

# The business case for Irish renewable gas

**A sustainable solution for agriculture & energy**

22 October 2019



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Introduction to  
RGFI.

PJ McCarthy, RGFI  
Chairman

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Renewable Gas –  
the opportunity  
for Ireland Inc

Donal Dennehy,  
Danone Ireland

## 3.

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Integrated business  
case for Irish  
renewable gas  
industry.

Russell Smyth,  
KPMG

## 4.

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Conclusions



# 1. Introduction

- The Renewable Gas Forum of Ireland (RGFI) is an industry forum representing all sectors of the renewable gas industry from producers through to end users.
- Established in 2014 to advocate for appropriate market conditions
- Green Gas Certification Scheme for Ireland design phase 2018

## Our Purpose

Developing an indigenous, sustainable renewable gas industry in Ireland to achieve 20% renewable gas by 2030

## Our Vision

To be Ireland's centre of excellence for the renewable gas industry – delivering leadership, knowledge, training and standards for Members.

## Our Values

RGFI has a distinct set of values across the work we commit to undertaking and within our internal organisation culture



**Expertise**



**Integrity**



**Engagement**



**Leadership**



# Membership

DIAGEO

Wyeth<sup>®</sup> Nutrition



CALOR

vayu  
ENERGY

PURAC  
PUREGAS

Boston  
Scientific  
Advancing science for life™



ARUP

Fingleton  
White

BVP



HOST  
BIO-ENERGY INSTALLATIONS



CLAREMORRIS &  
WESTERN DISTRICT  
ENERGY CO-OP

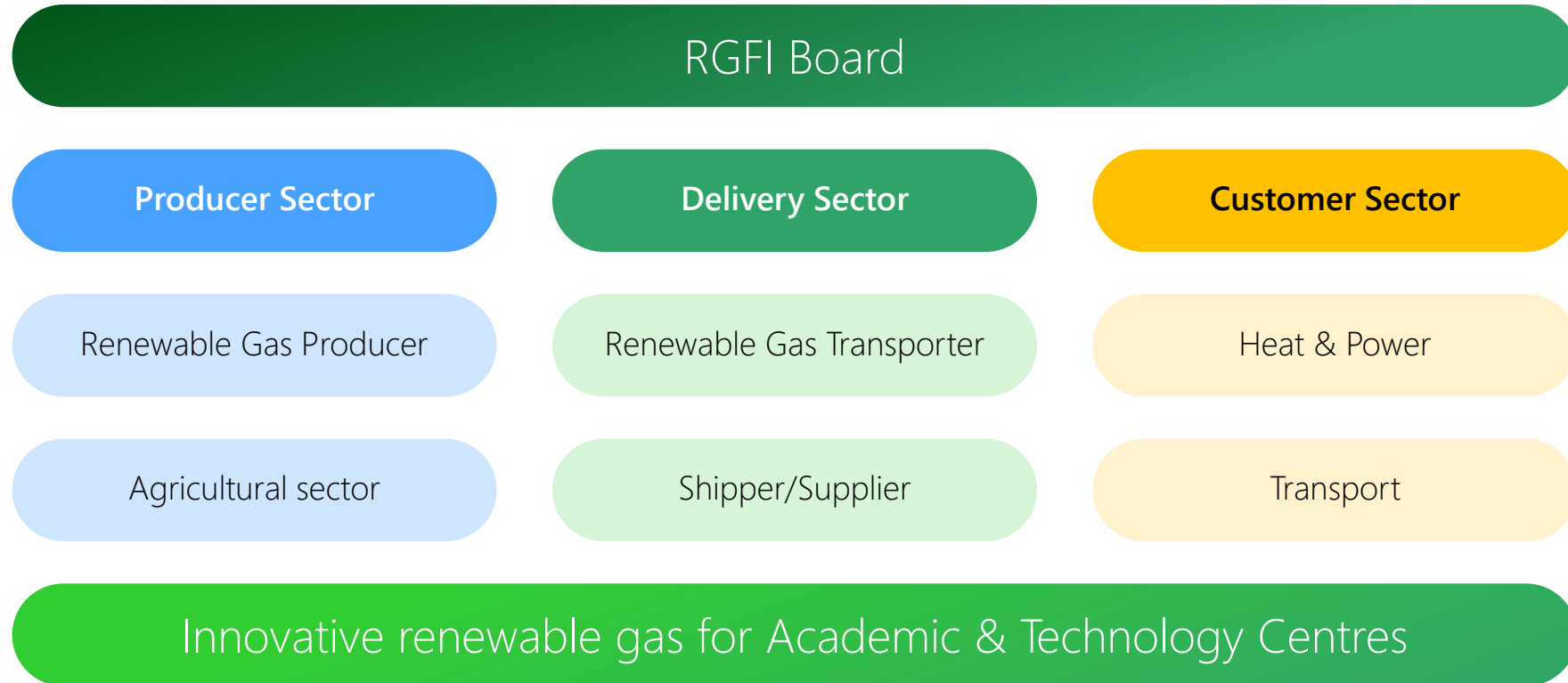
Johnson & Johnson



BORD NA MÓNA

irbea

# Structure



Match Demand with Supply -  
**Demand driven** (pull, not push)

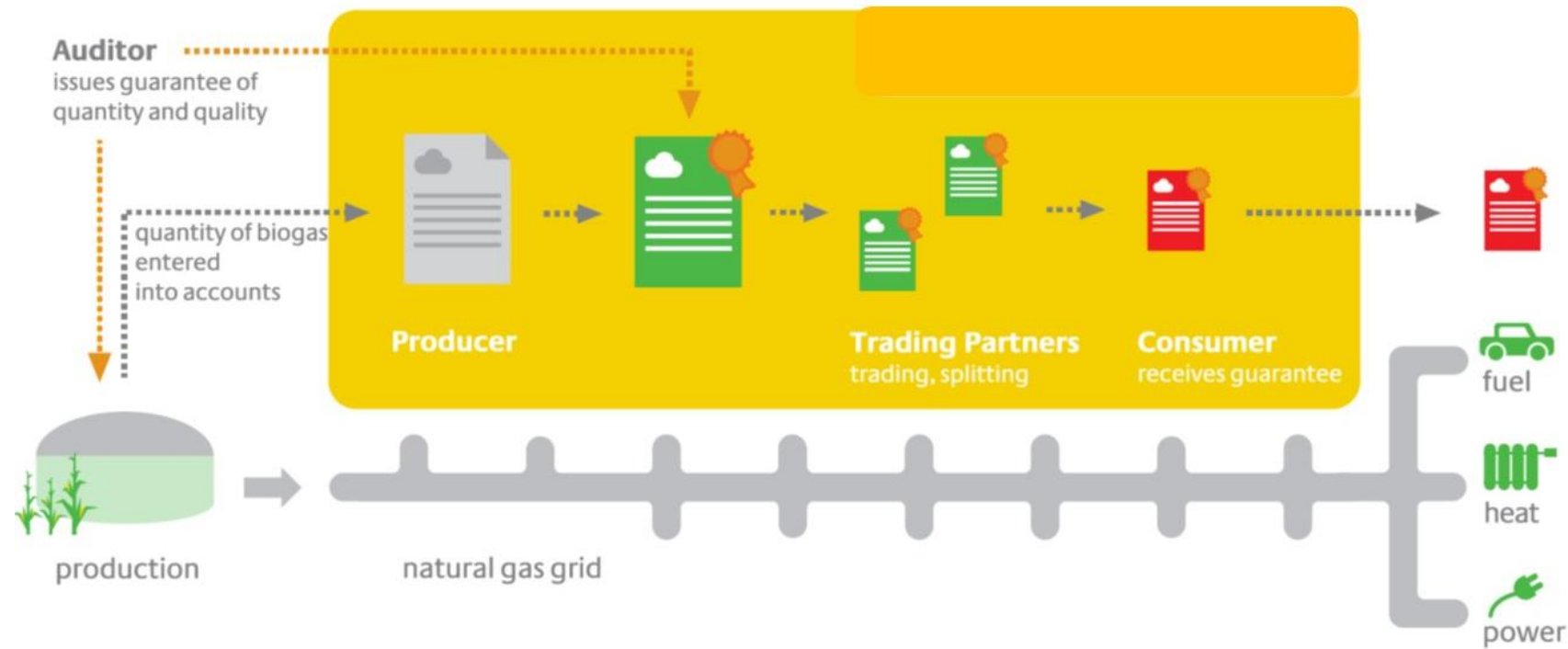


#### Technical Committees:

- Developing Guidelines & Best Practices
- Facilitate adoption of common standards and controls

# Sustainable Renewable Gas available for markets:

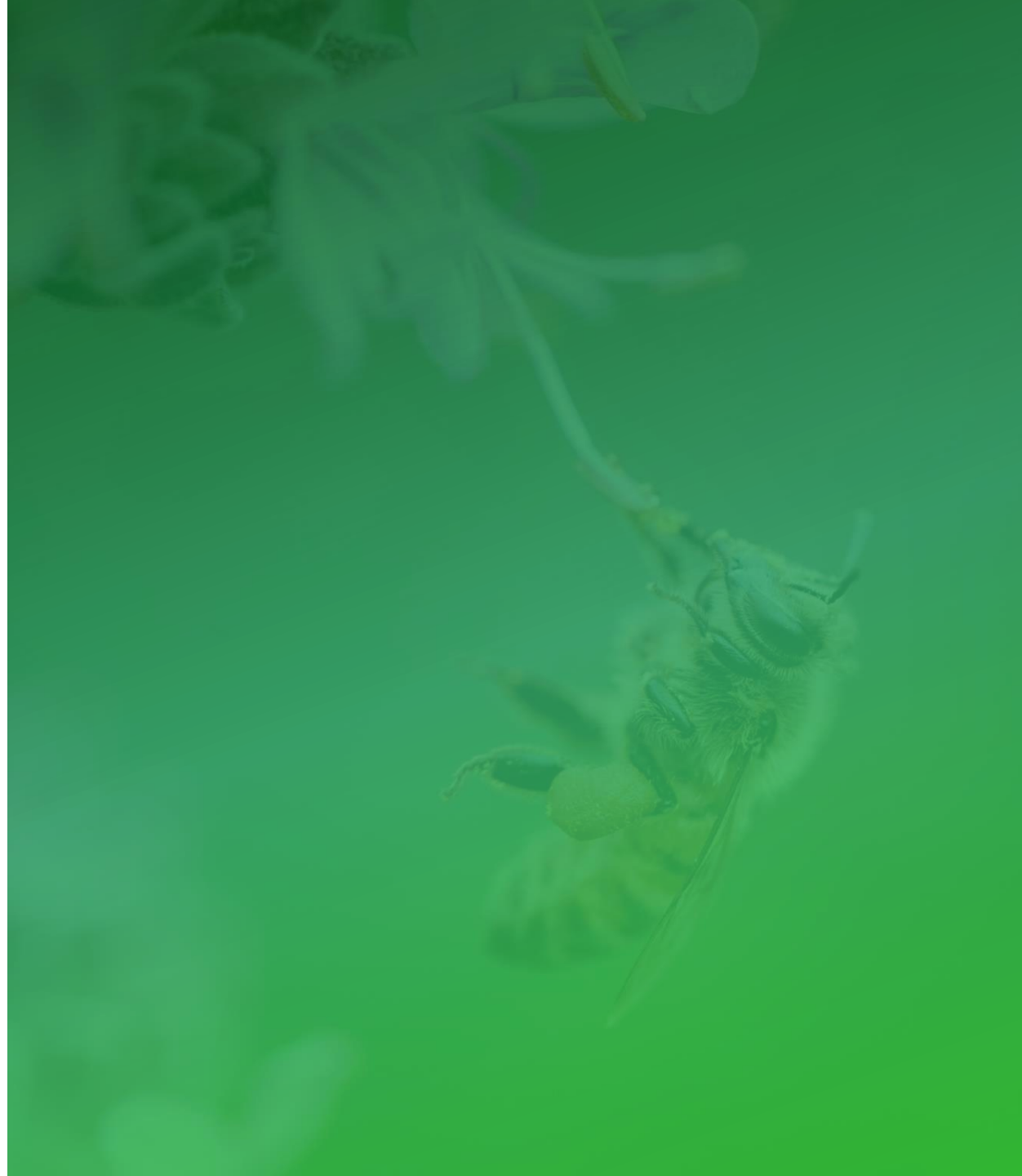
## Green Gas Certification Scheme for Ireland



# 2.

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## Opportunities and challenges





**+17,000**

**Anaerobic Digestion plants in Europe –  
supported by Governments.**

(France is delivering a new plant every 14 days)

**Irish renewable gas industry at its infancy – but with grass-based agriculture, Ireland has  
greatest potential of all European countries for production of renewable gas**



# Renewable Natural Gas – opportunities for Ireland Inc



## Industrial Gas Consumers

### Demand Driven

- Manufacturing & Processing Sectors
- Agri food, Beverages & Biopharma
- Biomedical & medical



## Achieving Carbon Neutrality

- Large energy consumers to be carbon neutral by 2030
- Mandatory & Binding targets
- Corporate Responsibilities



## Business case

### Efficiencies

- Lowest cost solution to decarbonise
- Circular Economy
- Least Disruptive



## Rationale

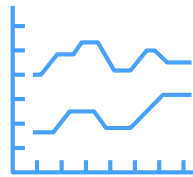
### Global and Irish Consumers

- Climate Change
- Competitiveness
- Sustainability

# Biomethane challenges

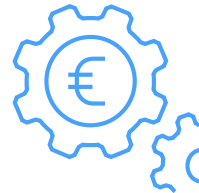
## Three Core Constraints

1.



Eurostat  
SHARES

2.



Cost of  
Technology

3.

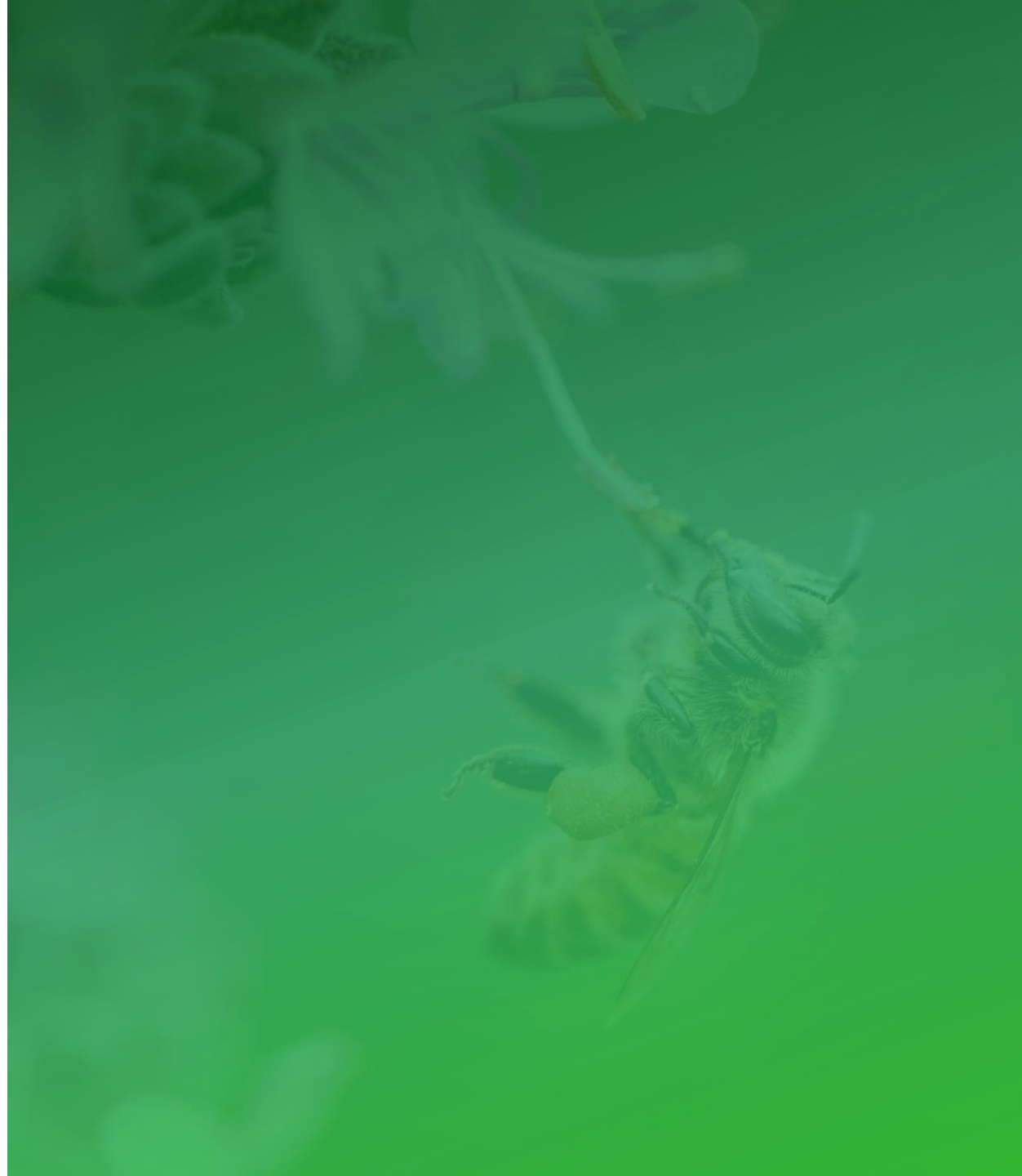


Who  
Pays?

# 3.

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## Vertically integrated business case



# Vertically integrated business case:

## Investment in Irish renewable gas industry

### Background

- **June 2019** – Irish Government Climate Action Plan published (no business case for agri-biomethane re Margin Abatement Cost Curve)
- **July 2019** - Government requests RGFI vertically integrated business case
  - KPMG commissioned to assess the opportunity, economics and pathway to the development of the biogas industry in Ireland.
- KPMG has consulted with all key stakeholders

### Brief

- To appraise economic costs and benefits associated with the replacement of up to 20% of Ireland's current natural gas demand with biomethane (approximately 11 TWHrs electrical equivalent per annum).
- Agricultural source - focus of the business case (also considered biomethane from commercial and household waste)
- Evidence base-building on Ervia, GNI work to date



# Summary messages



The RGFI business case provides a positive 1.26 cost-benefit ratio through to 2050



Biomethane can represent the lowest cost decarbonisation option for certain sectors



Ireland has sufficient capacity to produce the required agricultural feedstocks without impacting the livestock industry



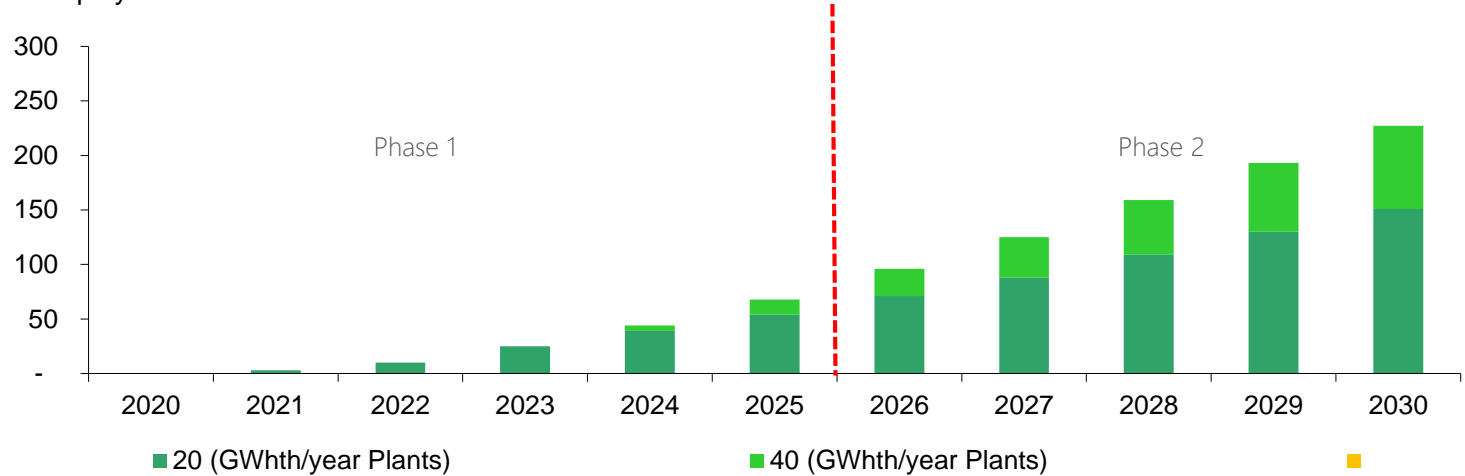
The business case aligns with a wide range of Government policy objectives including decarbonisation, the Government's Action Plan for Rural Development, the Nitrates Action Plan & DAFM's Code of Good Agricultural Practice



Biomethane is a proven technology, with the initial plant roll-out in line with that achieved in Northern Ireland;

# Scale of Ambition

Cumulative Deployment of AD Plants 2020 - 2030



## Phase 1 Ambition



78 AD Plants



2TWh Gas available for Injection



Capital investment of €470m required

## Phase 2 Ambition



Further 225 AD Plants

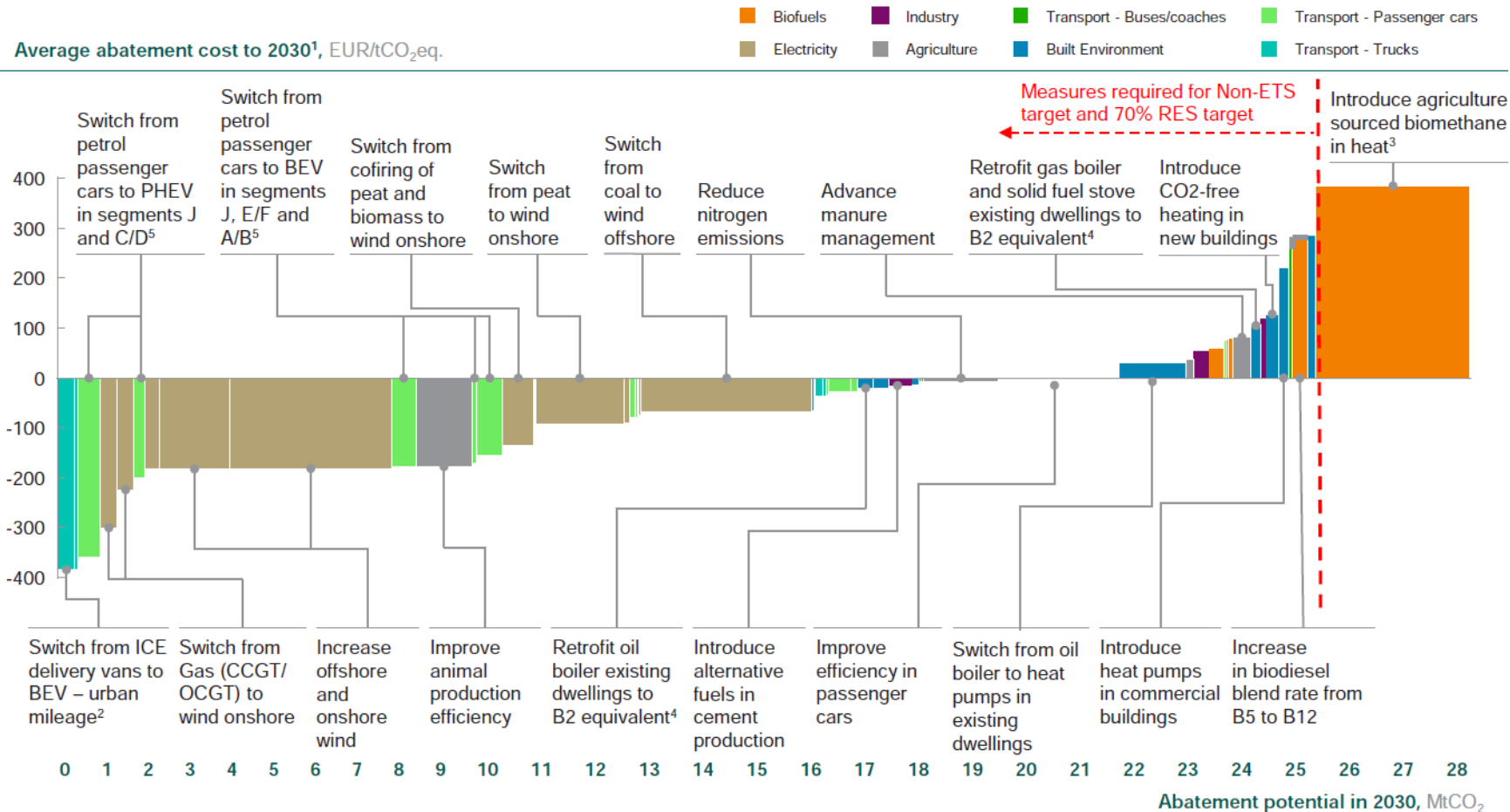


6.8TWh Gas available for Injection



Capital investment of €1.5b required

# Marginal Abatement Cost



Source: Climate Action Plan

# Cost Benefit Analysis

CBA undertaken in accordance with Public Spending Code

CBA, 2020 – 2050 (€'billion, 2019 values)

Scenario #	1	2	3
	CBA with Shadow Cost of Labour	CBA with Shadow Cost of Labour and with GVA Impacts	CBA without Shadow Cost of Labour and with GVA Impacts
Economic NPV	-3.63	3.90	2.87
Economic BCR	0.68	1.36	1.26



# Funding the Ambition

1. Interim Funding Solution

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2. Gas PSO Levy

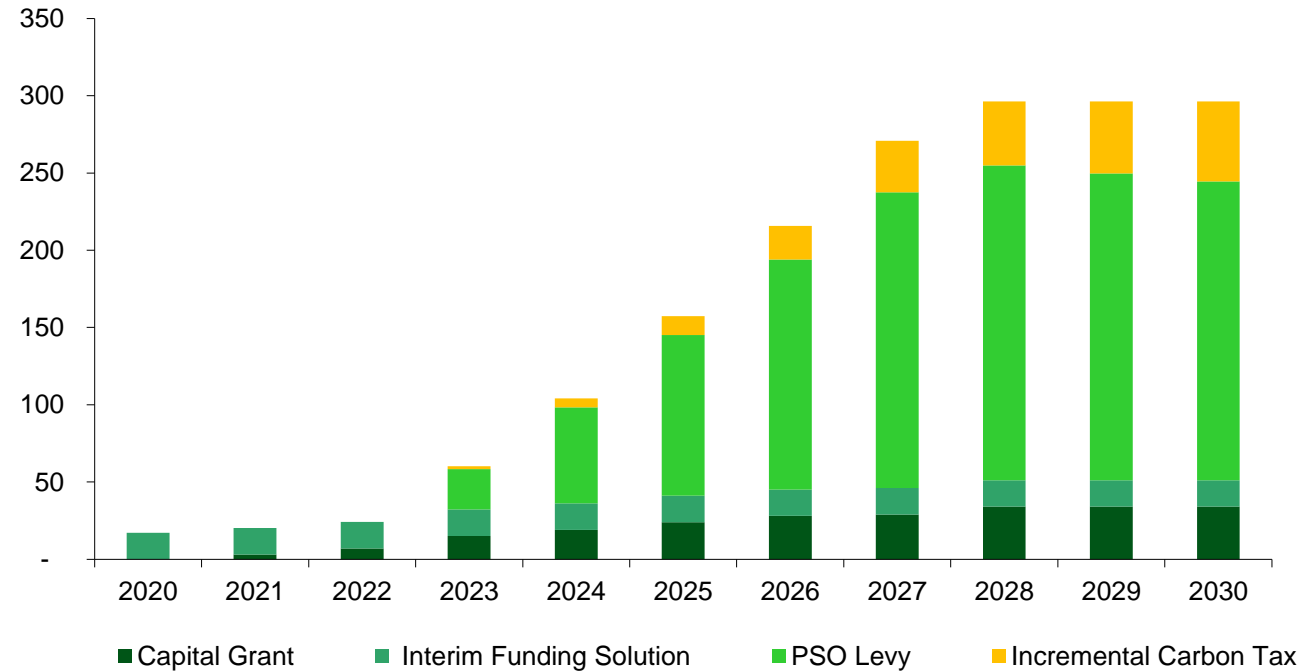
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3. Capital Grant

4. Incremental Carbon Tax

5. Obligation Scheme

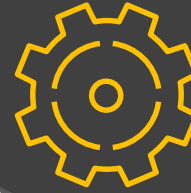
Total Amount of Annual Support Required for the Industry



# Opportunity for Ireland Inc



Complements the  
Government's  
decarbonisation policy  
– saving 2.6m tonnes of  
CO<sub>2</sub> pa by 2030



Support for the  
**circular economy**  
and agricultural  
emissions reduction



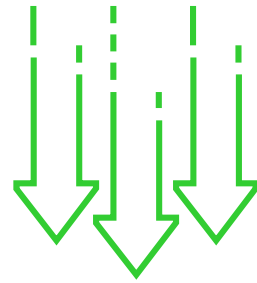
AD technology  
with RGFI Green  
Gas accreditation  
is fully measurable  
and acceptable as  
**Carbon offsets.**

# Opportunity for Industry



## Fuel of choice

for industry and large energy users due to its flexible, on- demand, low cost and near 100% reliability of supply.



Reduces business  
**GHG emissions**



## Versatility of End Use -

Renewable Gas can be easily applied directly to end use in



**electricity,**



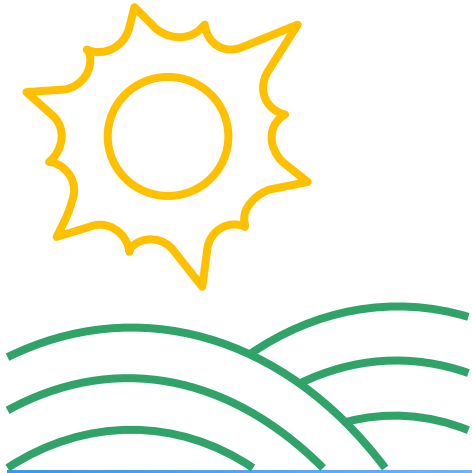
**heating or**



**transport.**

Suitable as a solution for those hard to **decarbonise sectors** such as heating and transport.

# Opportunity for Agriculture



Scale AD will create an economic stimulus for farmers and rural Ireland – creating 3000 + jobs



Opportunity to utilise unprofitable land.

Demand: 4.8m tonnes of slurry and 5.8m tonnes of grass silage pa

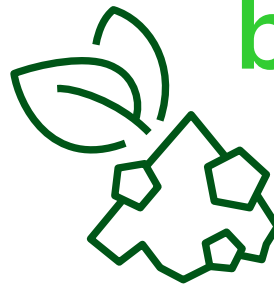
A long term indigenous industry for Rural Ireland – 7-10 long term jobs for each AD



One of the few options to enable **decarbonisation** of agriculture (integrated and circular approach )

By-product digestate, a high quality

**bio-fertiliser**





# Opportunity for Consumers

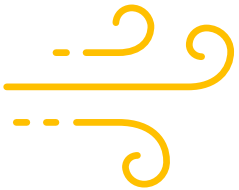


Least Disruptive -  
Currently 670,000 homes  
on the gas network

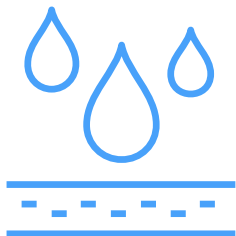


3000+ rural jobs

Cleaner  
**Air**

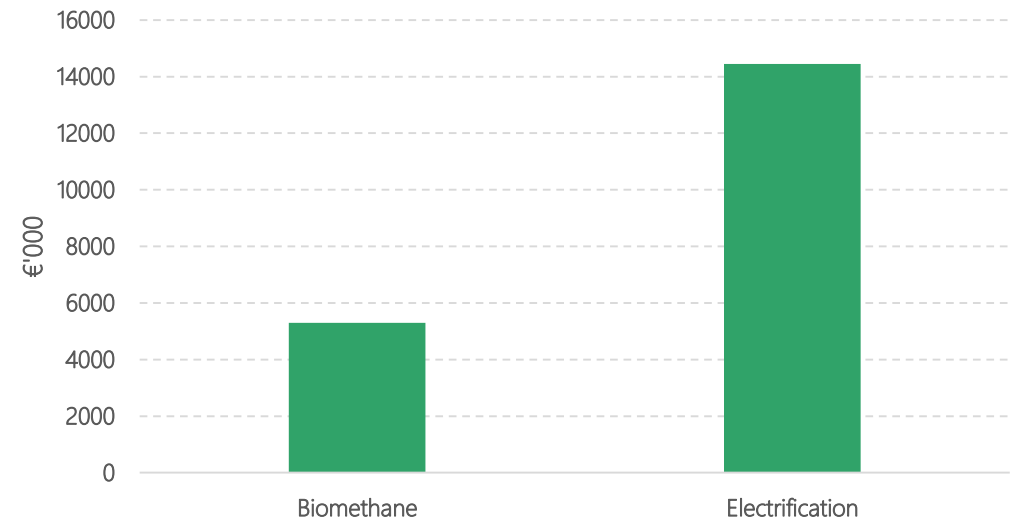


Cleaner  
**Water**



Requires no  
changes to  
consumer  
behaviour

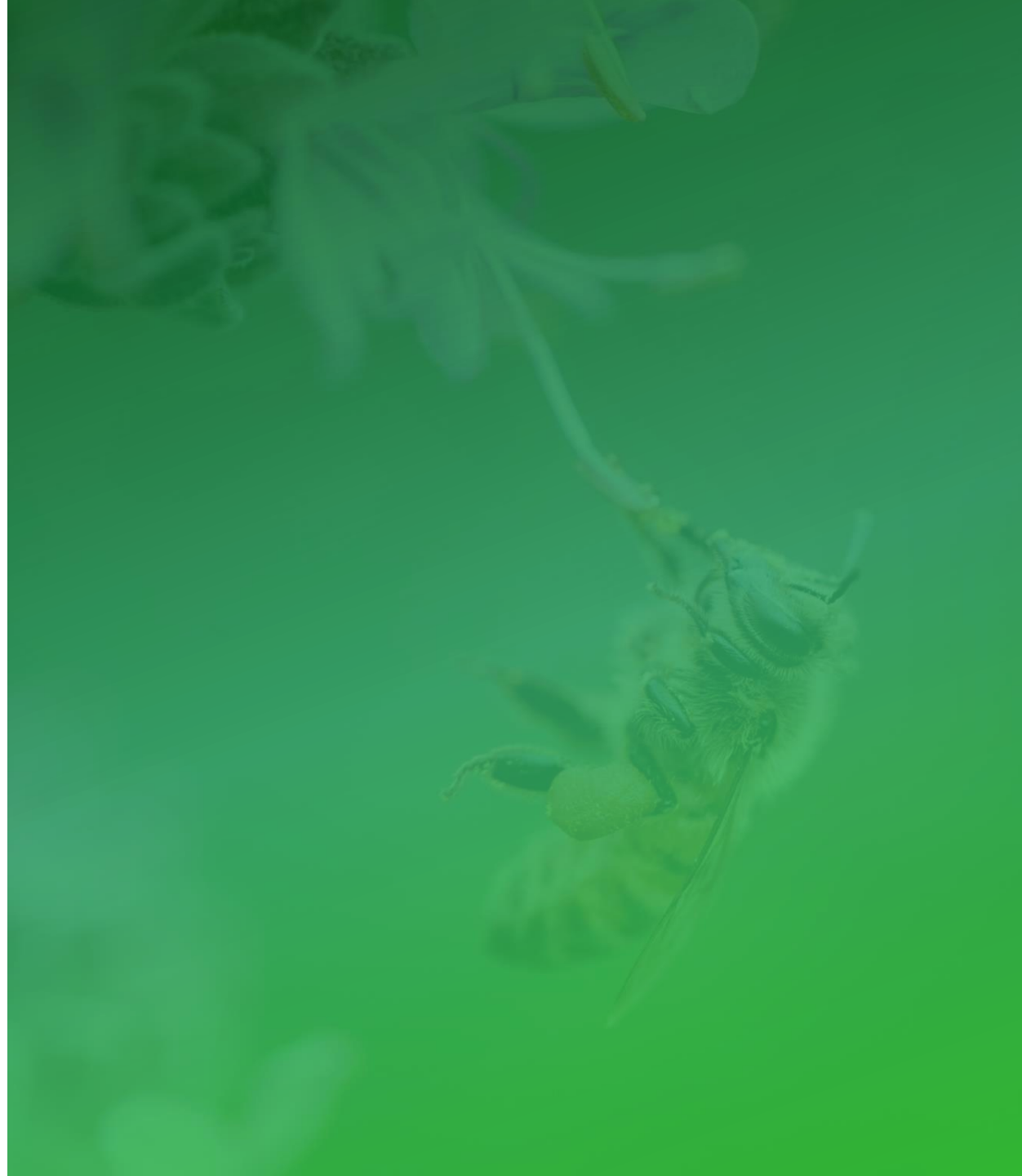
Total cost per home to decarbonise the 670,000  
homes on the existing gas network



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## Conclusion – next steps



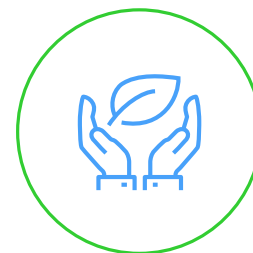
# RGFI – Next Steps



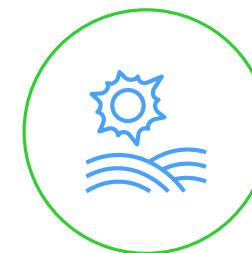
Develop the Pathway  
for Biomethane



Present to  
Government



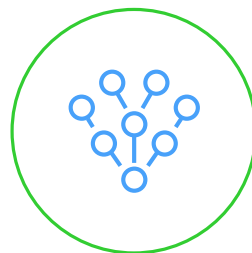
Support this  
initiative



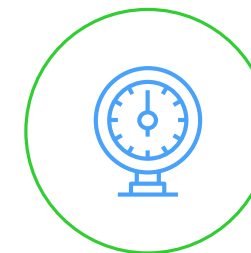
Support from  
across Enterprise  
and Agriculture



Support this initiative from  
ETS manufacturing &  
processing industry



Role of CRU



Proactive measure  
on behalf of  
gas consumer