

An aerial photograph showing a long, winding wooden boardwalk or path that cuts through a vast, lush green landscape. The landscape is composed of numerous rectangular and irregular fields, likely agricultural, with varying shades of green. The boardwalk is made of light-colored wood and has a simple railing. It starts from the bottom left and curves towards the top right, following the contours of the fields. The overall scene is bright and verdant, suggesting a park or a well-maintained rural area.

# Development of a Renewable Natural Gas Registry for Ireland

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# The Remaining Carbon Budget

2°C scenario

1.5°C scenario



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2°C scenario

1.5°C scenario



# GreenGasAdvisors | Stephan Bowe

## GreenGasAdvisors

- Gas Networks Ireland:  
Renewable Natural Gas Registry
- EN16325  
German Mirror Committee Member
- GO4Industry:  
Information for the German Industry  
on Verification Systems for  
Renewable Energies

www.Industry.com

## Stephan Bowe

- Environmental Engineer (TU Berlin)
- Theme Centered Interaction (TCI)
- German Energy Agency (dena)
  - Biogasregister Deutschland
  - GGCS-Project
  - “The Biogas Handbook” (Article)





# Why a Renewable Natural Gas Registry in Ireland?

- **GNI's vision** for a carbon free gas network
  - pilot projects for injection
  - Decentralised collection of gas
- **First biomethane plant injecting**
  - Cush, Kildare
- **Industry demand**
  - ETS: biomethane for carbon offsetting
  - Registry as basis for support recognition
- **RED II**: National implementation

The logo for GreenGasCert, with 'Green' in green and 'GasCert' in blue, set against a white rectangular background.

## Green Gas Certification-Project (2017-2018)

- Preliminary Work
- Blueprint for a biomethane registry in Ireland
- Project partners:  
dena/DBFZ with IERC & GNI & RGFI



# Scope of the Renewable Natural Gas Registry

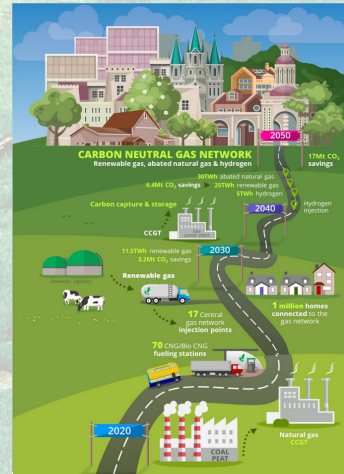
- A registry for renewable gases injected into the gas grid
  - few plants expected to inject in the next years
- Fit into GNI's business
  - based on GNI's meter readings (GTMS)
  - Focus on gas transport
  - Certification of biomethane is done outside GNI
- Serve industry's needs
- Legal framework

⇒ Creation of a **Pilot Registry**

# Legal Framework

- GNIs Code of Operations:  
tariff for “**Renewable Natural Gas**”
- National Legislation:
  - Biomethane support expected
- EU-RED II
  - coming into force
  - national targets
  - biomethane implicitly included:  
guarantees of origin, accounting in  
all sectors, e.g. biofuels

⇒ Registry to cover all possibilities for  
biomethane in RED II



# Use Cases

## 1. Biomethane in **natural gas vehicles**

- Transport Sector accounting
- Biofuels Obligation Scheme

## 2. Guarantees of Origin (GO)

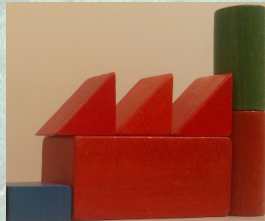
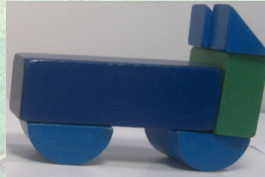
- Final consumer products
- GNI as issuing body for gas-GOs
- Art 19 RED II

### 3. EU-ETS recognition for biomethane

- recognition as “biomass”
- Carbon offsetting of biomethane

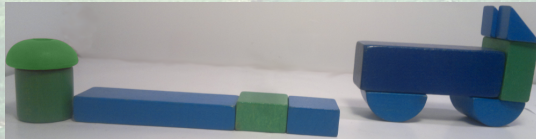
4. Consider **export**, e.g. to UK

⇒ Registration of different gas “subtypes”





# Proof methods



## Mass Balancing

- Recognition of renewable gas
  - RED II sector accounting: RES-E, RES-H&C, RES-T
- Additional criteria for recognition
  - Sustainability criteria
  - GHG thresholds compared with fossil fuels

⇒ Consignment tracking along the chain of custody



## Book & claim

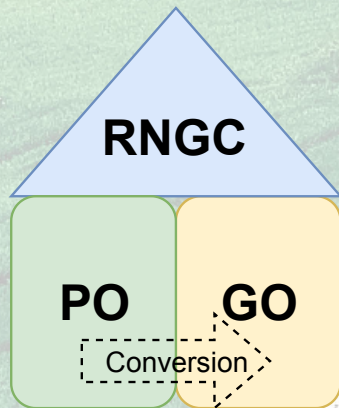
- Green Gas Products
- energy mix disclosure by supplier (Art 19-GO)
- Steps: Issue, transfer, cancel
- Decoupled from energy system:
  - energy transport not considered
  - EU-wide transfer

⇒ simplified proof

# The “Renewable Natural Gas Certificate” - RNGC

- “Renewable Natural Gas Certificate”: **RNGC**
  - Umbrella term
  - ERGaR definitions as orientation
- Separate proof subtypes:
  - for Mass balancing: Proof of Origin: **PO**
  - for book & claim: Guarantees of Origin: **GO**
- Conversion possible from PO to GO (one-way)

⇒ Clear separation of mass balance and book & claim RNGCs



# Registry Process steps

## 1. RNGC Registration /Issuance:

- automatic issuance based on meter readings
- producer may request issuance of GO or PO
- propane addition for calorific value adjustment: meter value correction

## 2. Transfer, Split

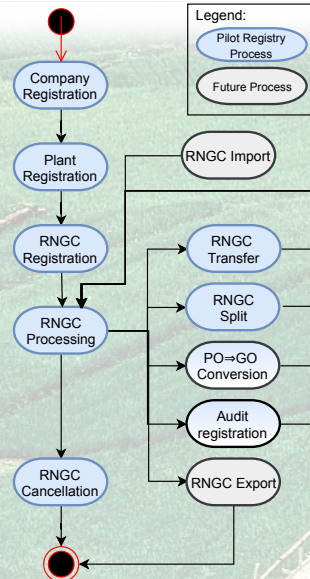
- as requested by account holder
- only shippers may transfer POs (mass balancing)

## 3. Conversion

- from PO  $\Rightarrow$  GO-certificate (one-way process)

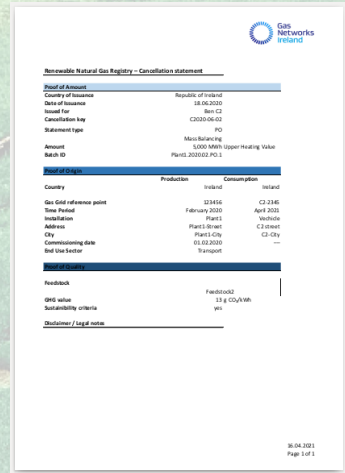
## 4. Cancellation

- upon request by account holder



# The Registry Statement (functional)

- For the beneficiary
  - as basis for further recognition
  - all relevant information is contained
  - statement either for
    - mass balancing or
    - book & claim
- Mass Balancing Registry Statement
  - GNI checks for gas grid withdrawal
  - input-output balance



**Gas Networks Ireland**

**Renewable Natural Gas Registry - Cancellation statement**

Proof of Amount	
Country of Issuance	Republic of Ireland
Date of Issuance	18.06.2020
Issued For	Ren C2
Cancellation key	C2020-06-02
Statement type	PO
Amount	Mass Balancing
Batch ID	5,000 MWh Upper Heating Value Plant0_2020-02_PO-1
Proof of Origin	
Country	Production: Ireland, Consumption: Ireland
Gas Grid reference point	323456 C2-2345
Time Period	February 2020 April 2021
Installation	Plant1 Vehicle
Address	Plant1-Street C2 street
City	Plant1-City C2-City
Commissioning date	01.02.2020
End Use Sector	Transport
Proof of quality	
Feedback	Feedback02
GHG value	13 g CO <sub>2</sub> /MWh
Sustainability criteria	yes
Disclaimer / Legal notes	

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# Conclusions

- The registry is in function since 2020
  - Biomethane injections are registered on a monthly basis
  - Trading companies have registered
  - Full registration cycle: first cancellations done
- External registry process recognition
  - SI: GNI to be implemented as issuing body
  - Biofuels quota: RNGC recognition by authorities in IE and UK
  - Industry green gas products?
  - ETS recognition?
- GNI internal integration
  - Administration of Renewable Natural Gases
  - Legislation/Support schemes: Registry is flexible for adaptation

# Outlook — Next steps for registry development

- Market development in IE
  - web interface for users
- Database development options
  - integration into internal systems
  - license external database (e.g. for Art 19-GOs)
  - both options may be implemented and interact
- Establish international registry connections
  - ERGaR: mass balance transfer inside EU
  - AiB: GO transfer inside EU
  - bilateral transfers with UK registry

Thank you for your attention!

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