



Bord Gais Networks Natural Gas in Transport

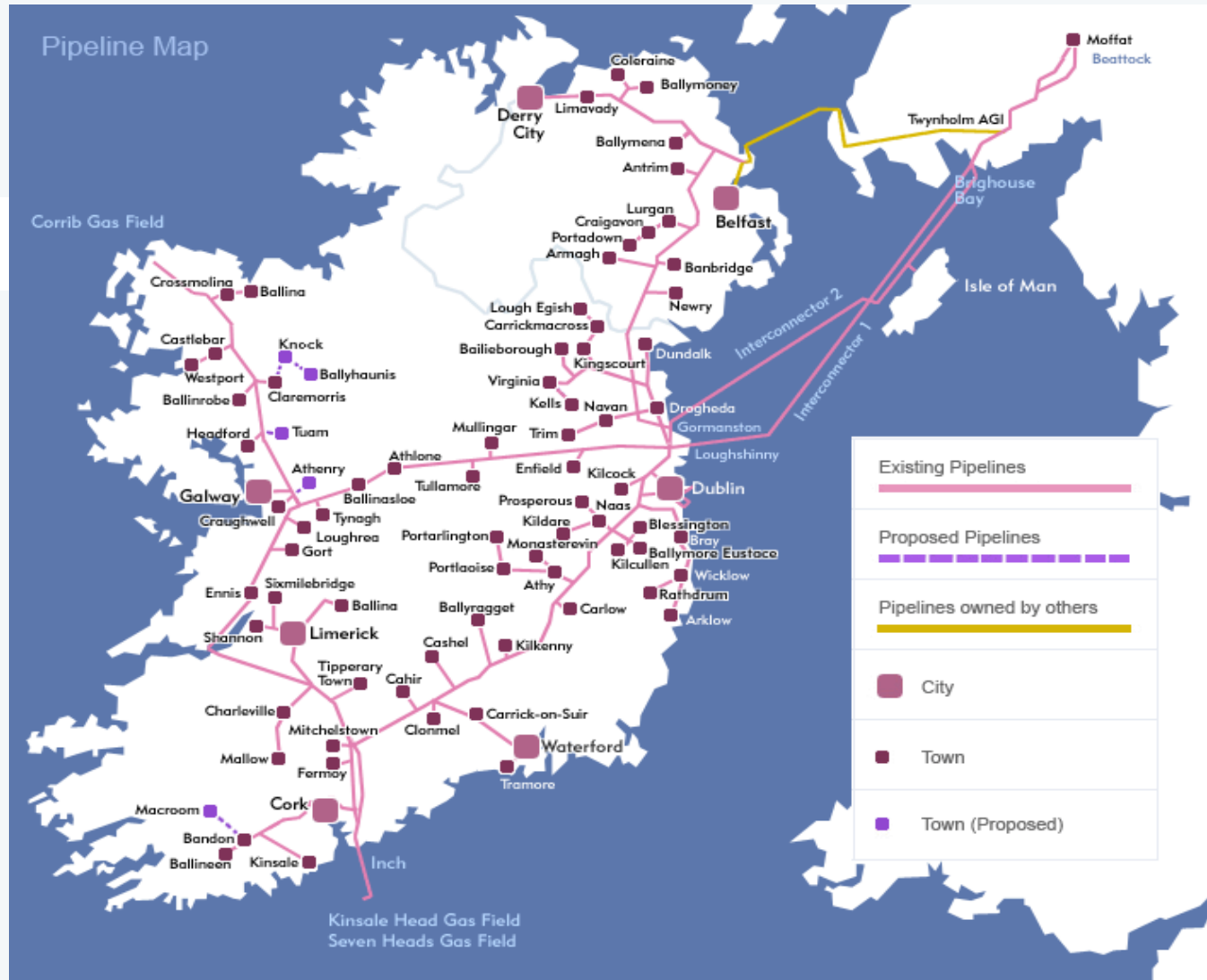
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Bord Gáis

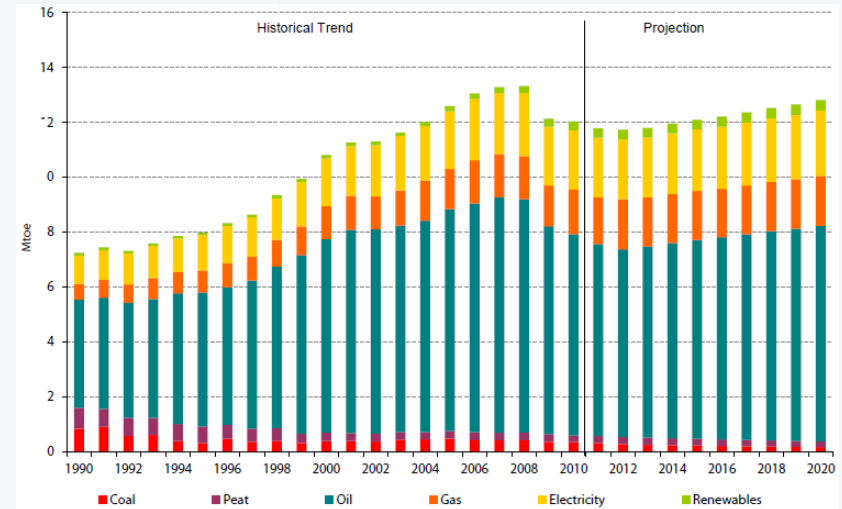
- Established in 1976
- Energy & Networks
- Bord Gáis Networks constructs and extends the natural gas network in the Republic of Ireland and connects customers to the network
- Over 640,000 customers in the Republic of Ireland
- Bord Gáis Networks connect all customers to the natural gas network regardless of supplier
- 1,000 staff: headquarters in Gasworks Road, Cork
 - with offices in Dublin, Limerick, Galway and Waterford
- Regulated Market – Domestic market opened to competition in July 2007

Natural Gas in Ireland



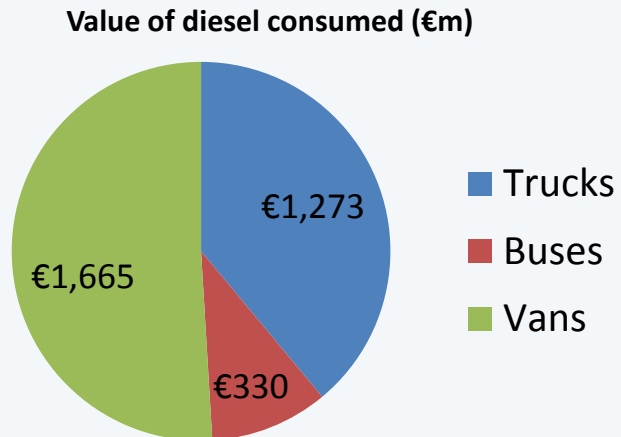
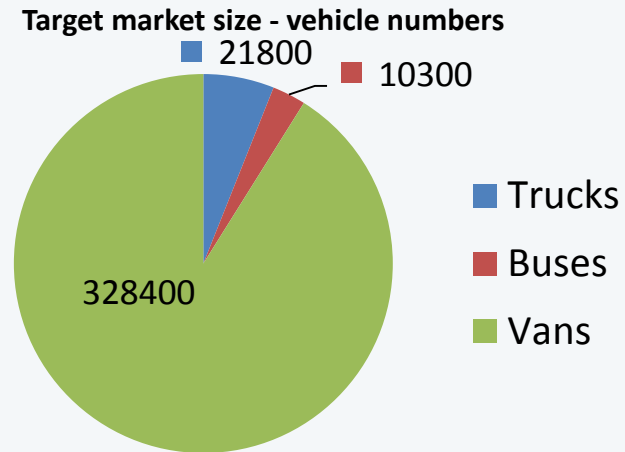
Why are BGN interested in CNG?

- Increase utilisation of network
- Reduce overall network tariffs
- Assist Ireland reaching environmental targets
- Evaluated potential new markets
 - Transport fuel



The Irish Commercial Transport Market

- Number of vehicles
 - Trucks
 - Buses
 - Vans
- Volume of diesel consumed
- Revenue for the exchequer
- Target is 5% of these segments by 2023

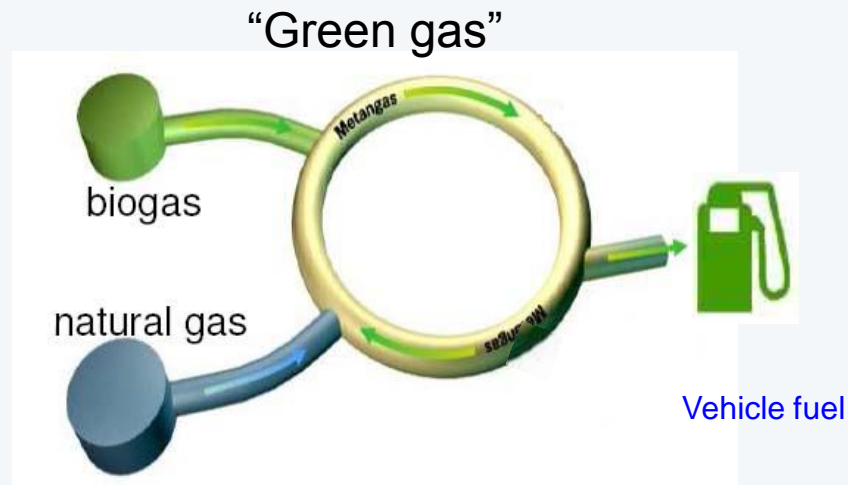


Benefits of CNG



- Reduce tailpipe emissions
 - Nitrogen Oxide (NO_x)
 - Particulate Matter (PM)
 - Sulphur Oxide (SO_x)
- Reduce Greenhouse Gas emissions
- Improve quality of air and health benefits
- Reduce noise
- Lower Fuel Costs
- Provide Transport Fuel diversity / Increase Security of Supply
- Pathway to a renewable fuel source – Biomethane

CNG provides pathway to Biomethane – Renewable Transport



- National target: RES-T -> 10% by 2020
- Biomethane can form part of the solution for RES-T
- **Sweden:** 65% of gas used in transport comes from biomethane
- **Germany:** Focus on bio-methane and investing in the CNG infrastructure
 - 12% of all 850 CNG refuelling stations has 10% Biomethane at the dispenser
 - The aim is 20% Biomethane at all dispensers by 2020

International developments



1,490

AUSTRALIA



805

CANADA



2,300

S.AMERICA



390

NEW YORK



2,200

SOUTH ASIA



670

Worldwide
Over
425,000



UK



62

DENMARK



2,400

FRANCE



430

MADRID



425

BARCELONA



615

POLAND

Challenges to the development of natural gas in transport

- In order for the market to develop the following is required:
 - Natural Gas Vehicles (rhd,range, price, purpose)
 - A fuelling network (private, public)
 - Policy support for natural gas and biogas (tax, incentives, targets)
 - Specialist maintenance expertise
 - Finance (for vehicles, infrastructure)
 - Continuing development of gas engines
 - Strict compliance to Health and Safety Standards
 - Awareness!

What are BGN doing?

- Ireland's first fast fill station is commissioned and operational.
- Five CNG vans in fleet
- Supporting trials in key segments
- Establishing supply chain/developing Standards
- Engaging with key stakeholders e.g. SEAI, HSA, NSAI, Fire Services
 - Seeking policy support
- Preparing for commercialisation



Who do we want to talk to?

- If you have, or sub contract, a fleet of trucks(>5), buses (>10) or vans (>30) and would like to:
 - Reduce your emissions by up to 25%
 - Reduce your fuel costs
 - Can accommodate a refuelling station at your location
- A Natural Gas Vehicle manufacturer, distributor or maintenance specialist;
- An energy consultancy / service provider who may have clients with fleets as above
- A forecourt operator interested in providing natural gas as a fuel
- Are a part of the infrastructure supply chain
- Anyone who can add value to natural gas in transport and assist in the development of the market

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