



Crossing borders with biomethane

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What is biomethane?

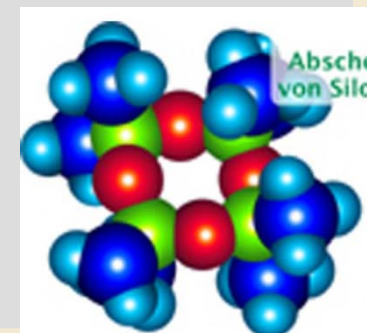
Biomethane is biogas which has been cleaned and upgraded to natural gas quality (ca. 10 kWh/m³ energy value)

It is the renewable version of natural gas – can be used for everything natural gas can!

Can be injected into natural gas grid – traded, sold and used identically to natural gas

Biomethane can attract government subsidies when used as

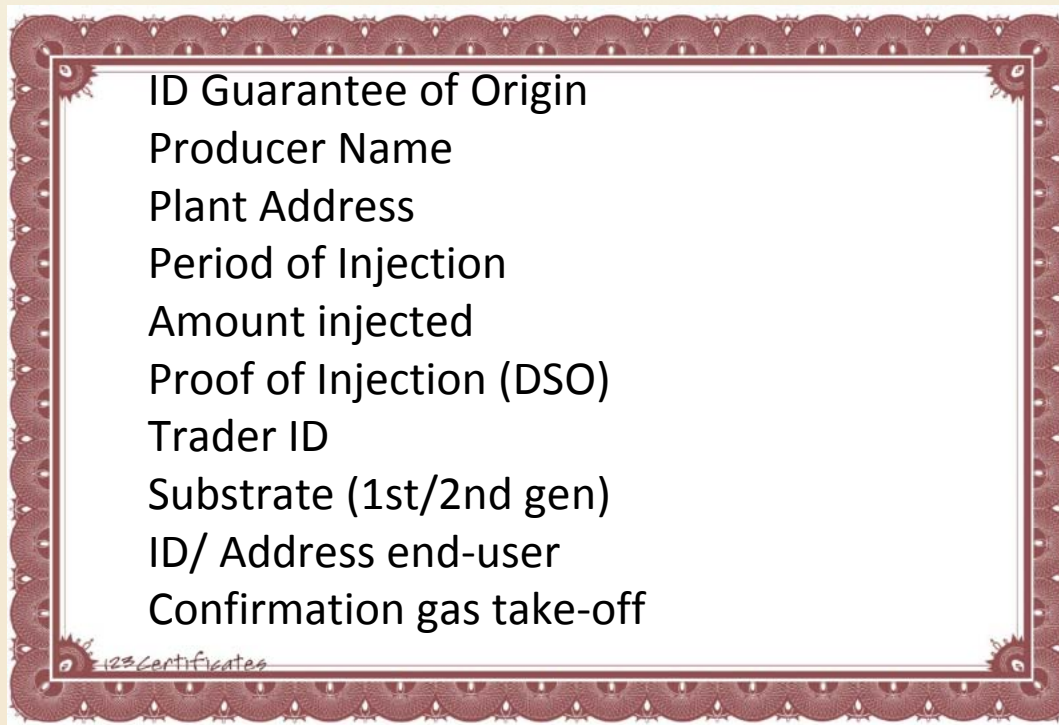
- **Vehicle fuel (as CNG) – counts towards EU 10% renewable fuel target**
- **For electricity generation (CHP)**
- **As heating source**



Process flows biomethane registry – example dena Biogasregister

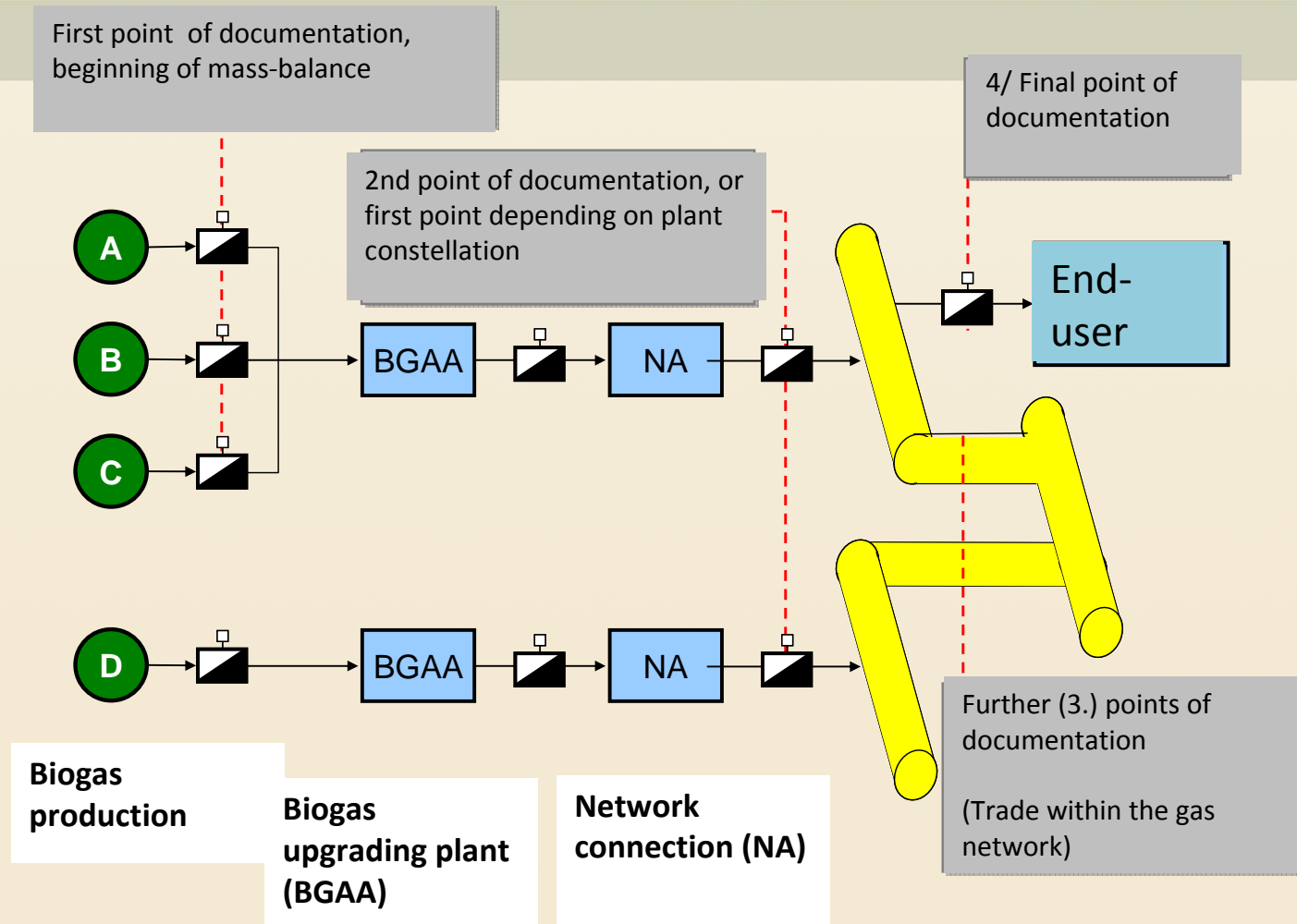


Information held in registries



- Information stored in registry
- Minimum information requirement for cross-borde transfer of biomethane
- Destination market (fuel, heating, elec) determines information
 - Fuel market: need sustainability certification
 - Heat, power: only basic info

Mass Balance – physical link ,green' quality and gas



The German 3 point mass-balance model for biomethane, source BMU

Registeries and Labels in the EU



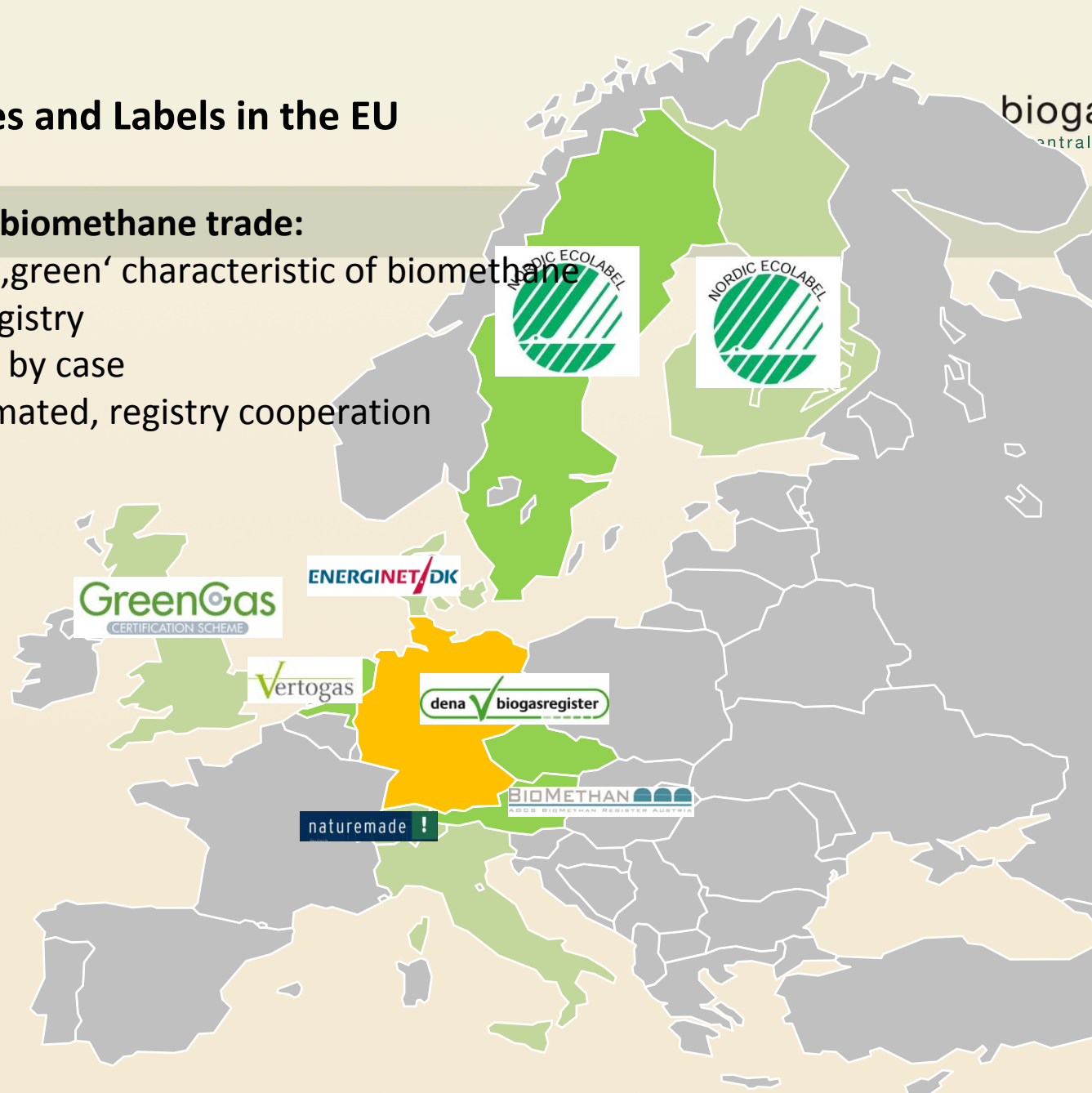
Conditions for biomethane trade:

Recognition of 'green' characteristic of biomethane






Biomethane registry

Currently: case by case

Planned: Automated, registry cooperation



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Name	Country	Operator ?	Mass balance system?	Description
Biomethanregister Austria	AT	Banks/TSO	Yes	Input and output registry for biomethane. Usage is compulsory for subsidies
	DE	Energy Agency	Yes	Input and output registry for biomethane, documentation for EEG payments, audits input balances/feedstock mix.
	DK	TSO	No	Simple register operated by Danish TSO; registers injected quantities.
	CH	Label	No	Label, certified guarantees of biomethane origin
	GB	Association	Yes	UK certification system, analogous to dena Biogasregister. Financed by stakeholders (E.On, Centrica, National Grid, etc.)
	NL	TSO	No	Input and output register for biomethane, audits (annual) input balances/feedstock mix.

Deliverables

Identify legal and economic framework for cross-border transport of biomethane

- Mass-balance method
- Sustainability criteria
- Substrates and their documentation (different countries have different definitions!)
- Regulatory framework
- Auditing
- Transparency

The registries and guarantees of origin:

- Existing registries –where? Which models?
- Registry Cooperation – approach and methods
- Development of an EU-registry model



REPORT published NOVEMBER 2012

Develop a market-led model for cross-border transit of guarantees of origin

Partners from throughout value chain:
producers, suppliers, traders,
certification bodies/ registries,
including...



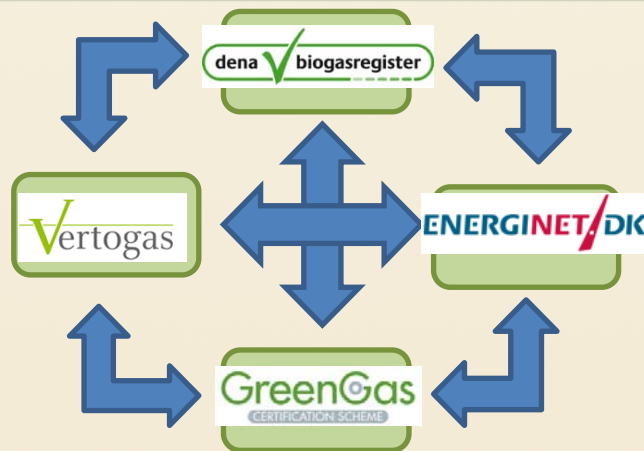
VORWEG GEHEN



BioMCN

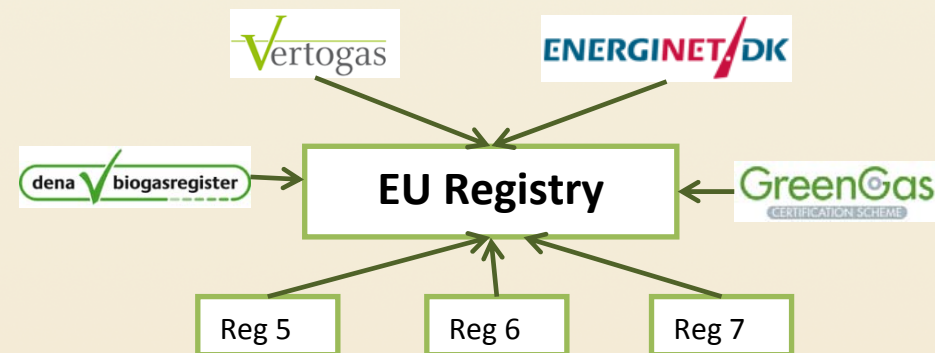


Models for EU Registry cooperation



Bilateral cooperation

- Reflects current planning
- Cooperation agreement UK, DE, DK, NL under way
- Recognition of other registries as equivalent
- Recognition of biomethane attributes as equivalent
- Role of TSO?



The centralised approach

- Central administrative body issues standard certificate form
- Issues EU guarantee of origin
- Medium – long – term solution?
- Interest from market



Vielen Dank
für Ihre Aufmerksamkeit.

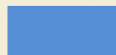
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Biomethane trade in the EU

Current



Near future

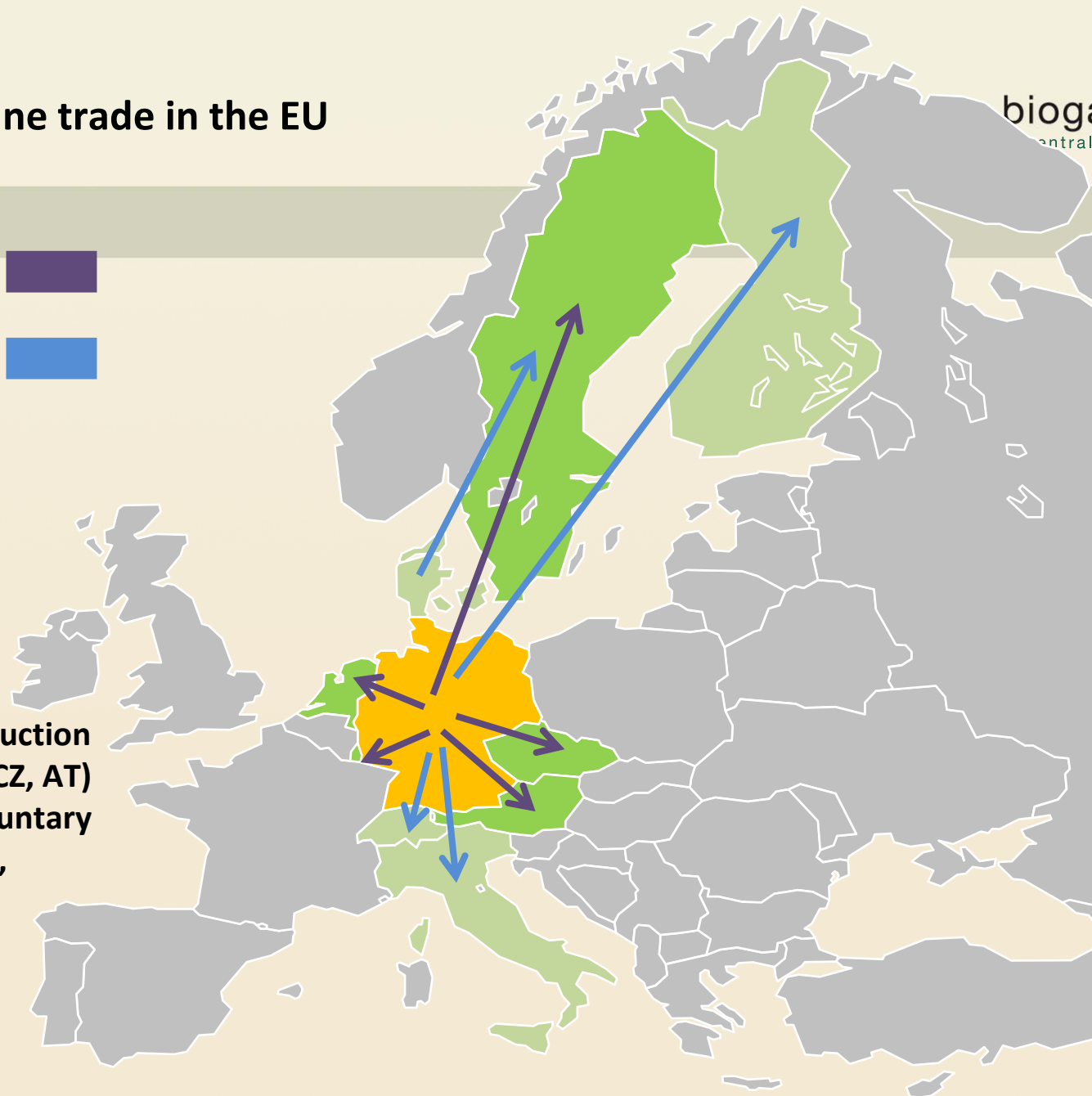


Markets:

Fuel, fuel production
(SE, FI, IT, NL, CZ, AT)

Green gas (voluntary
sector): DE, FR,

Power: NL



Status Quo and growth projections, EU Biomethane market

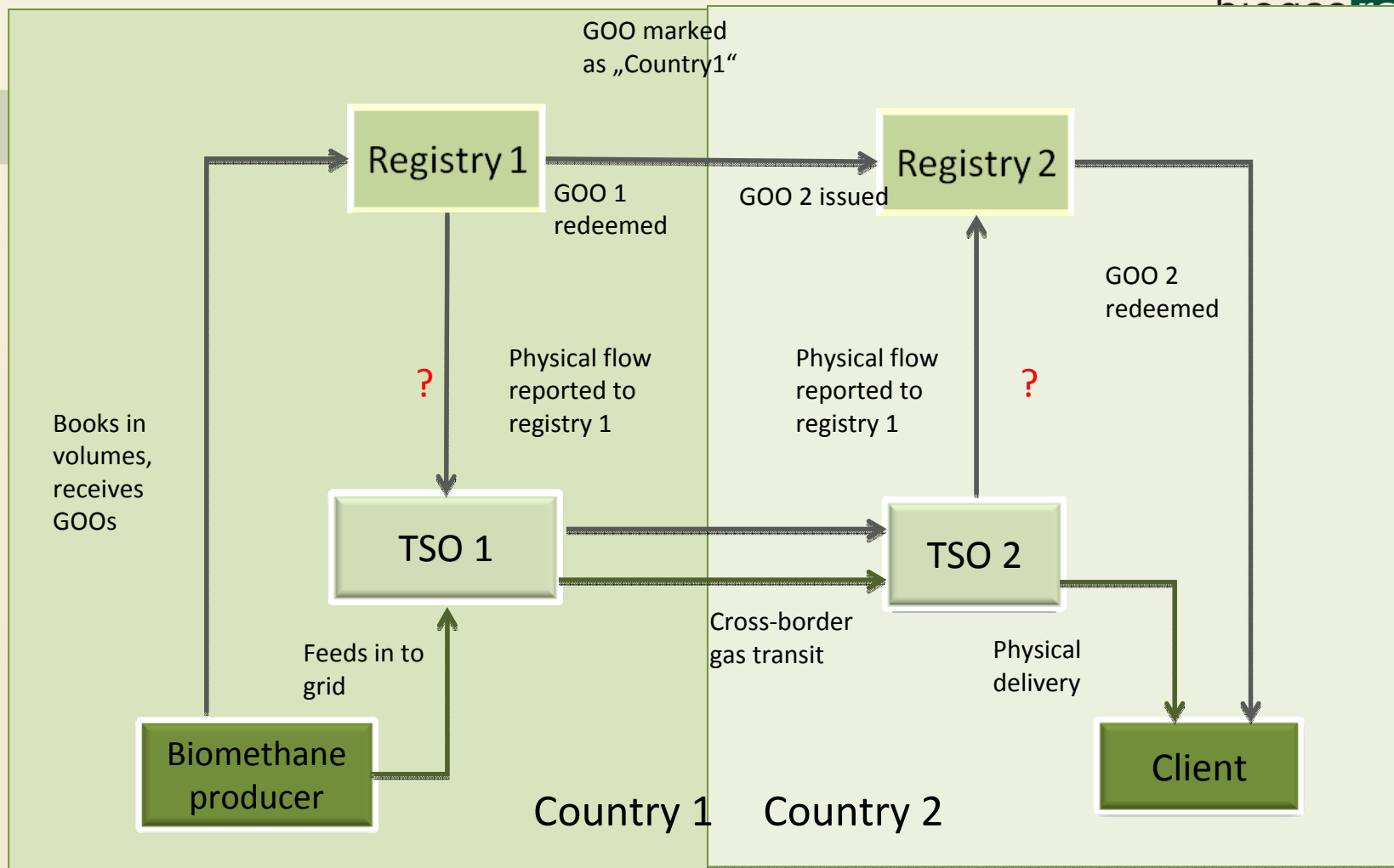
Land	CNG-Fahrzeuge	Einspeiseanlagen	Einspeisemenge, 2011, mcm	2020 Ziel (indikativ, mcm)
IT	730000	0	0	60
DE	91000	84	393,1	6000
SE	32000	47	18,5	800
CH	9600	14	12,0	
NL	1500	13	32,5	
FI	700	1	0,0	100
GB	220	2	1,0	
LU	200	0	4,2	
BE	176	0	0,0	
DK	0	2	1,5	

Lack of indicative goals for biomethane

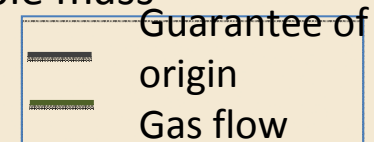
Imbalance between targets and current production – opportunities for exporters?

2nd gen biomethane (manure) particularly attractive for vehicle fuels market

Cross-border trade status quo > insert flow diagram from report



Coupling physical/virtual flows only on injection/offtake from gas grid? Simple mass-balance



Current practice

- Destination market (fuel, heat, electricity) should serve as orientation for transportable data
- Fuel market requires detailed documentation: CO₂-Emissions, substrates utilised
- Current practice: Registry 1 hands the following documents to registry 2:
 - Sustainability certificate (ISCC, REDCert)
 - Registry statement from registry 1
 - Audit statement
 - Substrate diary
 - Proof regarding cross-border capacity booking
- This is reflective of biomethane produced in Germany. Different countries have different information densities

The image shows a thumbnail of a 'NACHHALTIGKEITS-TEILNACHWEIS' (Sustainability Certificate) form. The form is titled 'NACHHALTIGKEITS-TEILNACHWEIS' and includes sections for 'Allgemeine Angaben', 'Nachweis der Nachhaltigkeit', and 'Zusätzliche Angaben'. It contains various fields for data entry, including dates, locations, and specific sustainability criteria.