

Shannon Technology and Energy Park (STEP) Power Plant

Appendix A1.1: A STEP Toward Zero

Shannon LNG Limited

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**A STEP
toward
zero**

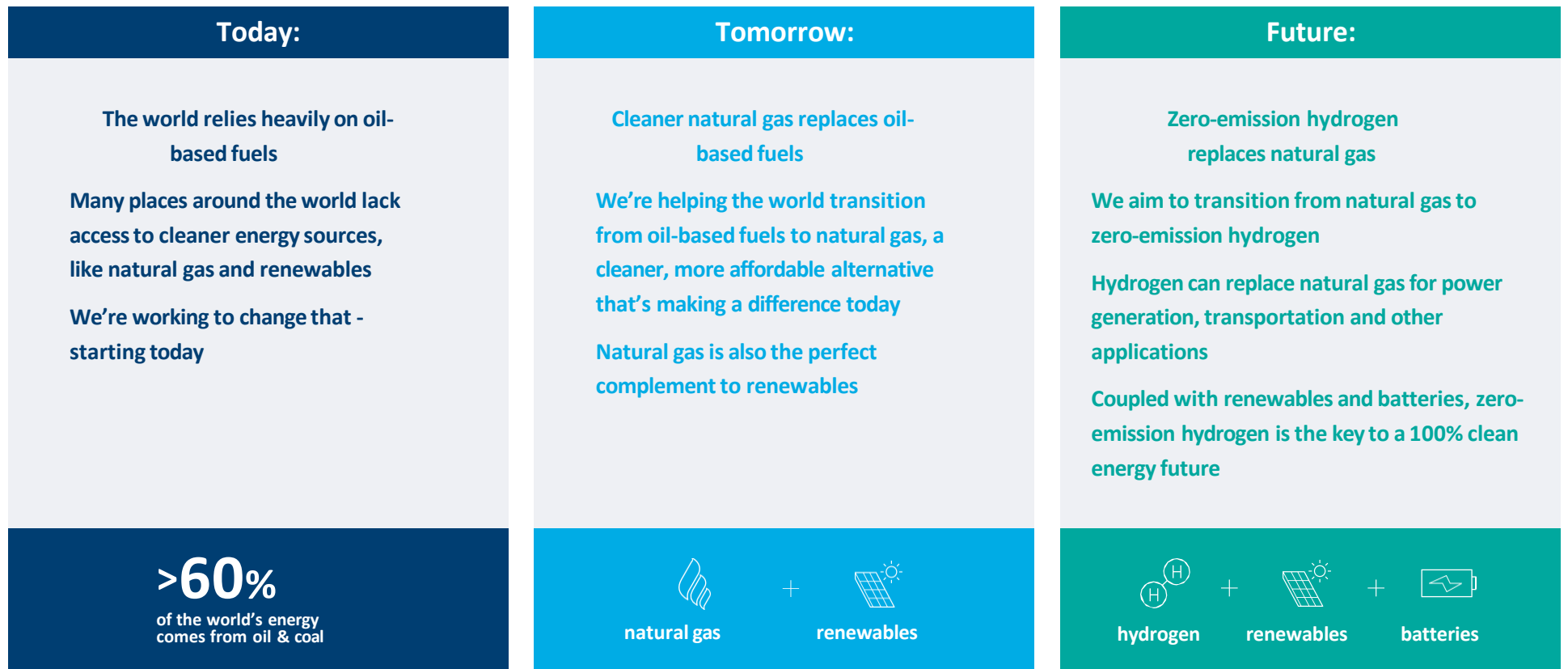
We are an energy transition company

We build critical energy infrastructure where it's needed most.

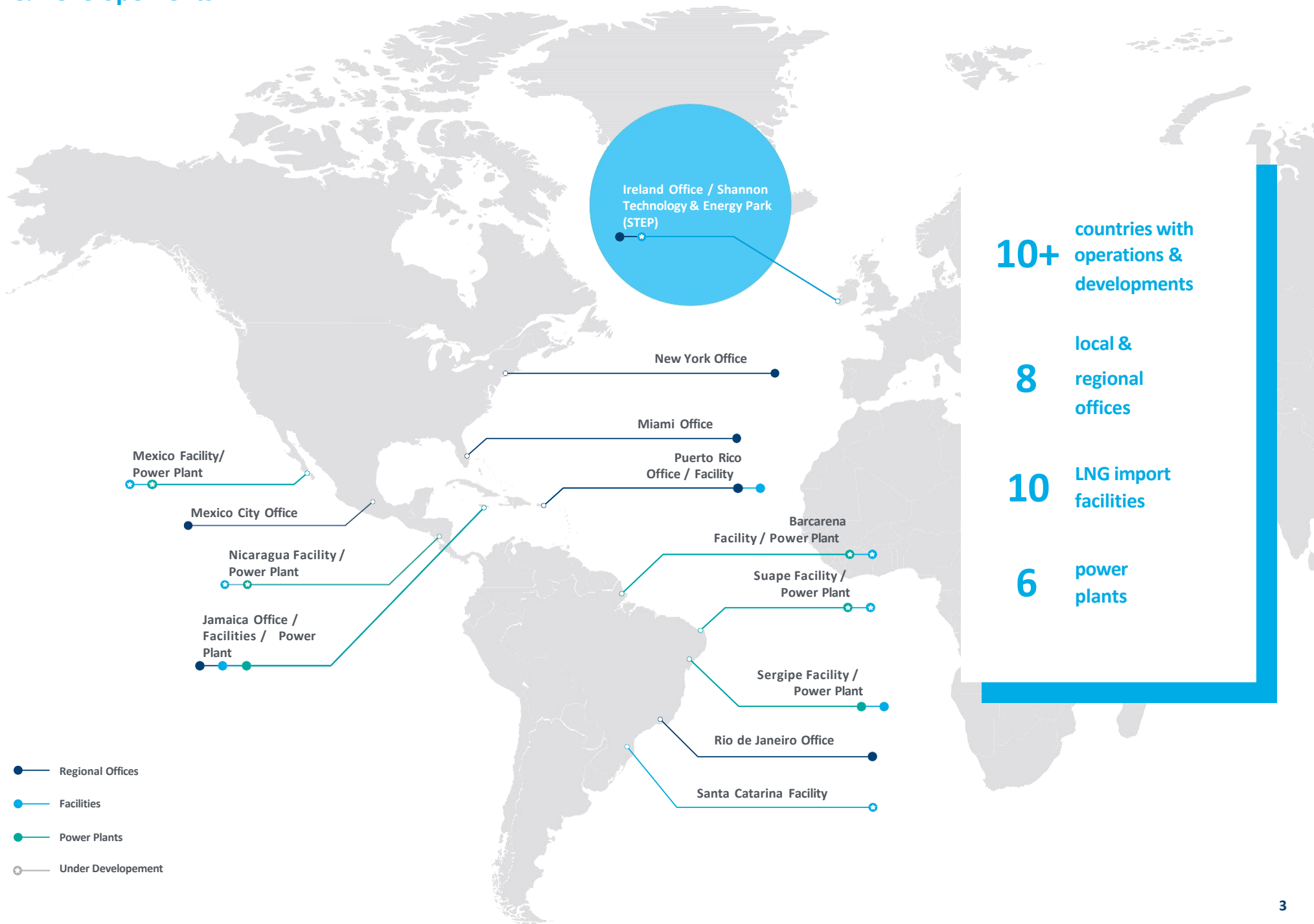
Today, we help customers replace oil with natural gas.

Tomorrow, we'll help them replace gas with emission-free hydrogen.

Our transition approach



Our Operations & Developments



10+ countries with operations & developments

8 local & regional offices

10 LNG import facilities

6 power plants

What is Shannon Technology & Energy Park (STEP)?

We're proposing to develop a 600 MW CCGT power plant and a 120 MW battery energy storage system



Assets & Permits:



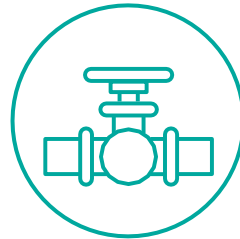
Obtained planning permission for pipeline to national grid



Secured 99-year foreshore leases and licenses



Secured Wayleave agreement with all landowners on 26km route



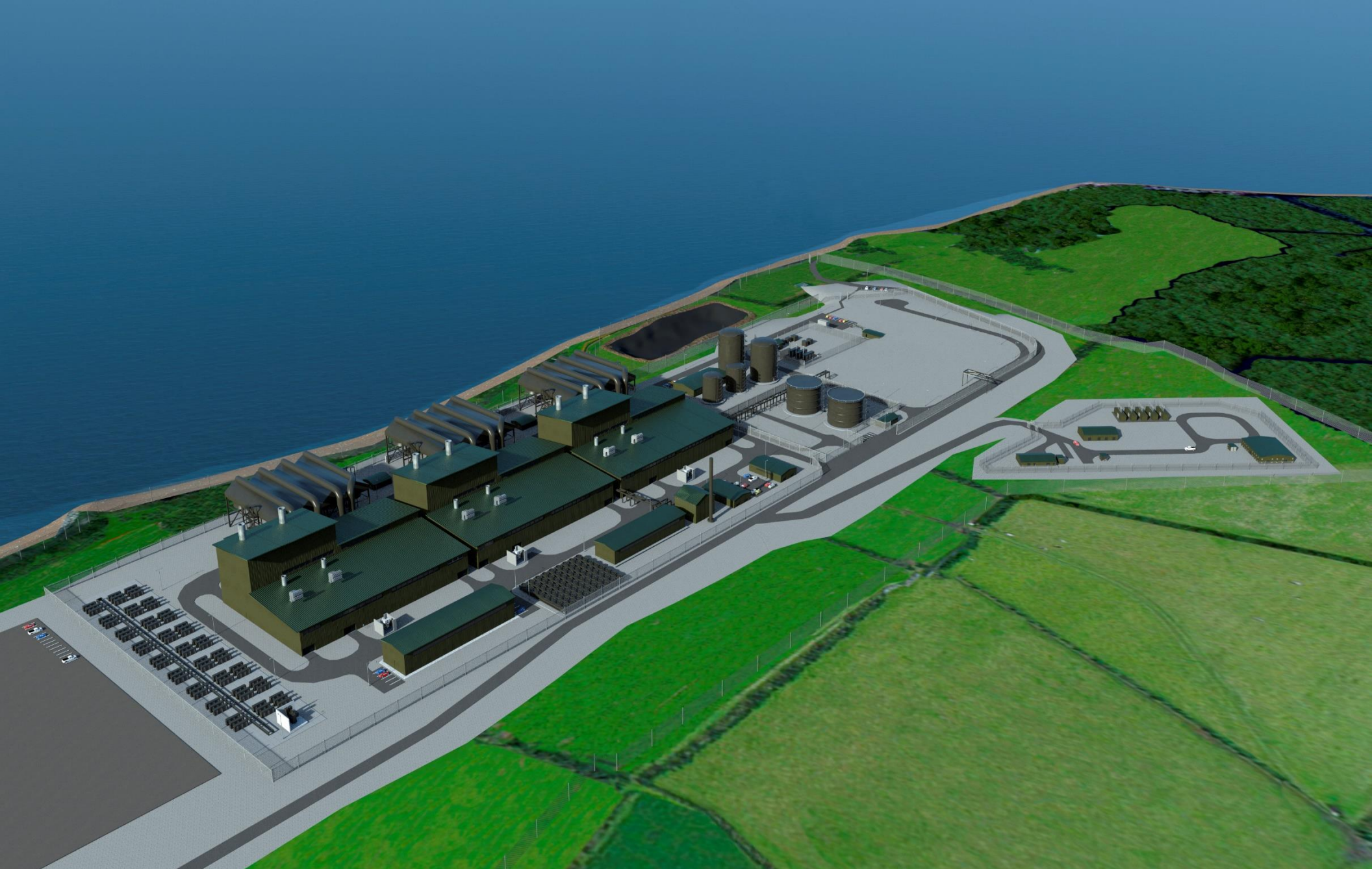
Purchased site to connect to national grid



Completed extensive studies and site investigations



400+ acre zoned industrial land bank available



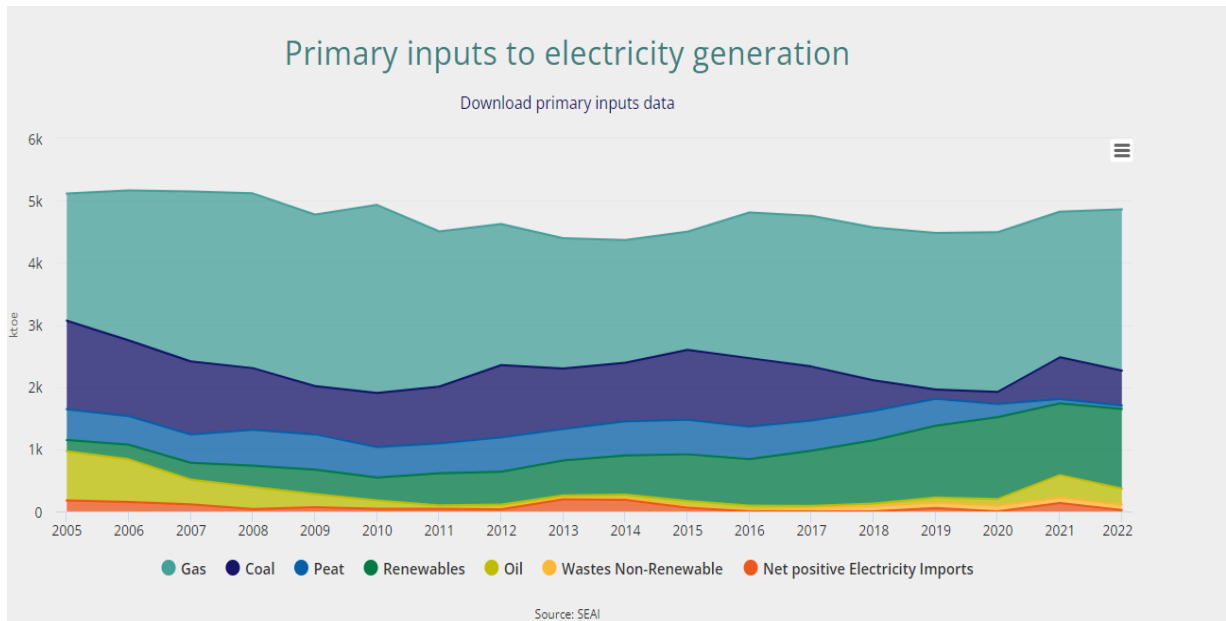
STEP has been designated as Strategic Infrastructure

Supporting Ireland's Energy Transition

STEP will provide critical support to the build-out of renewables

The Climate Action Plan includes generating 80% of electricity from renewable sources by 2030. However, renewable generation is weather-dependent, and output fluctuates dramatically.

As the Climate Action Plan also calls require at least need to “Deliver circa 2 GW of new flexible gas-fired generation by 2030 and for phasing out peat and coal entirely, the gap between demand and renewable generation must be filled by gas.



STEP will be ideally suited to enable intermittent RES:

✓ 600MW CCGT power plant will be the most modern and efficient technology

✓ Fast acting with very low minimum stable generation

✓ Battery provides the ultra fast response system services that a 80% RES grid requires

✓ Will be dispatched ahead of older, less efficient and higher emitting plant

Securing Ireland's Energy Future





“Gas is an essential transition fuel for Ireland as we move to a fully decarbonised energy system. Gas-fired generation will play a pivotal role in underpinning electricity security of supply and the secure electrification of heating and transport. ”

CRU Commissioner MacEvilly
Testimony to Joint Committee on Environment
and Climate Action debate

“Ireland will need 2,000 MW of dispatchable gas generation by the end of 2026, which will backstop the system and ensure that there is sufficient security of supply, while removing old fossil-intensive plants in the system”

Eirgird CEO Mark Foley
Testimony to Joint Committee on Environment
and Climate Action debate

Our facility will address Ireland's capacity Shortfall

-  STEP provide 600 MW of fast acting flexible thermal generation capacity to the Irish electricity market
-  Provide a 120 MWh (1-hr) Battery Energy Storage System (BESS) to participate in the electricity ancillary services market
-  Deliver 400MW to the State by no later than October 2026 as per Capacity Contract award.
-  To help deliver GW of new flexible gas-fired generation by 2030 as per CAP 2024

A STEP toward Zero

STEP will also help lead the transition to a zero-carbon future for Ireland

Our vision is to integrate offshore renewable power and green hydrogen within our facility in order to transition from natural gas to zero-carbon energy over time.

The CCGT power plant can operate at 50% H₂ blend by design

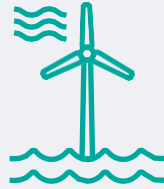
The Power Plant & Terminal can transition to hydrogen gas (subject to necessary permits) once the technology, public policy and supply chains are fully developed.

Hydrogen is a significant part of all pathways that lead to net-zero carbon by 2050

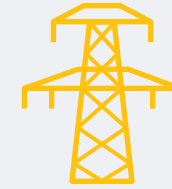


Strategic Location

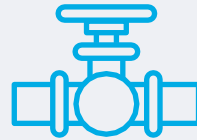
STEP is ideally located to serve as a renewables gateway into Ireland



Offshore wind landing location for offshore wind in the Atlantic



Back-up power high voltage (400kv) electrical transmission system only 5km away



Gas network only 26km from Ireland's gas pipeline network



Fibre access access to fibre just 60km from site



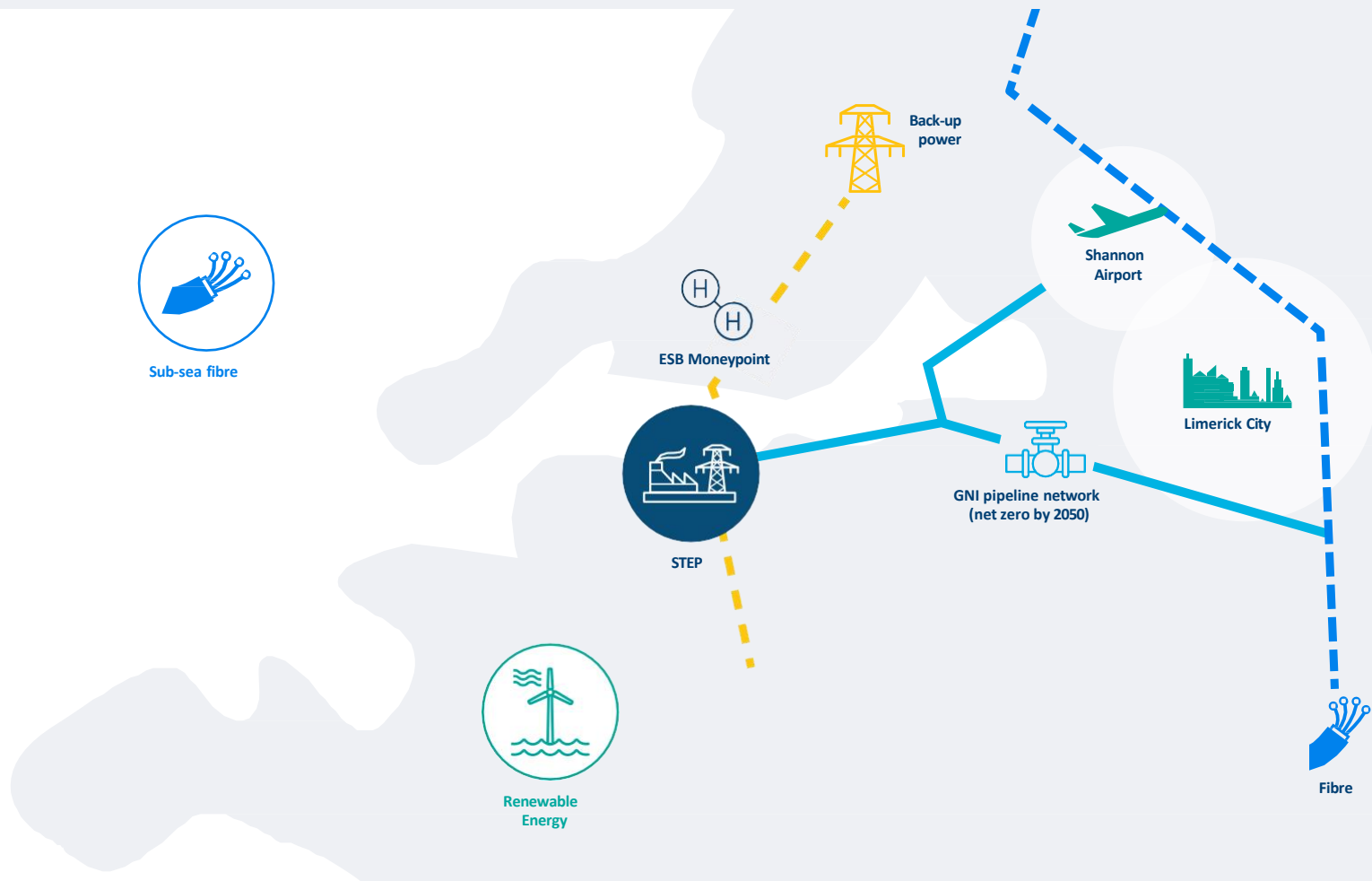
Offshore Renewables



Sub-sea fibre



Renewable Energy

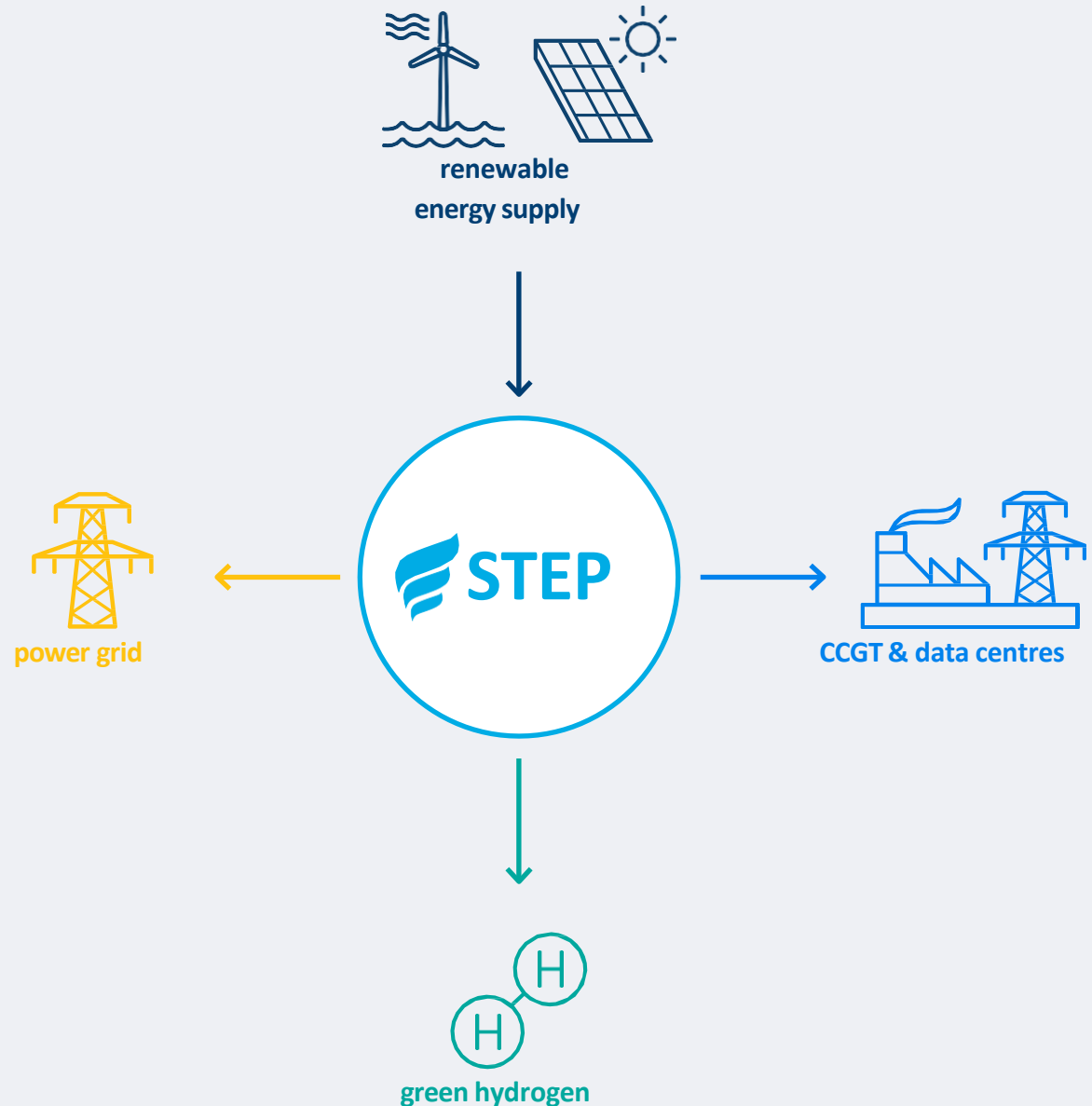


Multi-Use Decarbonization

STEP will offer multiple opportunities for decarbonisation

Offshore wind and onshore solar power can be*:

- 1 Fed into the power grid
- 2 Used onsite to decarbonize the CCGT and data centres
- 3 Used to generate green hydrogen for use onsite & for long-term energy storage



*Subject to new permits and the implementation of the required policies and associated supply chains.

NFE's Path to Zero

We are already working towards a net-zero future

Established in 2020, our Zero division is tasked with transforming NFE into one of the world's leading providers of carbon-free power by replacing natural gas with zero-emission hydrogen.

Zero is investing in and deploying emerging hydrogen production technologies that promise to lower the cost of zero-emission hydrogen to around \$1 per kilogram — comparable to the cost of fossil fuels.



Talk to every hydrogen company we can

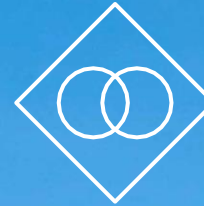


Identify the most promising hydrogen production technologies (traditional and non-traditional) for reaching \$1/kg zero-emission hydrogen

How we get to



Invest in these technologies to help them scale up



Build proofs of concept



Integrate into our operations

Case Study

Long Ridge Energy Terminal

- Access to low-cost renewable power for green hydrogen production
- Existing salt domes onsite for cavern construction for hydrogen storage
- Situated on 1,660 acres beside Ohio River with access to abundant water for electrolysis.
- New 485 MW power plant powered by GE H-class turbines
- First GE H-class turbine to blend hydrogen worldwide
- Objective to use 100% hydrogen in future



Case Study

ZeroPark One Advancing one of the largest green hydrogen projects in North America

- In October 2020, our Zero division announced its first investment into a green hydrogen production technology company.
- Entered into a hydrogen supply agreement (HSA)
- Covers 100% of ZeroPark I's output
- Allows for the doubling of project to 200 MW
- Leading the electrolysis technology industry
- Manufacturing systems for project scalability
- Preliminary site work completed & long lead equipment secured
- Civil construction mid- December 2023
- First bubbles (4Q24),
- Ph. 1 COD 100 MW
- (1Q 2025), & Ph. 2 COD 200 MW (YE 2025)



NFE's Commitment

We are committed to sustainability and protecting the environment.

We believe in making a significant impact today while planning for a zero-carbon future.



Our Founder

“We envision a world in which everyone, everywhere has access to affordable, 100% clean energy. Protecting our environment and expanding energy access shouldn’t be conflicting goals. Our mission is to transform NFE into one of the world’s leading providers of carbon-free power by replacing fossil fuels with affordable zero-emission hydrogen.”

— Wes Edens,
Founder & CEO



