MANNOK

WORLD CEMENT ASSOCIATION®

Annual Conference 2024

Experience of the challenges of implementing a net zero roadmap

18-19 May 2024

Damian Reilly

Mannok Cement, Ireland

MANNOK

MANUFACTURING FACILITIES

800+
Employees 2023

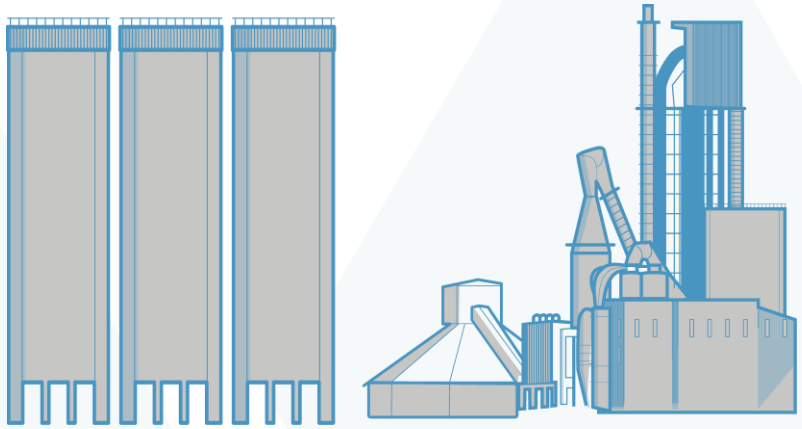
€307m
Turnover 2023

€112m
Investment 2015-2023

DISTRIBUTION ROUTES

CHALLENGES

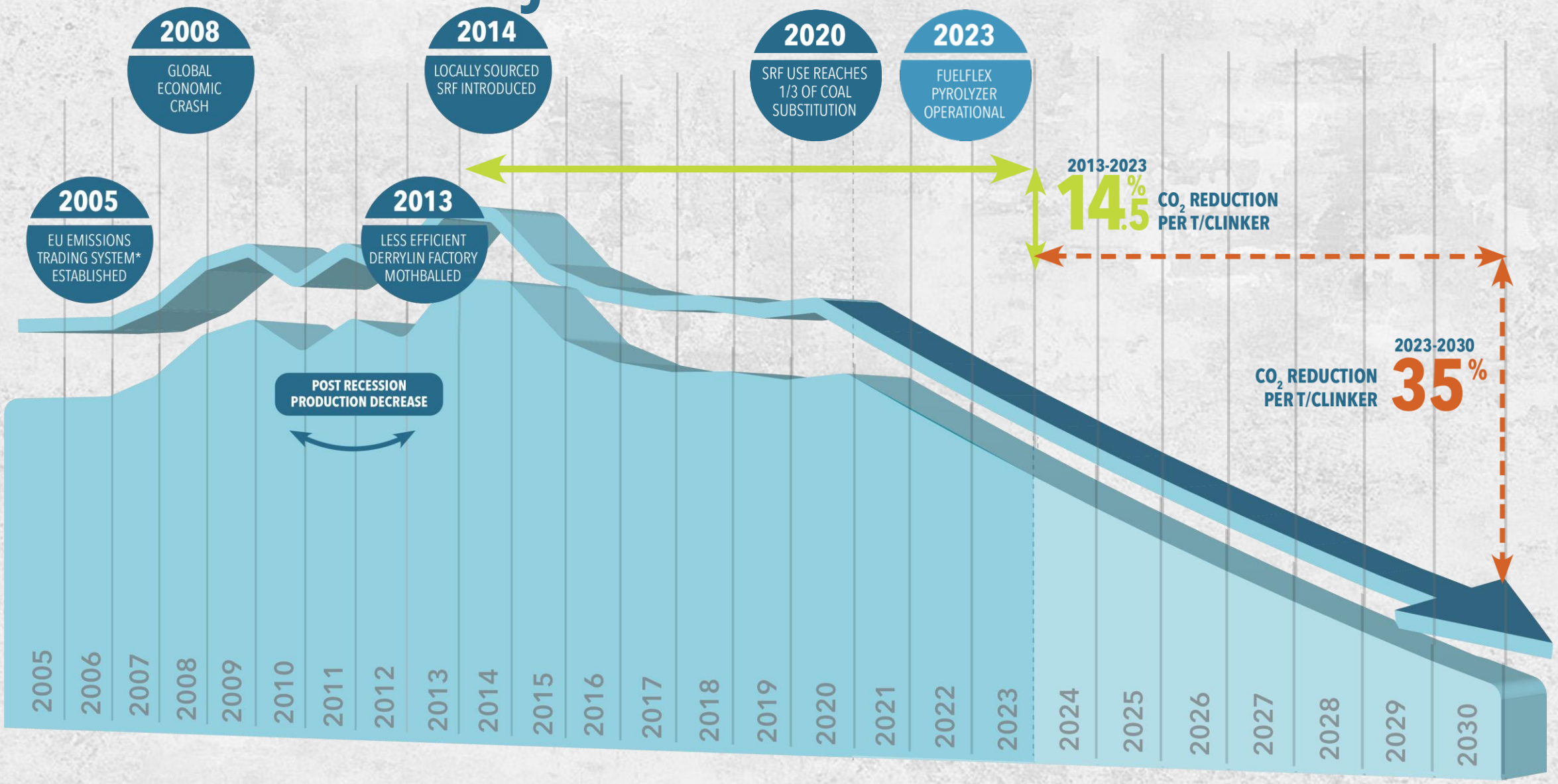
- Very Carbon Intensive Product Range
- Large HGV Fleet dependent on Road/ Deisel
- No rail network/ No gas connection
- Very congested Electricity Grid
- 100 miles to the sea by road (CCS)
- Irish Sea Crossing for 50% of business



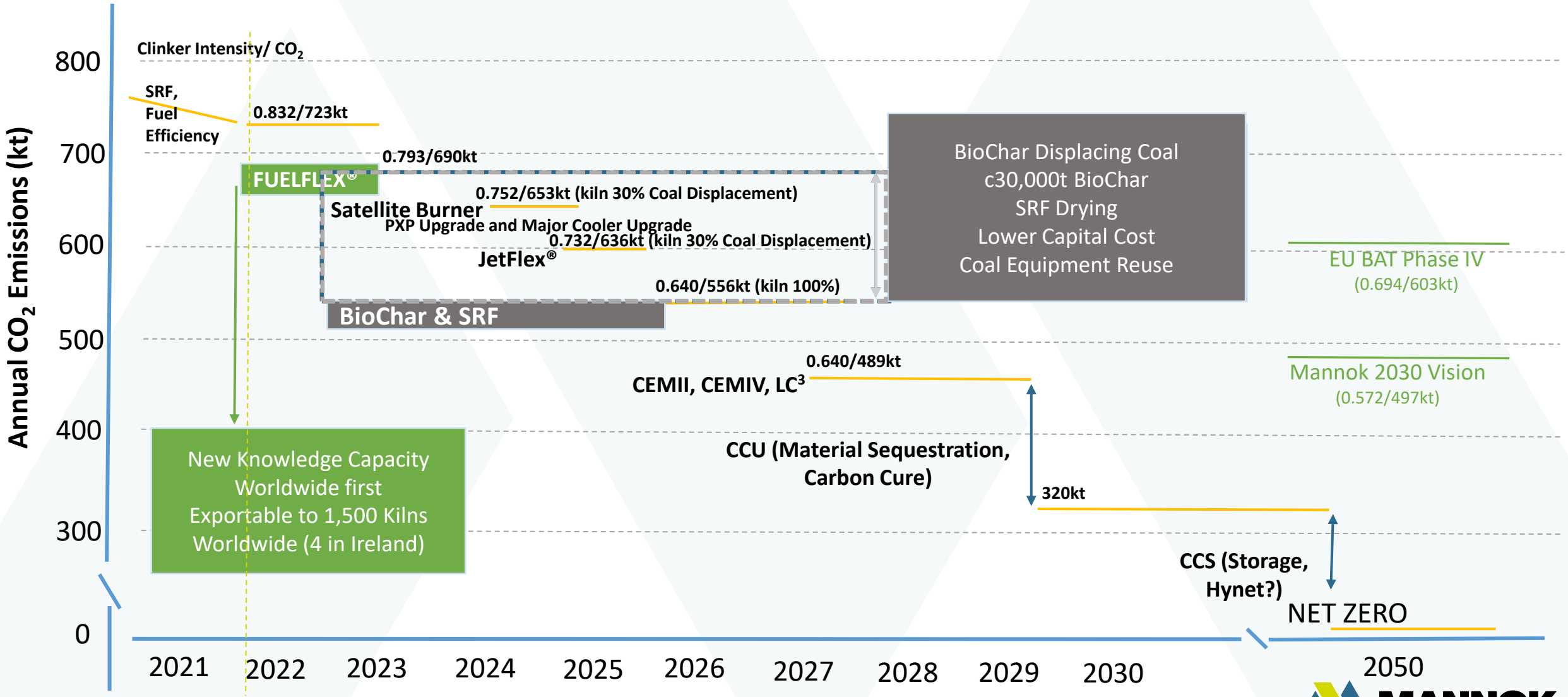
OPPORTUNITIES

- Limestone & Raw Materials
- High Wind Yield Region
- Have well-developed strategy and plan to decarbonise – Energy Valley
- Very competent and determined workforce
- Increasing interest from international partners/ academics/ research institutions to our ambitious Net Zero Plans

DECARBONISATION JOURNEY



MANNOK ROADMAP (2022: 1mt finished cement, 869kt clinker)



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CEMENT CO2 TREND

Ongoing Projects

False Air reduction Programme - ongoing
Various Control System upgrades
Mill Refurbishment
Energy reduction initiatives: VSDs, Energy Management System, Compressed Air

A World First

FUELFLEX® Pyrolizer

Significant Development in Carbon Emisson Reduction

https://youtu.be/5C8mRPpH2ow

FLSmidth

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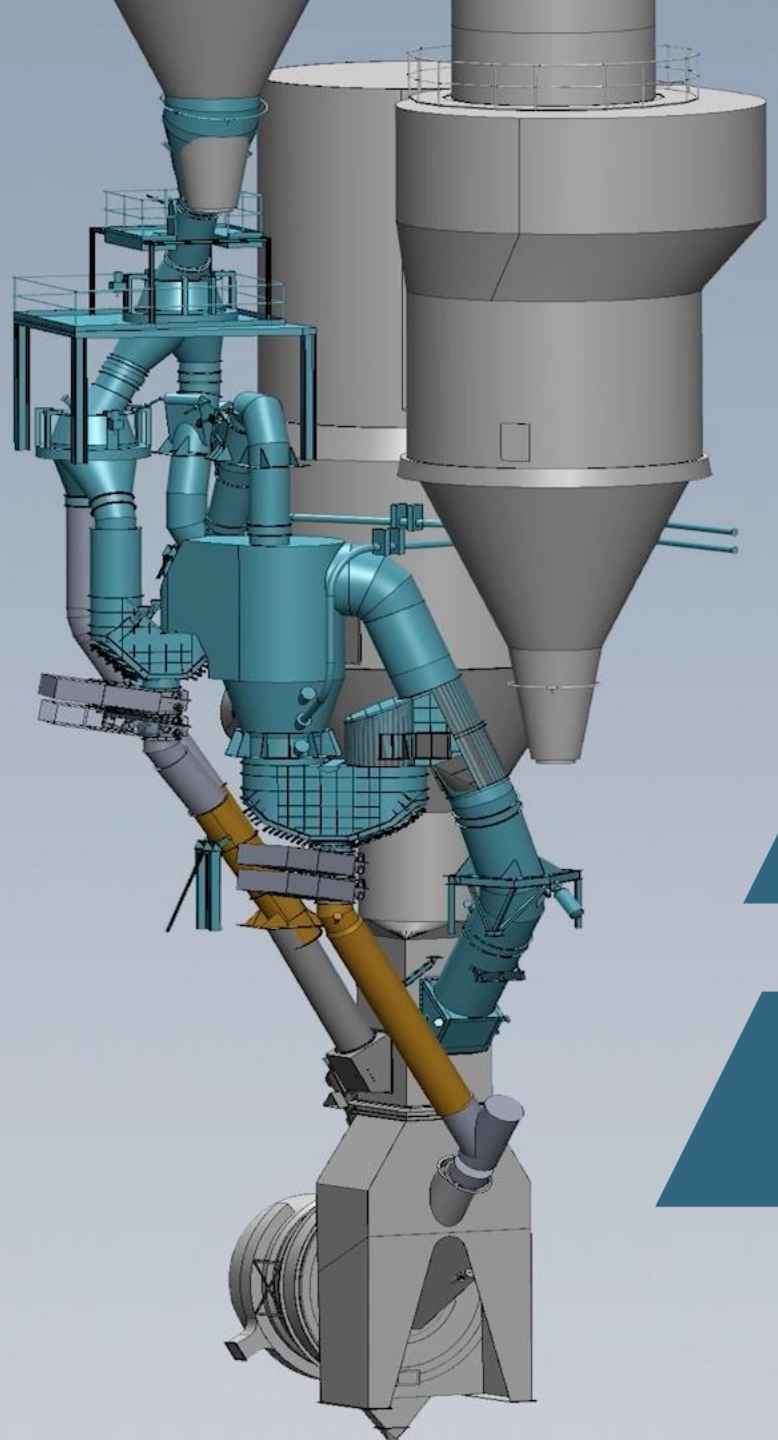


FUELFLEX® Pyrolizer

BENEFITS

NOx REDUCTION
SAVED PER WEEK

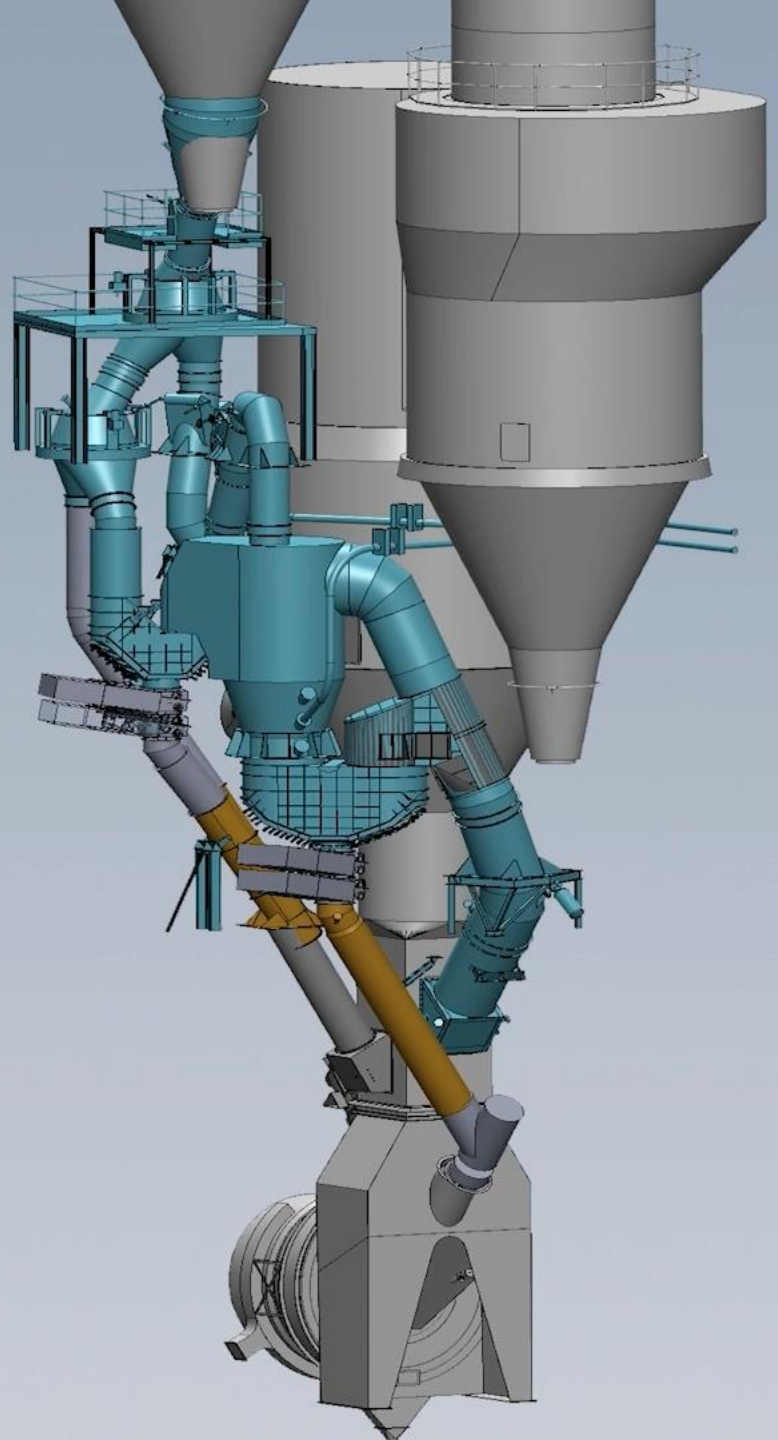
500 - 350 mg/Nm_3
REDUCED RELEASE TO ATMOSPHERE

48K LITRES AMMONIA WATER
SAVED PER WEEK

EQUIVALENT TO:
14.4 MILLION
LITRES PER ANNUM

240 TONNES CO_2 EMISSIONS
SAVED PER WEEK

EQUIVALENT TO:
72K
TONNES PER ANNUM

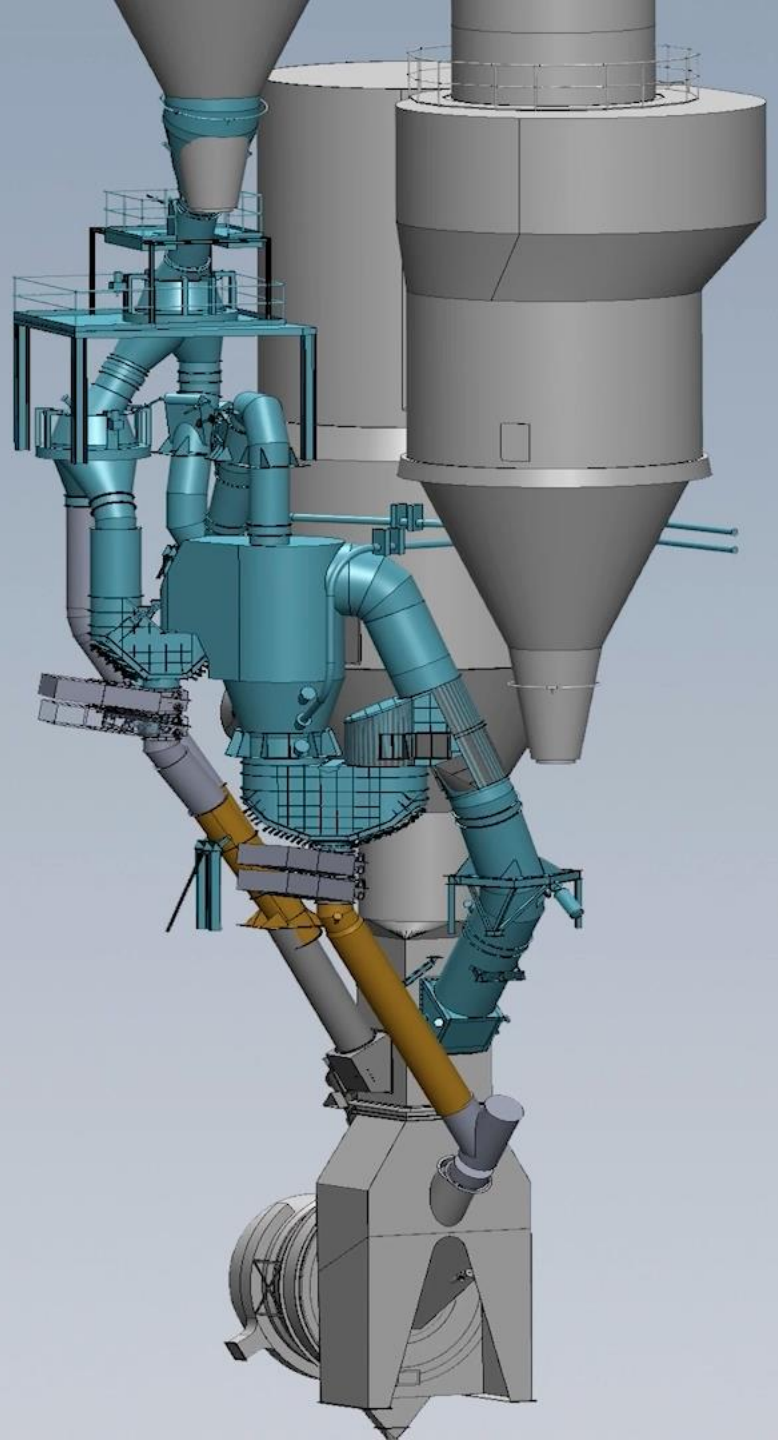


FUELFLEX® Pyrolizer

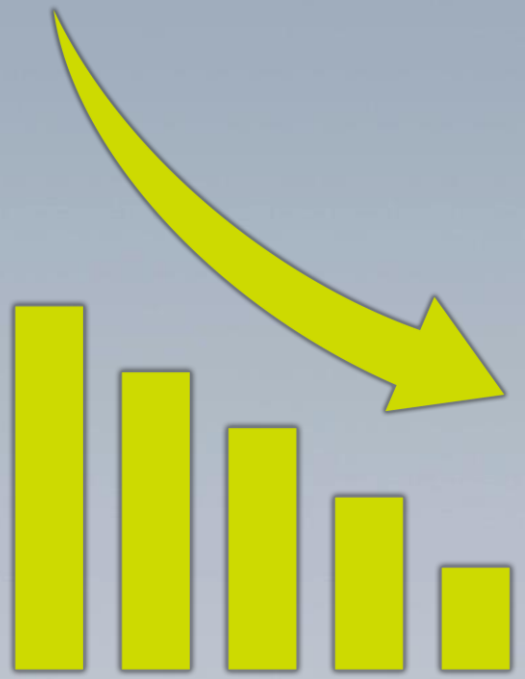
BENEFITS

40K TONNES
COAL DISPLACED

58K TONNES
CO_2 OFFSET



FUELFLEX® Pyrolizer

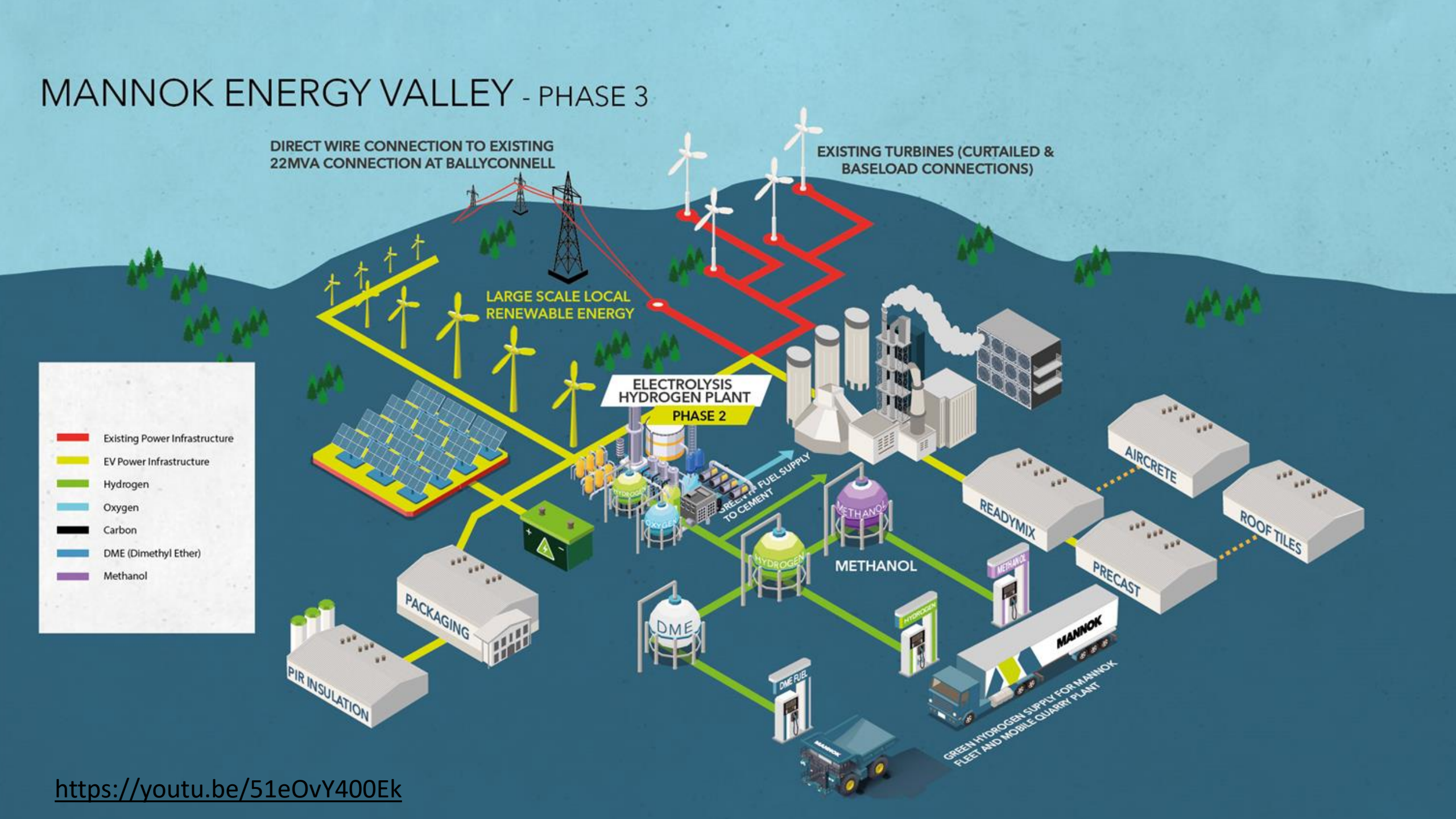


SAVING

€ 12

MILLION

2023

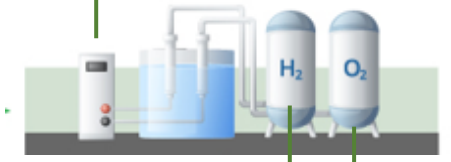


https://youtu.be/51eOvY400Ek

PHASE 1 - CURTAILED WIND TO H_2 - 2027

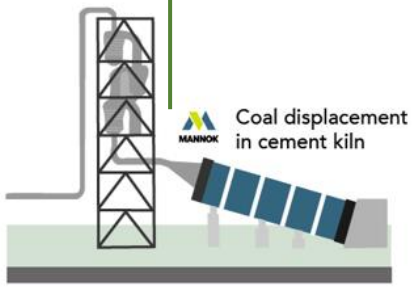
Curtailed and Constrained energy from existing 54MW windfarm

Used to generate large-scale green Hydrogen and Oxygen (Electrolytic Hydrogen Generation)

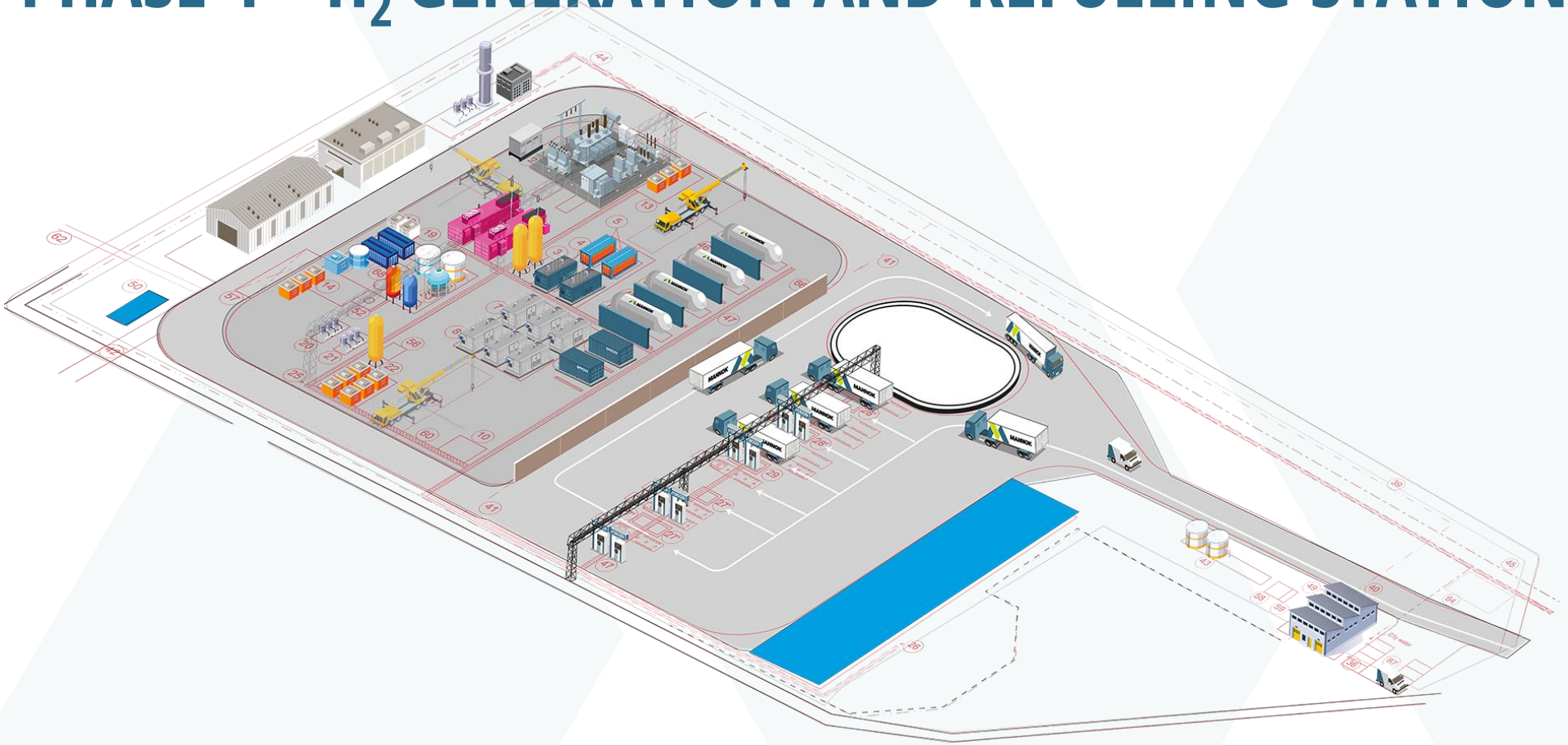


Hydrogen used in Mannok fleet of 200 vehicles and sold to other businesses

Oxygen used in new Oxy-fuel combustion process in Cement Plant: Improves efficiency and makes carbon capture easier



PHASE 1 - H_2 GENERATION AND REFUELING STATION



- Front End Engineering Design complete with tenders being negotiated
- Planning for Hydrogen production in 2027
- Examining many possible curtailed wind locations for similar future projects
- Significant step on an exciting journey to Net Zero

Invest Northern Ireland

Department for Energy Security & Net Zero

Lagan energy

TRACTEBEL ENGIE

Gravis

HyLIGHT

MANNOK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NestWatch 2


谢谢
THANK YOU