

Interreg 
North-West Europe
GenComm
European Regional Development Fund

energía



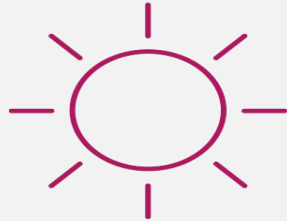
H₂

Andrew.Morrison@Energia.ie

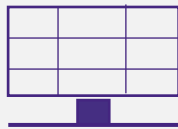
Energia Group



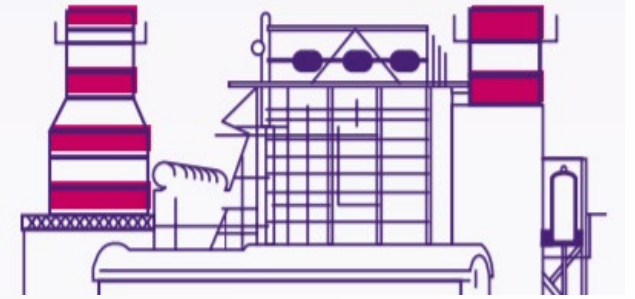
50MW Battery storage plant



Various solar farms in development in Co. Meath and Dublin



15 onshore wind farm sites, which generate over 309MW of green electricity, and an additional 900MW through Power Purchase Agreements, or PPAs



Flexible generation - 747MW Capacity at Huntstown
c.11% of all-island peak electricity demand

H₂

Various hydrogen projects in operation and development



Offshore wind development



EV Charging



832,000 Customer sites

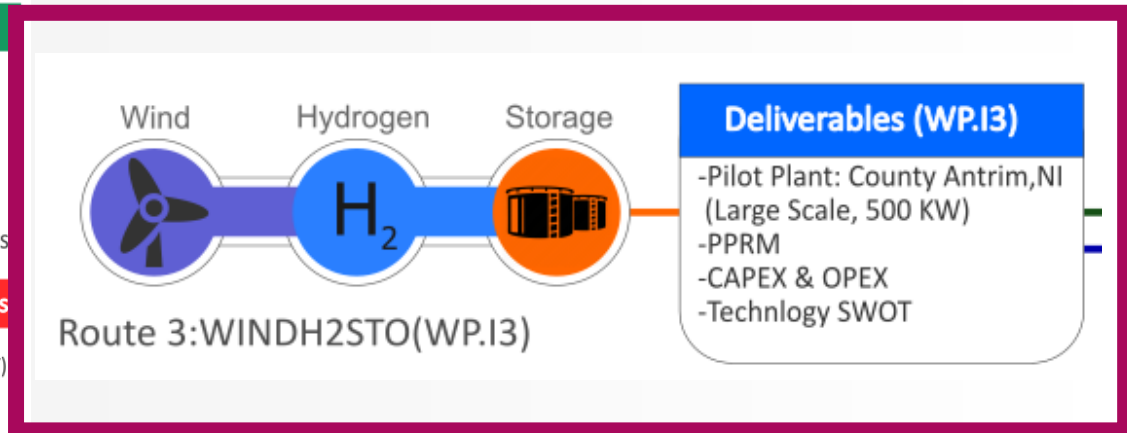
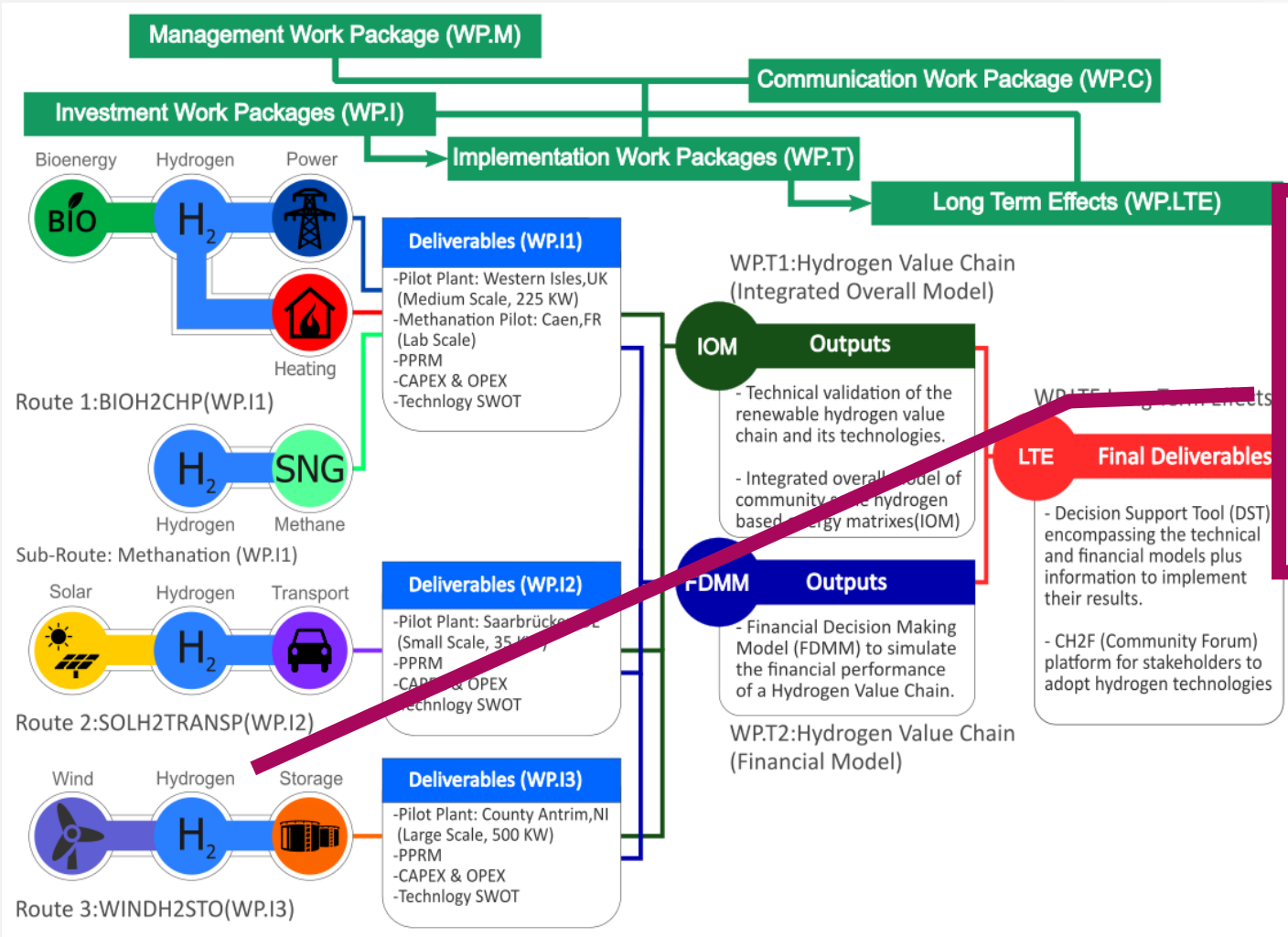


Energia & GenComm

- Northern Ireland was successful in securing funding for the development of Green Hydrogen to supply fuel cell buses in Belfast, this includes:
- A €9.3m EU project, GenComm 1 (generating energy secure communities); led by Belfast Met is a Hydrogen Storage from renewable energy project designed to develop a new model to increase generated electricity from renewable sources and deliver energy security. This includes a 500kW Electrolyser installed on a Wind Farm in NI.
- £4m grant for the supply of 3 Double Deck Buses and Hydrogen Refuelling Station in Belfast from OZEV led by Energia and Translink.
- A further €600,000 under GenComm 2 to enhance the electrolyser from 500kW to 1MW, doubling production.

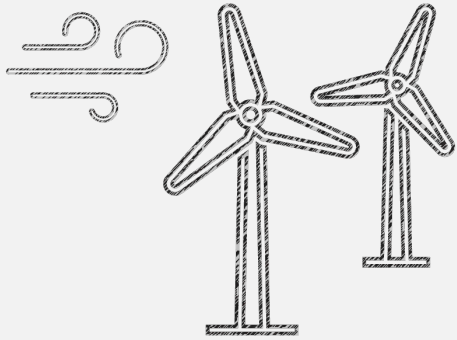


Energia & GenComm



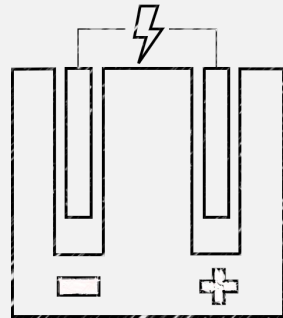
Wind to Wheel

Long Mountain Wind Farm

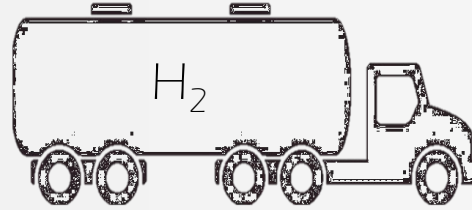


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Electrolyser and Compression System

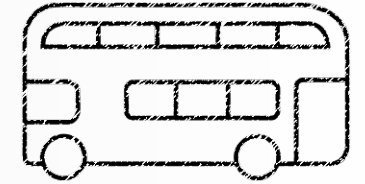
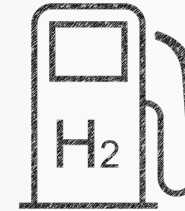


3x MEGC Hydrogen Trailers



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Hydrogen Refuelling Station and 3x FCEV Buses



Office for
Zero Emission
Vehicles

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Long Mountain Wind Farm



27.6MW



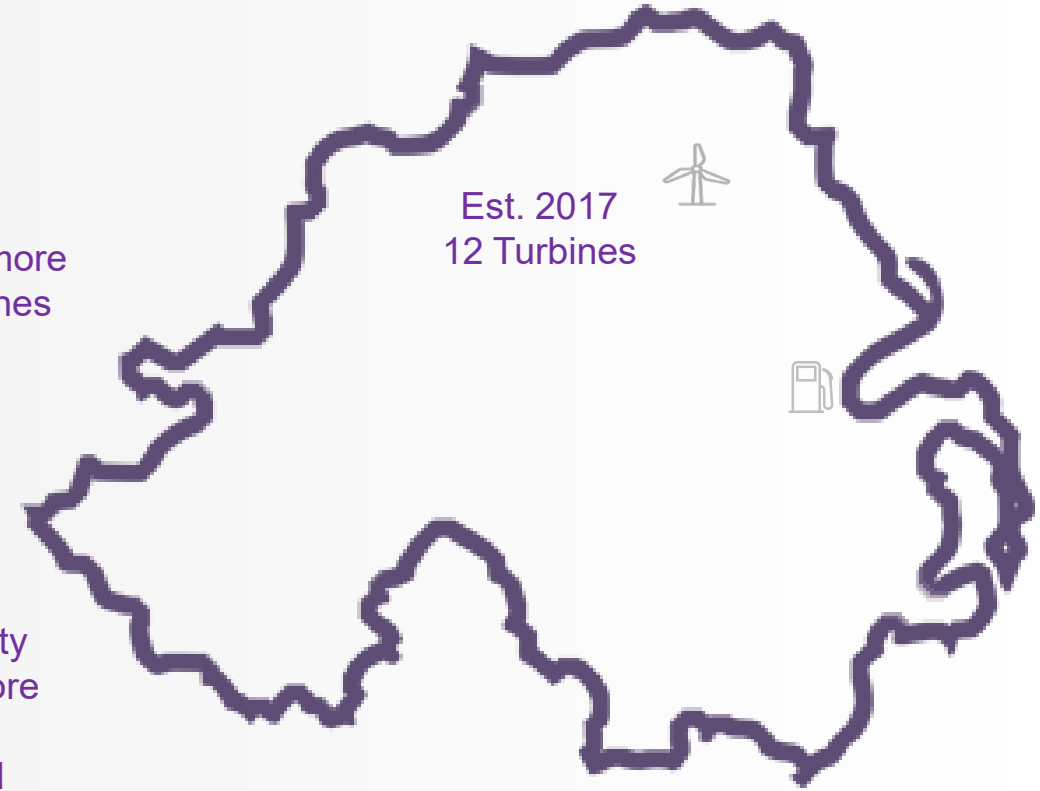
CO₂ savings of more than 15,000 tonnes per annum



Annual community benefit fund of more than £55,000 supporting local community projects



Generating enough energy to meet the annual electricity needs of over 15,000 homes



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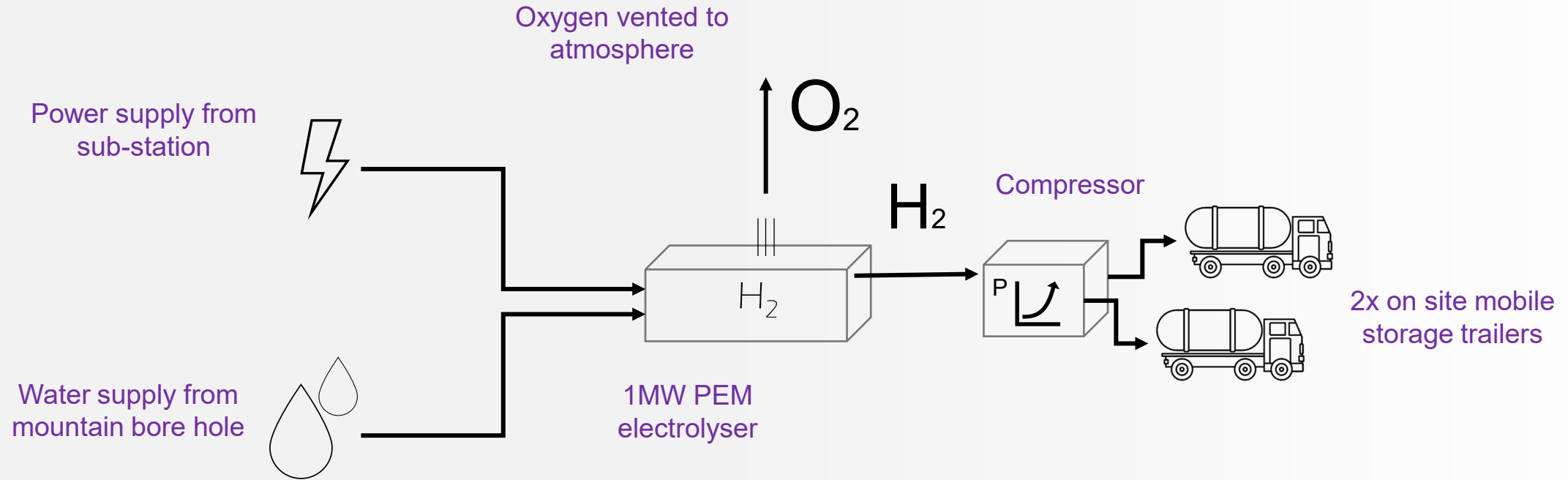
Long Mountain Wind Farm



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Hydrogen Production



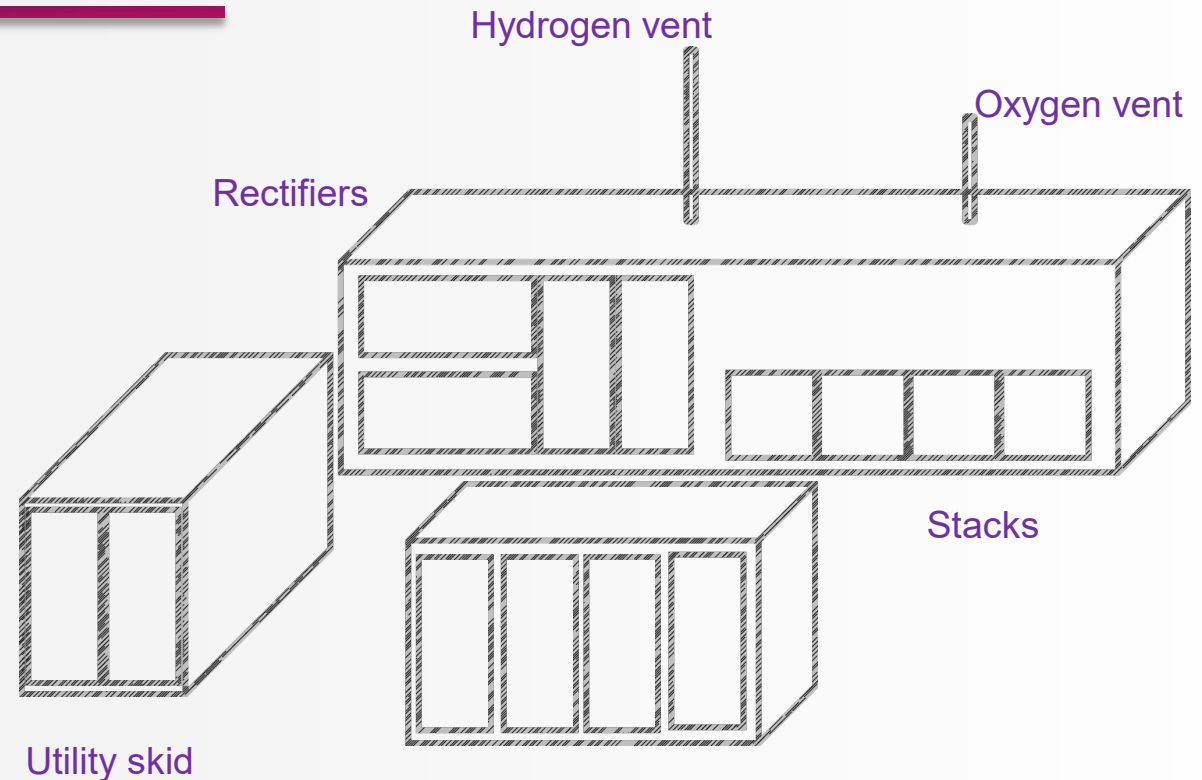
Hydrogen Production

Electrolyser

- Stack output 1MW
- Hydrogen purity 99.999%
- Flow rate 200Nm³/h
- 17kg hydrogen an hour
- PEM technology
- Efficiency 70-80%

Compressor

- 30-300bar pressure range
- Twin filling points
- Automatic trailer swap over
- Trailer level detection to allow slower production of hydrogen at the electrolyser



Hydrogen Production



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Transportation

MEGC Hydrogen Trailer

- The trailer consists of 94 Type II carbon fibre hoop wrapped cylinders within a 20' container.
- The trailer's maximum capacity is 320kg of hydrogen at 300bar.
- The cylinders are vertical with the manifold at the rear for connection.



Hydrogen Refuelling Station



Operating Seven
FCEV Buses



Over 10 Tonnes of
Hydrogen
Dispensed



Over 120 Tonnes of
CO2 Displaced



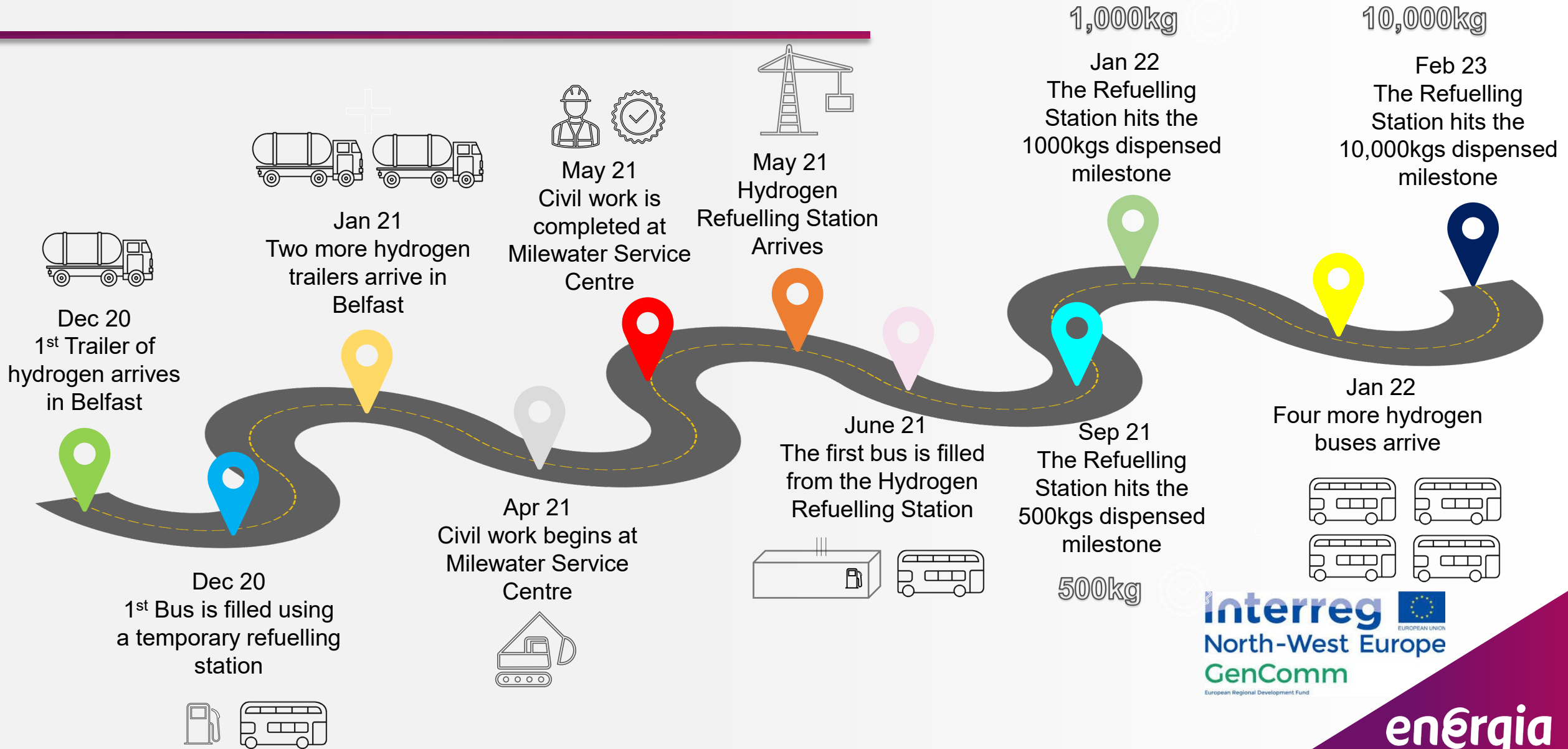
Refuelling Time
Approximately
15mins



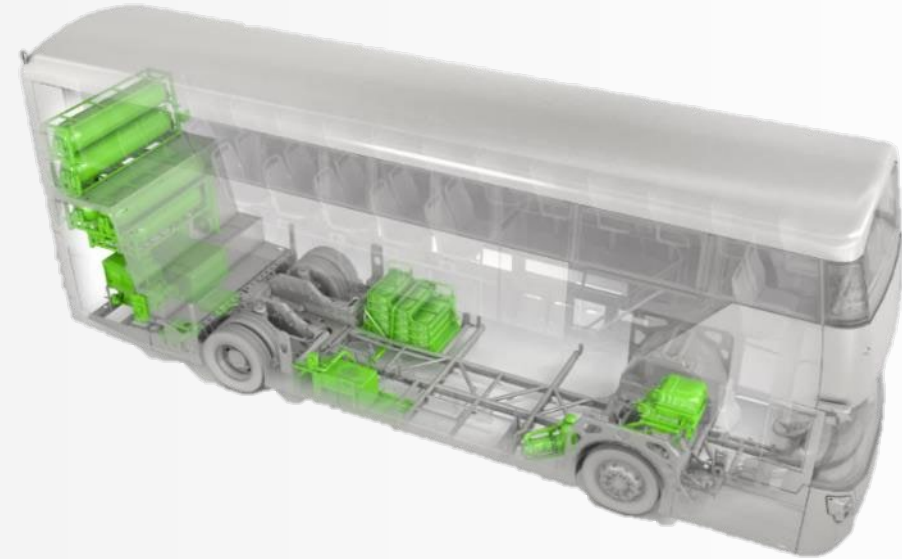
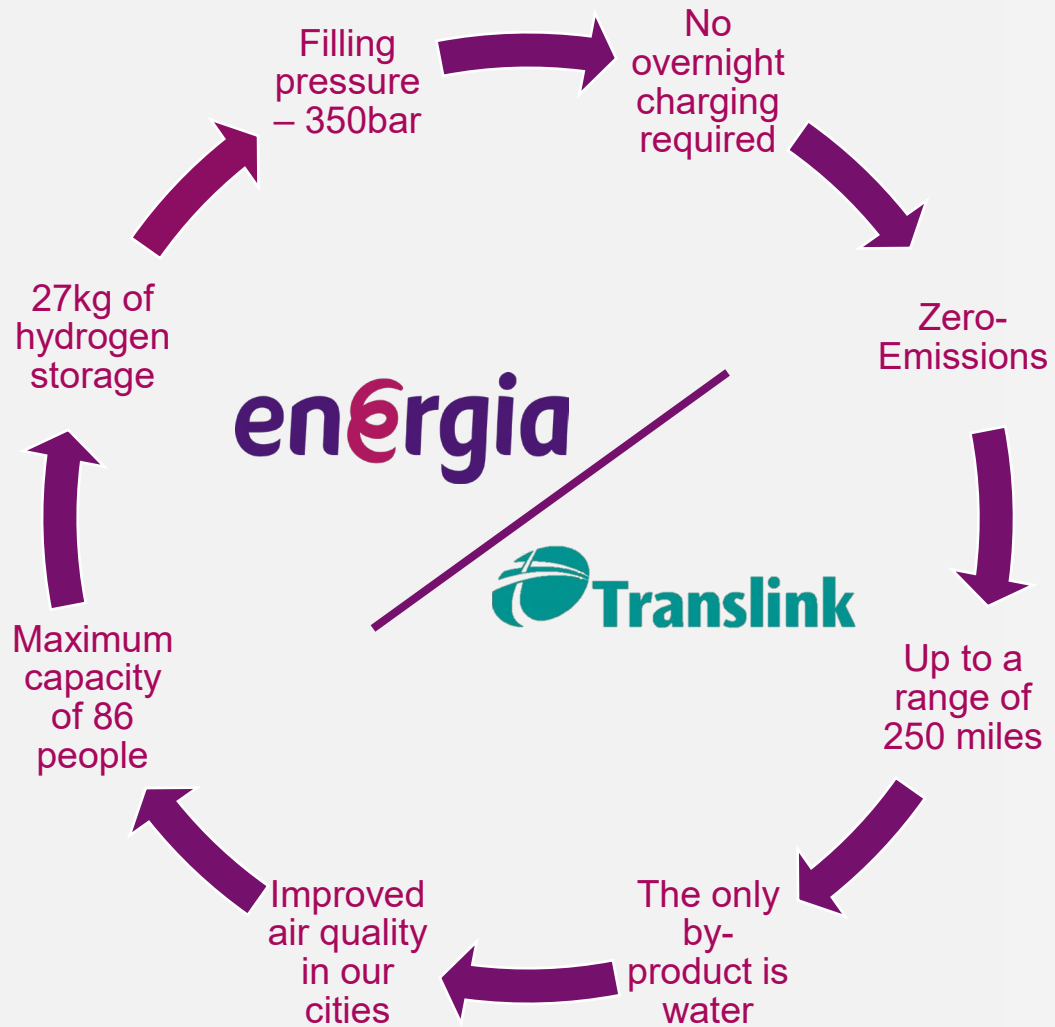
Mobile Storage on
Site



Hydrogen Refuelling Station



FCEV Bus



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Achievements in Hydrogen



First green powered electrolyser on the island of Ireland

First hydrogen public sector buses on the island of Ireland



First hydrogen refuelling station on the island of Ireland



Questions

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