts of the world. Many regions have hydrogen strategies to produce cost competitive clean hydrogen.

Our solutions can produce green hydrogen directly from wind, solar and excess grid capacity. We also have our integrated solution that can power your facility using green hydrogen.



In Practice

H2 Infrastructure



Getting Hydrogen to where it is needed

Transport and storage infrastructure for hydrogen and hydrogen-based fuels remains very limited, but its scale-up is crucial as new distributed applications arise. Increasing Hydrogen infrastructure will assist with the rollout growth of Hydrogen as a fuel.

We can assist with hydrogen infrastructure development.



Green H2 for Industrials



70%

Of H2 production was from natural gas



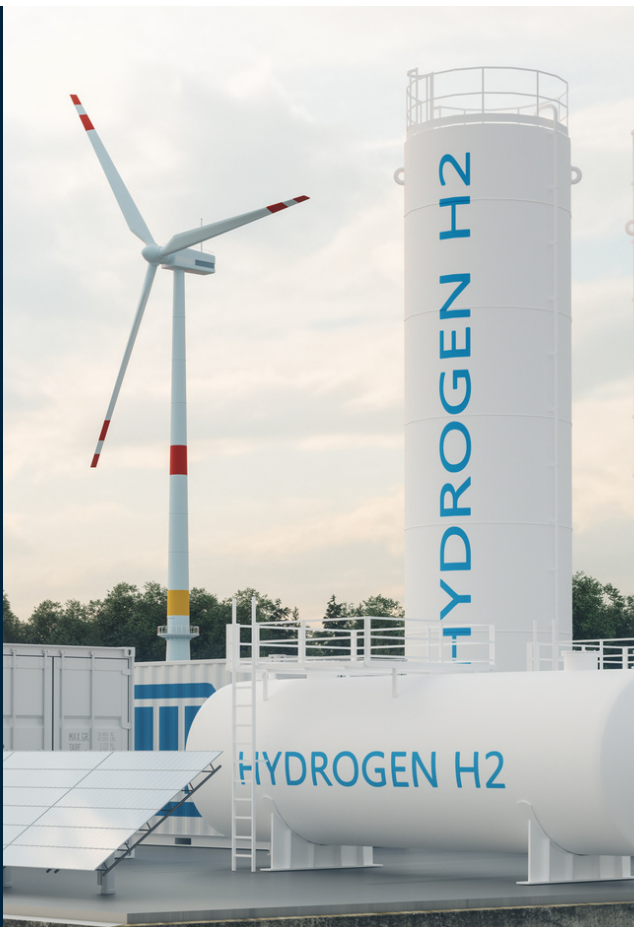
550GW

Of electrolyser capacity is needed to be on track with the Net Zero Emissions Scenario



3%

Hydrogen Demand Growth in 2023

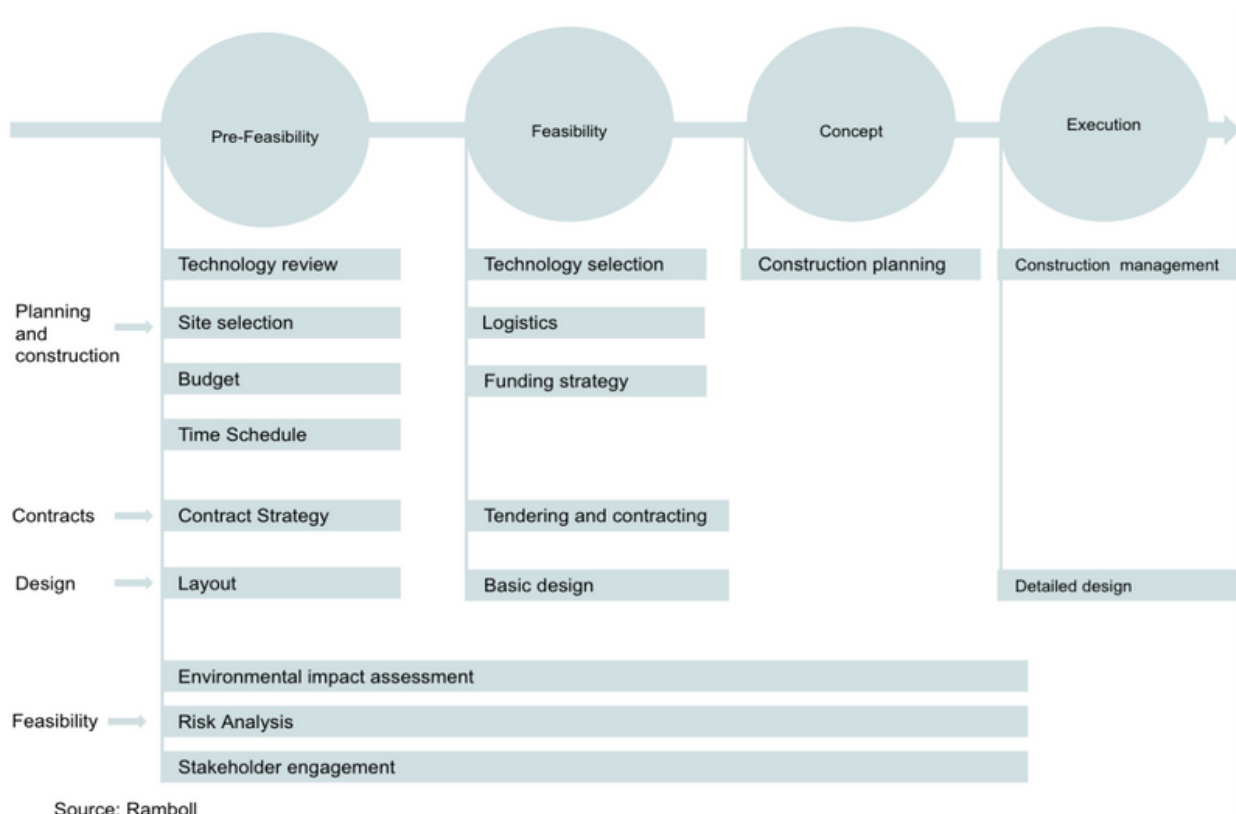


The industrial sector is a key sector for hydrogen. Having H2 ready industrial businesses can propel the hydrogen economy and help achieve global net zero emissions by 2050.

Our Hydrogen solutions can get your business hydrogen ready and produce hydrogen onsite for safe implementation into your operations.



Progressing a Hydrogen project



Source: Ramboll

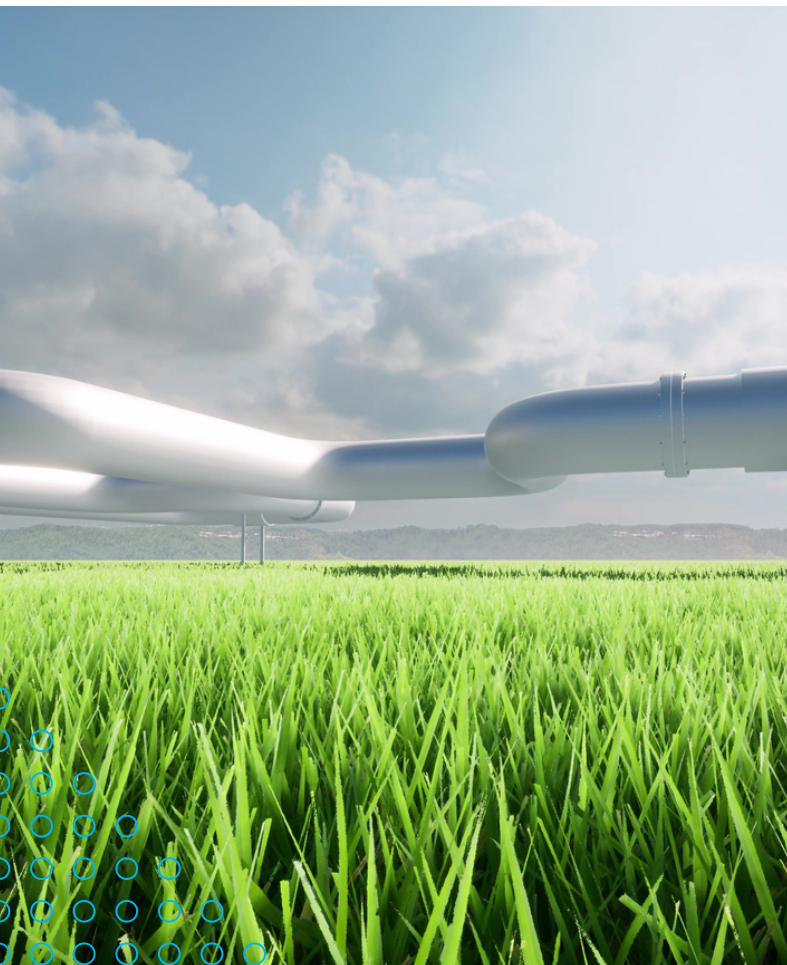
A Hydrogen project has various stages from progression to implementation and each of these stages require significant expertise in helping to progress the project.



Contact

Let's Get Work Together

Let's discuss how hydrogen can benefit your business



Novgera



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