

Gas Networks Going Green

20% Renewable Gas by 2030

Biomethane Circular Economy: Decarbonising Agriculture, Energy, Heat, & Transport

Gas Networks Ireland

Ian Kilgallon | October 2018

Introduction to Gas Networks Ireland

ervia

Aurora TELECOM · Gas Networks Ireland · UISCE ÉIREANN WATER

€147m
capital expenditure in 2018

52%
of Ireland's electricity needs powered by natural gas

62%
ROI gas demand satisfied by Corrib

74,000GWh
of gas transported in 2017. Over twice the energy carried by the electricity network.

688,000
connections



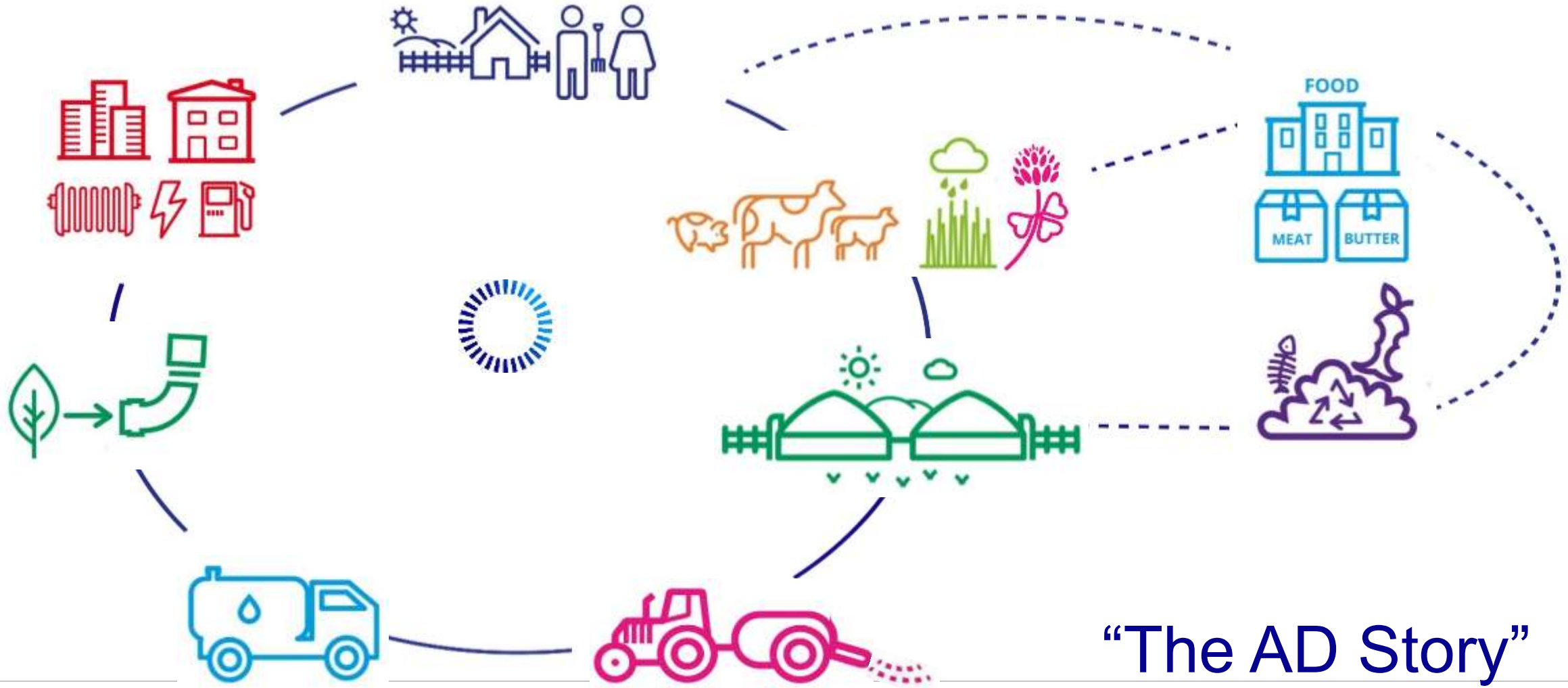
14,172km
of gas pipeline could wrap around Ireland's coastline 4 times

100%
Reliability of our gas transmission network, including interconnectors to the UK.

1 in 50
Flexibility to meet the harshest weather events as seen in 2010 and more recently in 2018

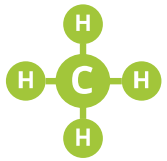
Renewable gas will be injected into the grid in 2018 and has potential to meet

20%
of Ireland's gas needs by
2030



“The AD Story”

Logistics & Central Injection Points





Production Biogas

Road Transport

Grid Injection



AD

Logistics Service

Gas Network Injection



- Biomethane will be either **directly injected** into the Gas Grid or safely transported by specialist gas tankers by an experienced logistics firm to a **central injection point**
- Modern composite trailer units (40ft) can transport up to **110 MWh** of energy per trip and are ideal for distances of up to 100 km.

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Likely Scale & Location of AD Plants



20GWh (1MWe)

3-4 tank system which can integrate within a **rural farm setting**

12,000 tonnes slurry within 3km radius

Land requirement of 1,200 acres dedicated to feedstock delivering 24 thousand tonnes pa (2½% land in 10km radius)

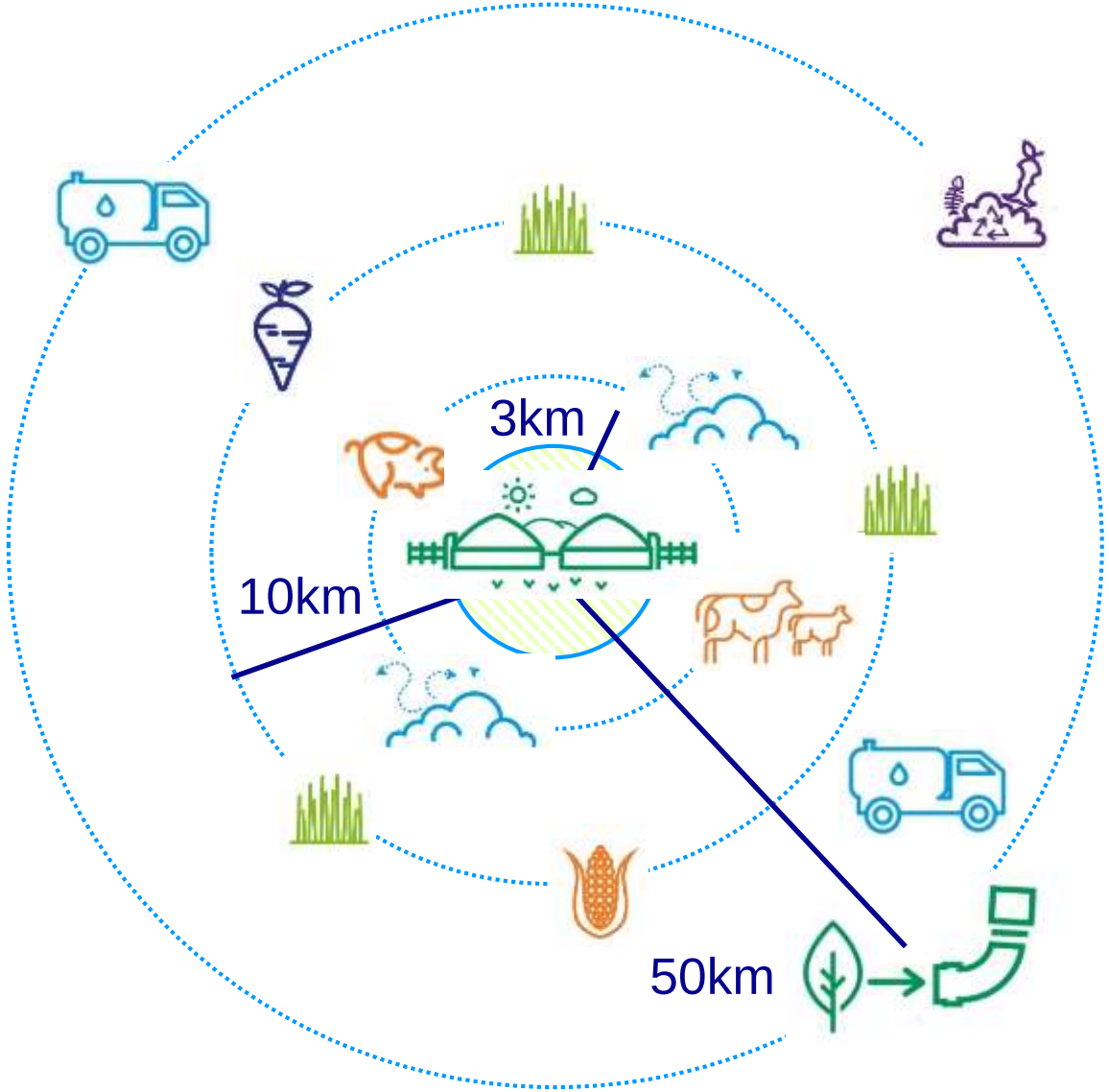


40GWh (2MWe)

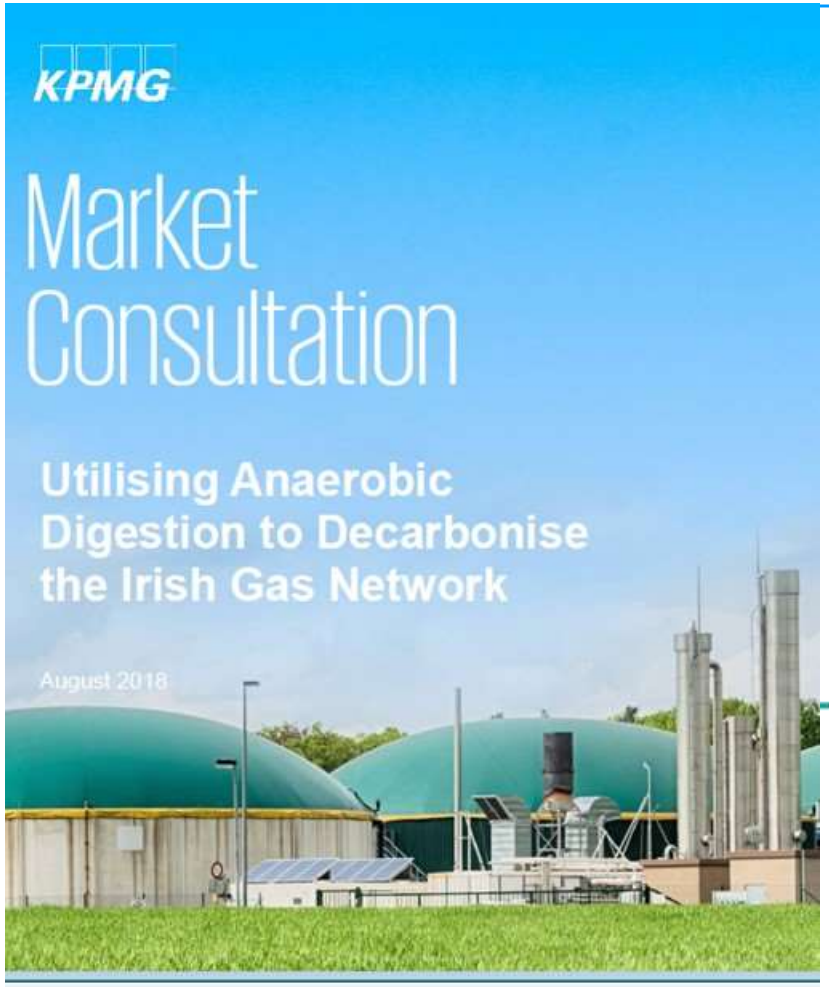
Larger scale plant in a large or non-farm setting

Land requirement of 2,400 acre dedicated to feedstock delivering 48 thousand tonnes pa (5% land in 10km radius)

24,000 tonnes slurry/waste; high energy food industry waste also an appropriate feedstock

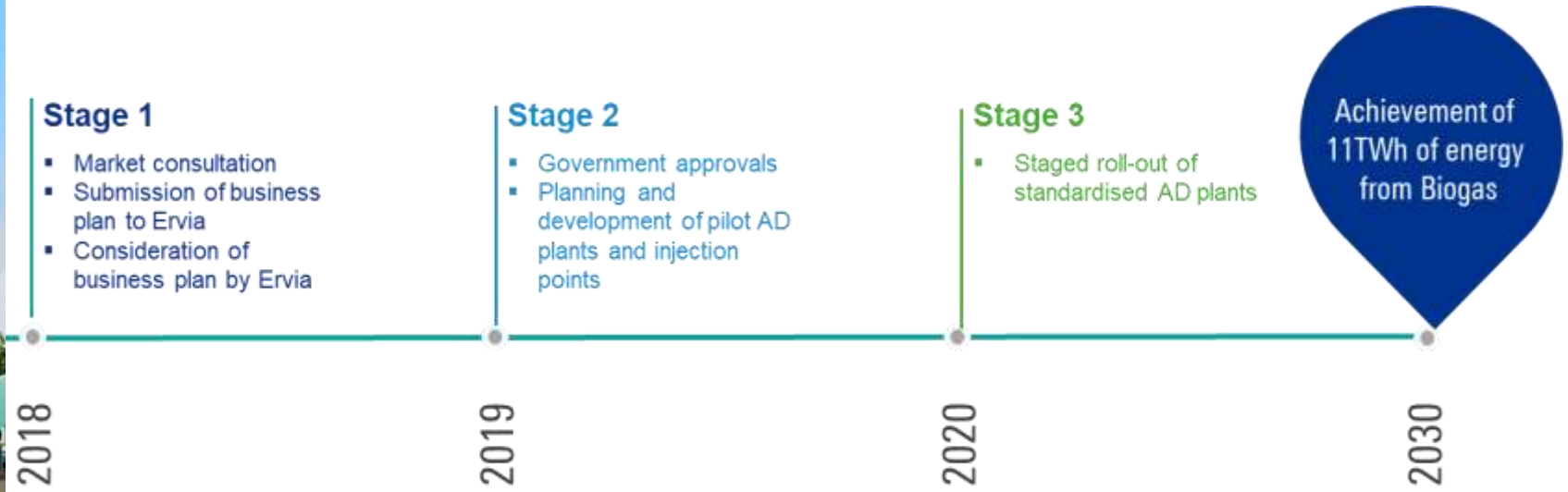


AD Development Timeframe



1st Grid Injection Project – Cush Co. Kildare

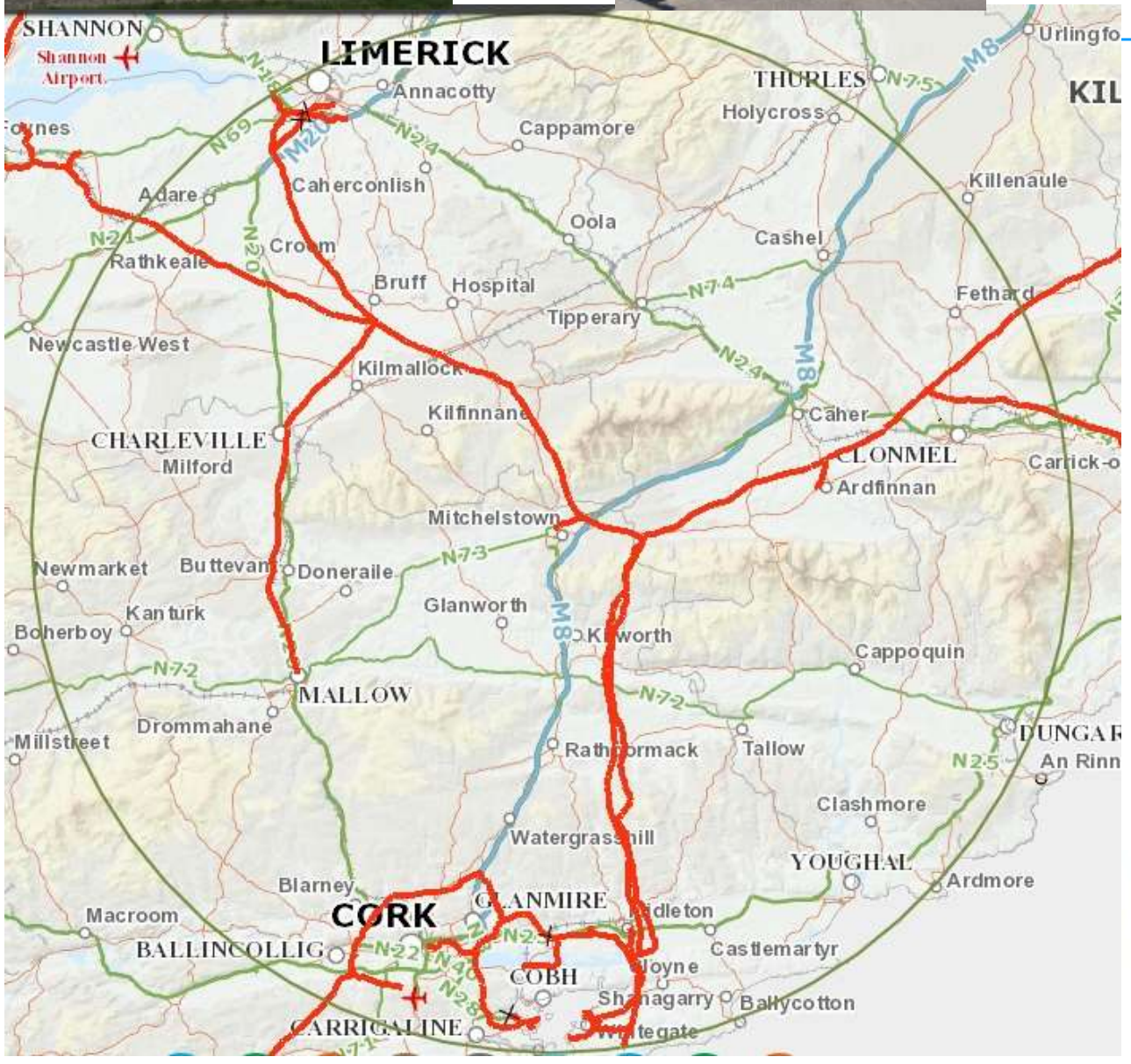
- Commissioning December 2018



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Showcase Programme

- 1st Grid Injection Project – Cush Co. Kildare
  - Commissioning December 2018
- Showcase Development – Mitchelstown
  - Farming clusters (feedstock supply)
  - Farmer & Community owned AD's
  - High capacity Gas Entry Hub
    - Large catchment area
  - Integrated with Agri-Food Manufacturing
  - Establishment Phase, partners include:
    - Ballyhoura Development
    - 14+ Farmers (Dairy, Pig, & Arable)
    - Renewable Gas Forum (RGFI)

BALLYHOURA DEVELOPMENT CLG

Renewable Gas Forum
Irish Green Gas Ltd

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Renewable Gas
Driving a cleaner energy future

Cleaner (significantly reduced vehicle emissions)
Cheaper (save up to 35% on fuel costs)
Proven (>20 million vehicles worldwide)



3% of vehicles in Ireland use **20%** of the energy

CNG in transport produces **16%** less CO_2 than Diesel
and Renewable Gas is **Carbon Neutral**

CNG in transport produces **70%** less Nitrogen oxide,
80% less Sulphur Dioxide & **99%** less Particulate Matter

Decarbonising Transport in Ireland

1st National **CNG Network**

1st 100% Natural Gas **Powered Vehicles**

1st Renewable Gas **Injection Point**

€25 million project budget

Co-financed by EU

14 CNG **filling stations**



1 Renewable Gas injection Facility

1 final network study

20% Renewable Gas by **2030**

Results disseminated in Europe

1 CNG truck = 50 houses gas usage

€700k CNG Vehicle Fund





POWERED BY NATURAL GAS

Gas Networks Ireland



The right choice - Environmentally, Economically, & Socially

Q&A

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