

Biogas and biomethane market in Europe – current status and future prospects

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Warsaw, 11th September 2018



EBA

European Biogas Association

What is the EBA?

- **Non-profit organisation** founded in 2009
- Covers biogas and biomethane from **anaerobic digestion** and biomass **gasification**
- Well-established **network and communication platform** for exchanging information and expertise in biogas and biomethane
- **Member of** EREF and EUFORES, co-operation with natural gas, renewable energy and waste handling associations
- Based in Brussels, **Renewable Energy House** (REH)

26 countries – 36 National Organisations
58 Companies – representing >7,000 stakeholders



www.european-biogas.eu



Associated members (companies, universities, researchers)



Dutch
Metrology
Institute



part of
TS ENERGY GROUP



Dr. Jörgen Held
(RENEWTEC)

Lars Salling



HAFFMANS

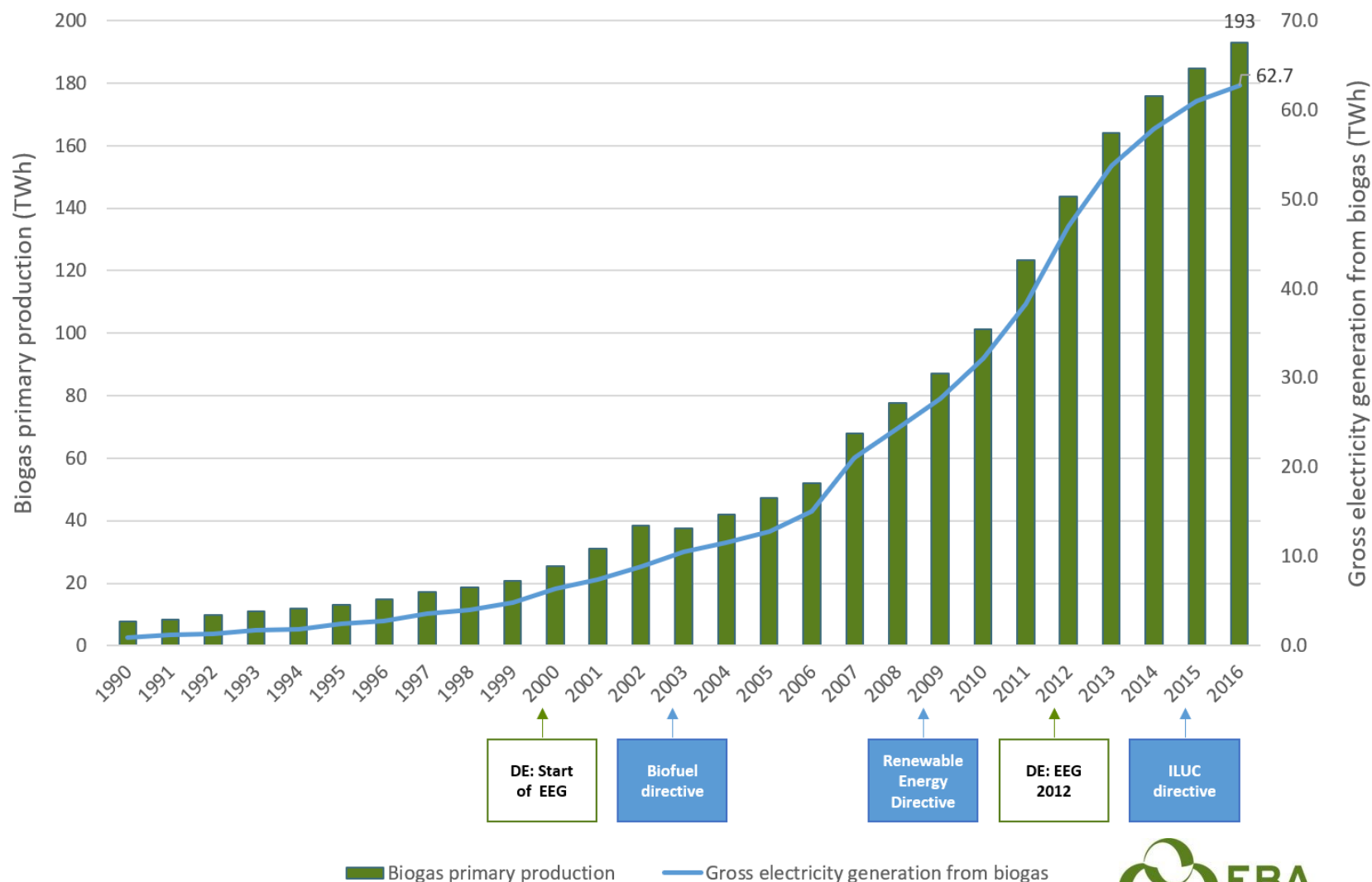


VIEHMANN Group



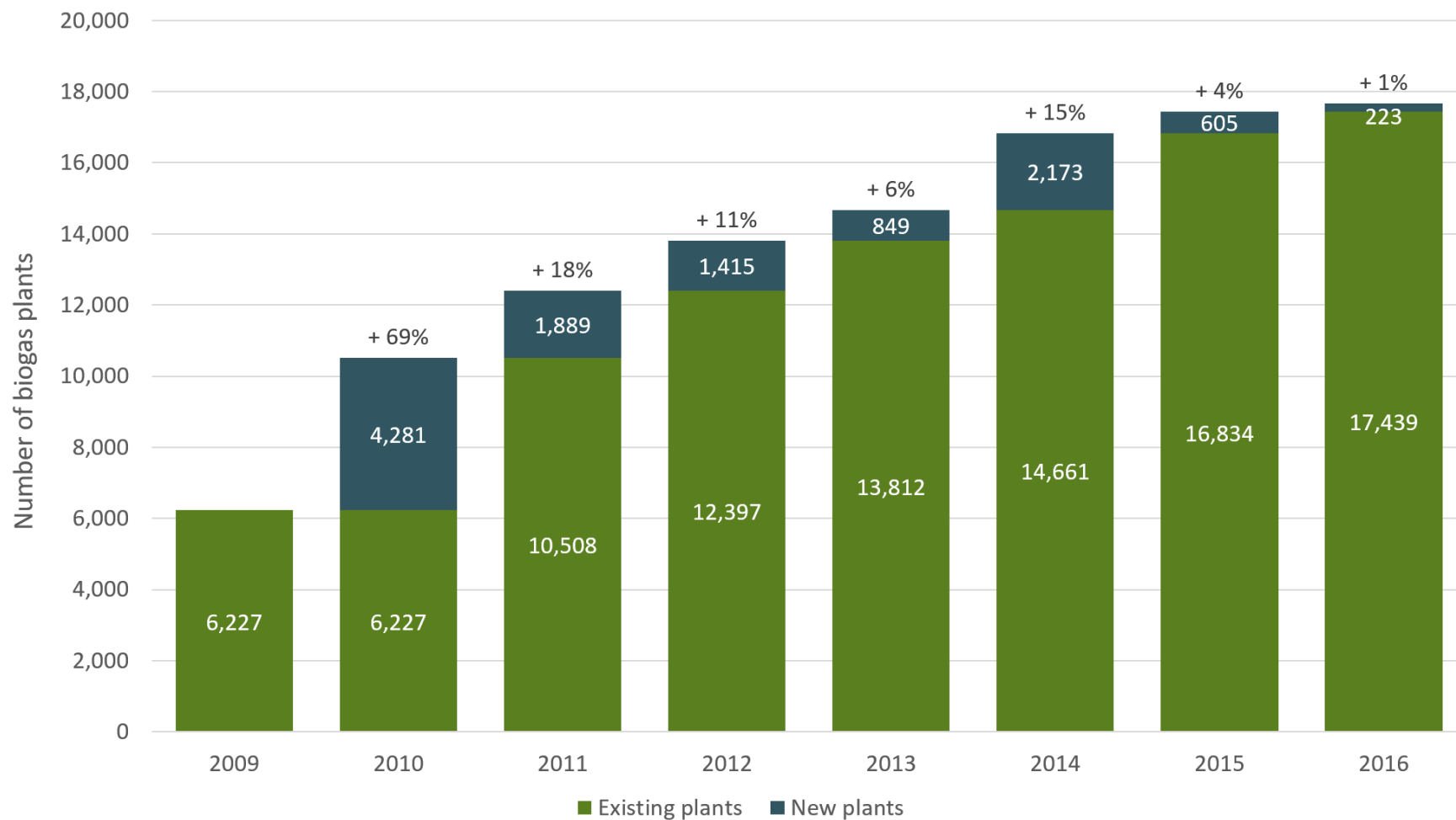
Knowledge grows

Biogas and electricity from biogas in the EU28

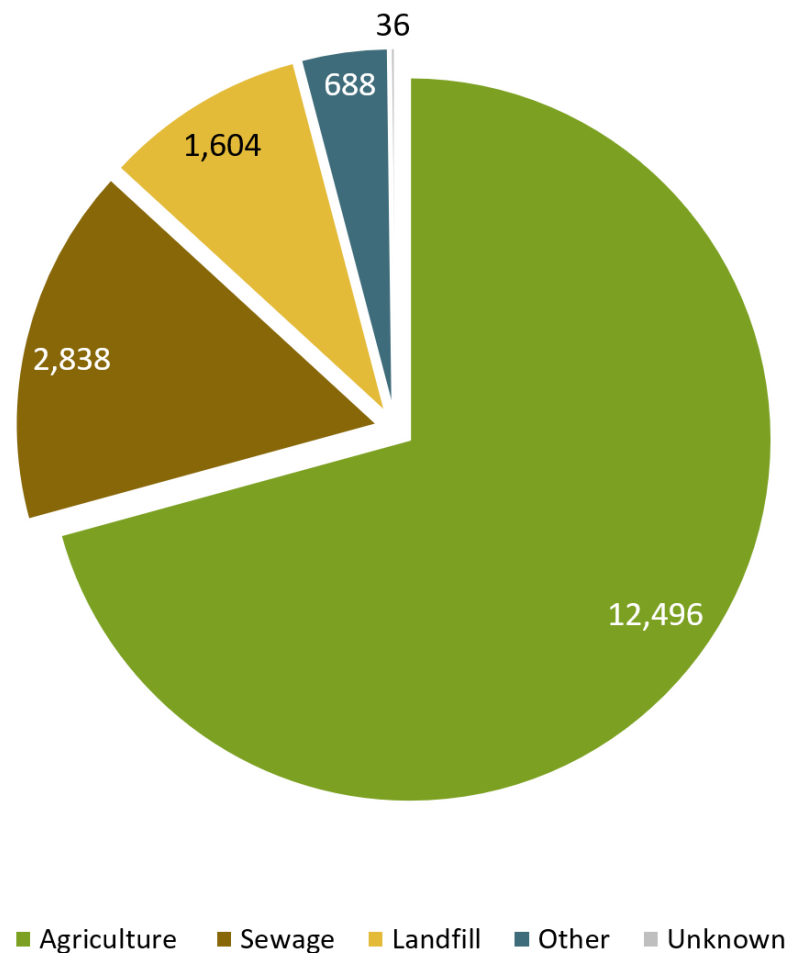
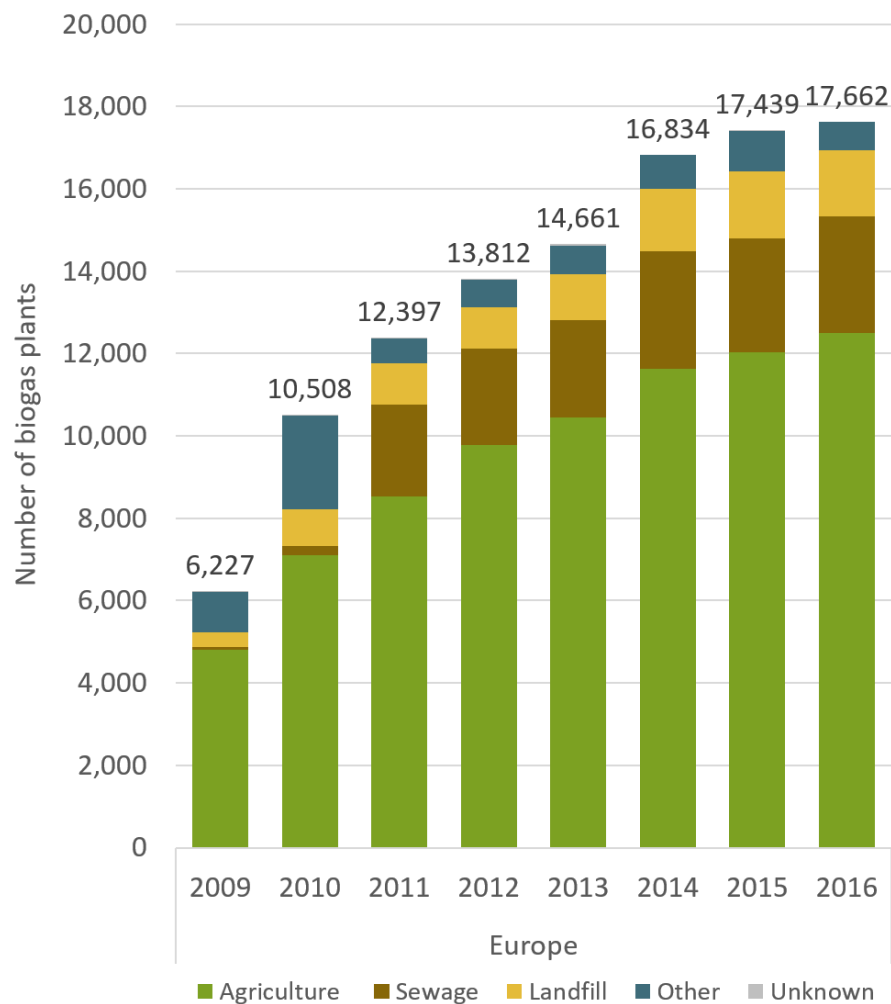


Source: Eurostat

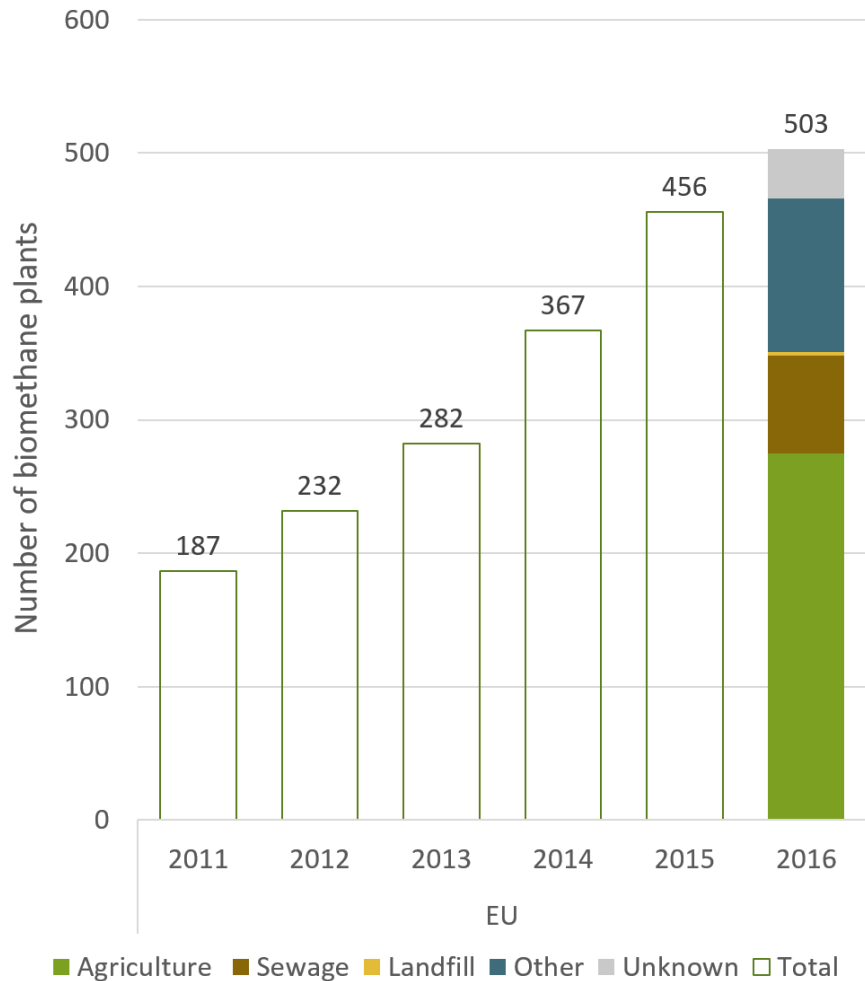
Evolution of the number of biogas plants in Europe



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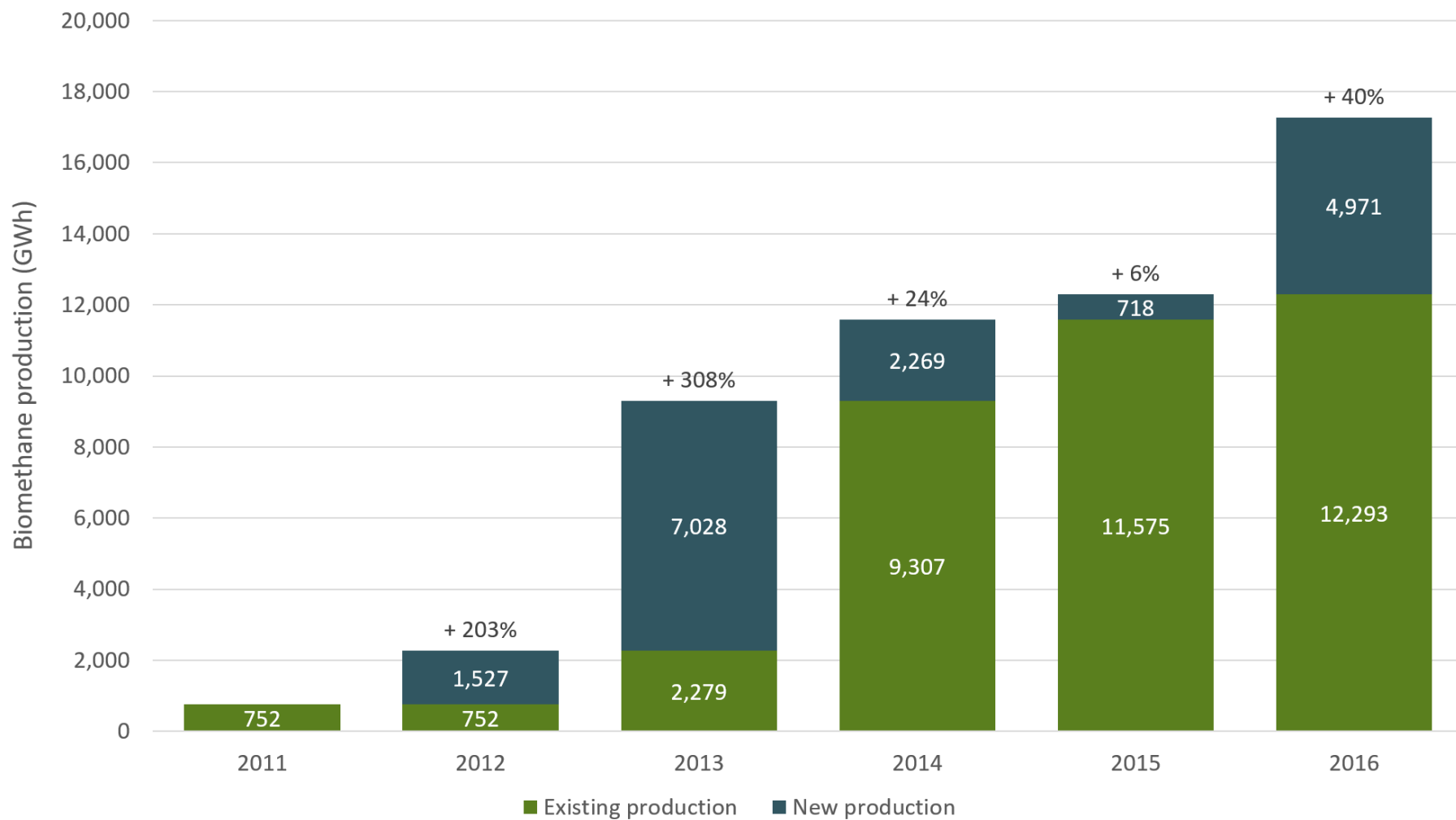


Biomethane in Europe (end 2016)

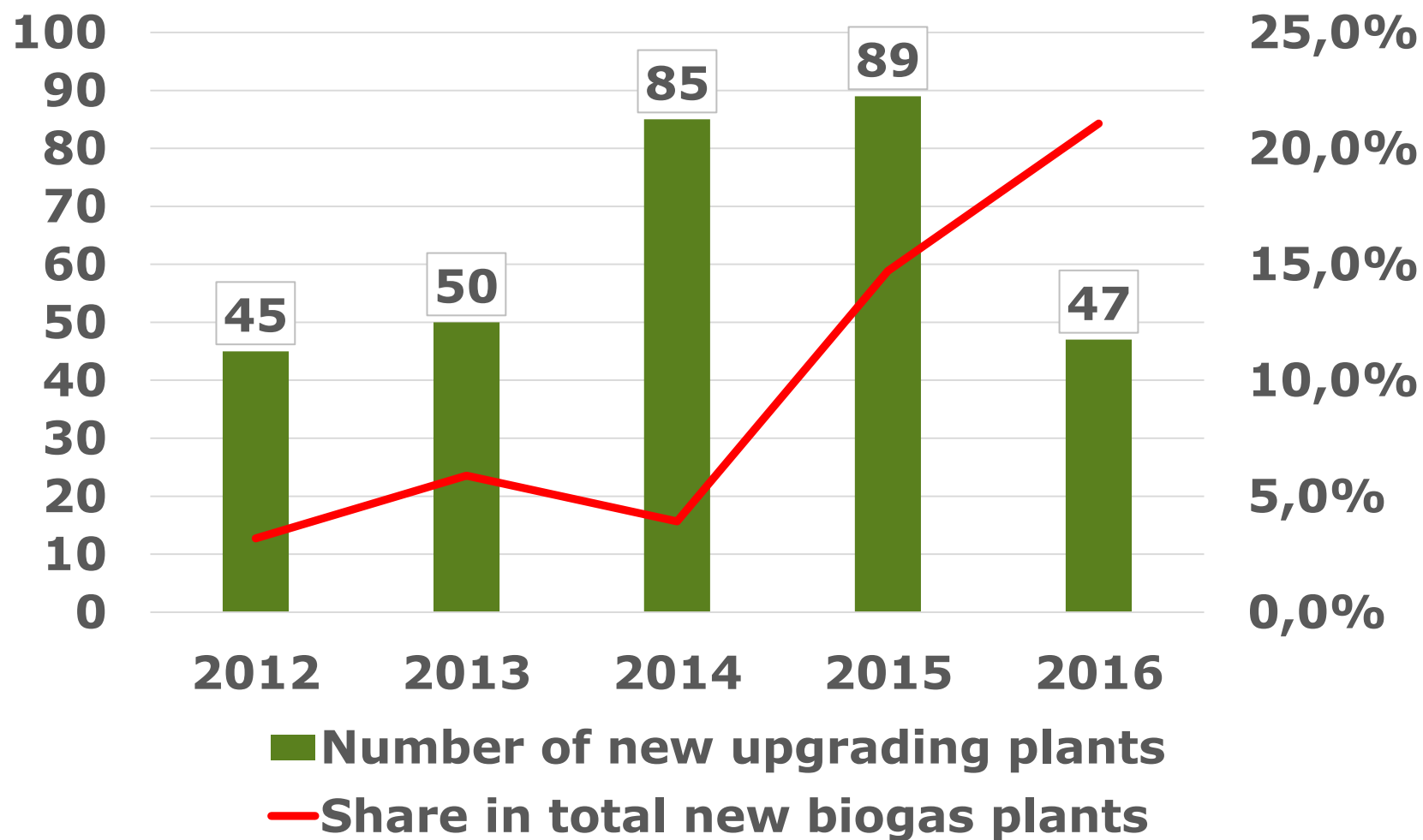


- 17 TWh production
- 503 units in 15 countries (including CH, IS and NO)
- 40% production increase in 2016
- Fast development!

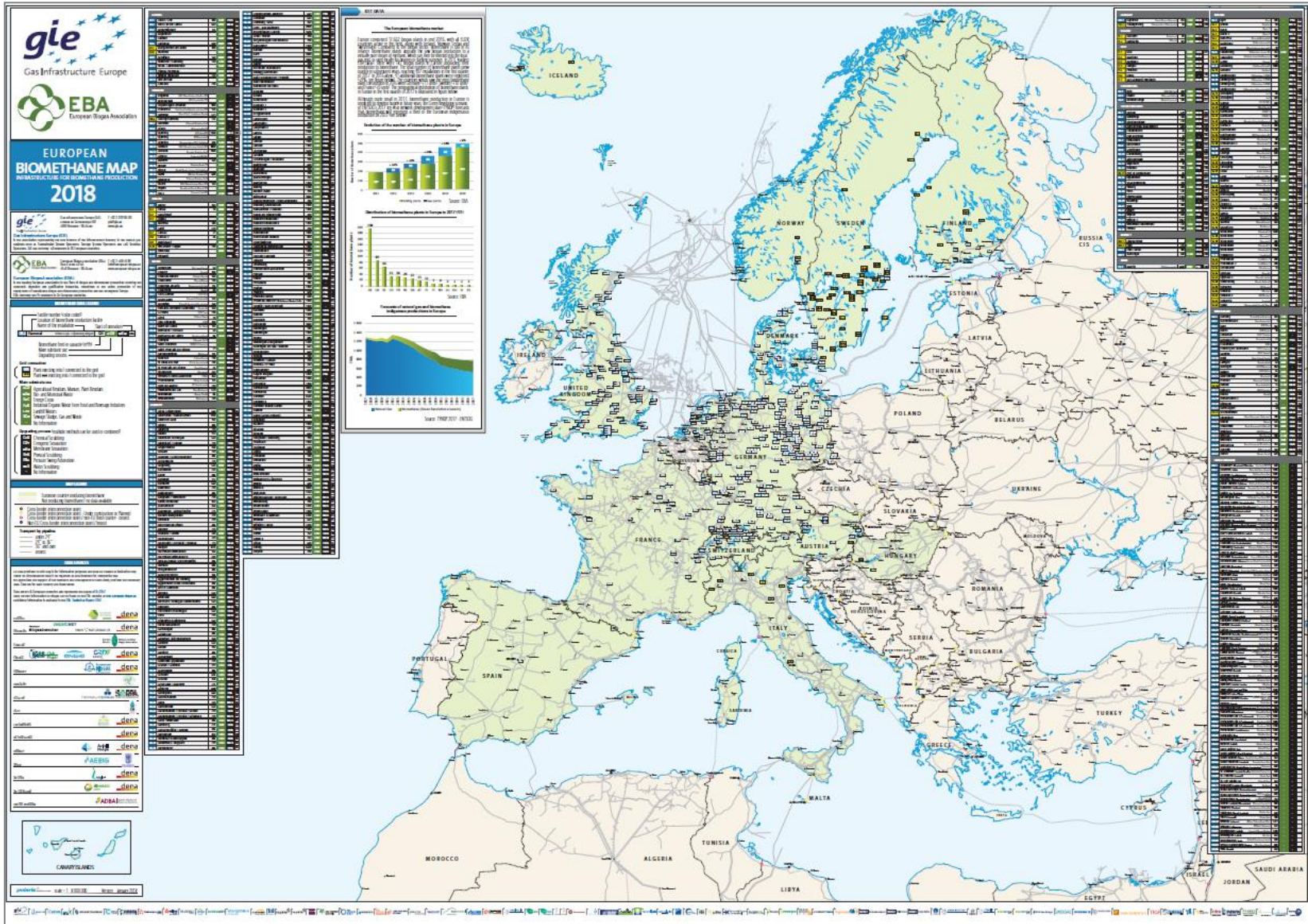
Evolution of biomethane production in Europe



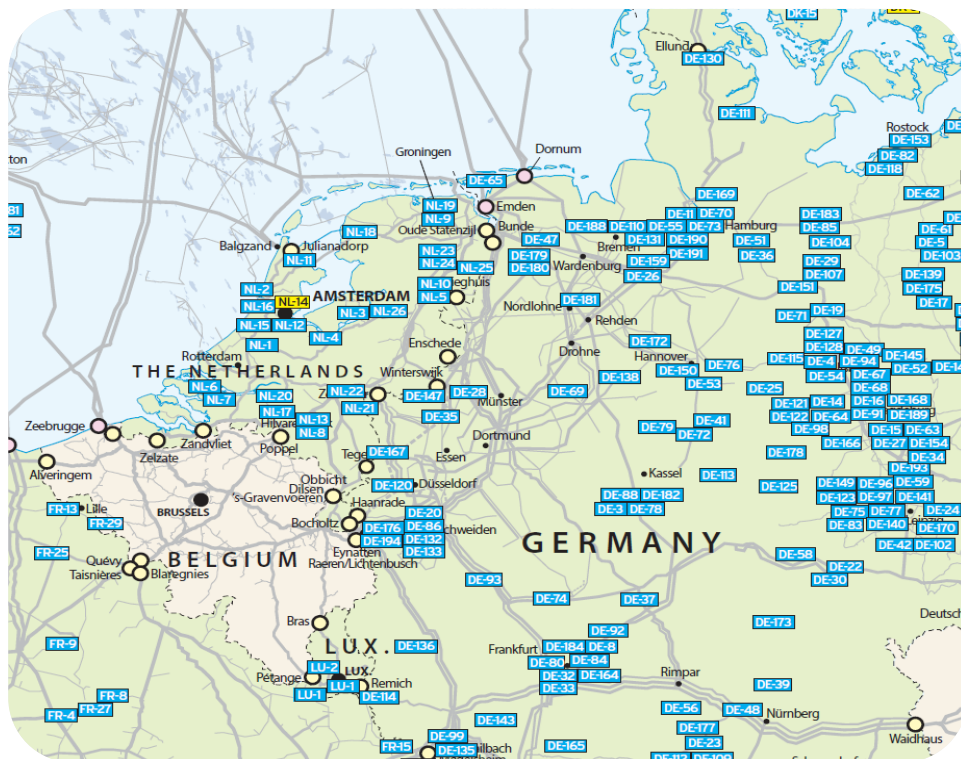
Biomethane share in new investments



Biomethane map



Biomethane map



Facility number (color coded)	Location of biomethane production facility	Name of the installation	Start of operation
DK-5	Hammel	(Vicus B ApS - Frijsenborg Biogas)	524
AGR	MEM	2016	
Biomethane feed-in capacity [m ³ /h]	Main substrate use	Upgrading process	

GERMANY

DE-1	Aicha (Osterhofen)	660	ENC	PSA	2012
DE-2	Aiterhofen / Niederbayern	1100	ENC	PSA	2009
DE-3	Allendorf-Eder	193	ENC	PSA	2013
DE-4	Altena	385	ENC	CHS	2011
DE-5	Altenhof	770	ENC	CHS	2013
DE-6	Alteno	413	MSW	WAS	2014
DE-7	Altenstadt Schongau	550	FAB	WAS	2009
DE-8	Altenstadt / Hessen	770	ENC	CHS	2012
DE-9	Angermünde	358	ENC	WAS	2009
DE-10	Anklam	770	FAB	PHS	2013
DE-11	Apensen / Grundoldendorf	385	ENC	CHS	2012
DE-12	Arnschwang	770	ENC	WAS	2010
DE-13	Augsburg	550	MSW	MEM	2013
DE-14	Badeleben	220	ENC	WAS	2014
DE-15	Barby	385	ENC	CHS	2015
DE-16	Barleben	413	ENC	WAS	2012
DE-17	Barsikow	660	ENC	CHS	2011

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For more information

- Annual **120+ pages** report
- **Extensive analysis of the European biogas and biomethane sectors** (coverage of 32 EU countries)
- **Detailed analysis of 23 EU countries** providing updated statistics and national legal background evolution
- Based on the expertise of **national associations and industries**
- Available to purchase for non-EBA members
- More info: info@european-biogas.eu



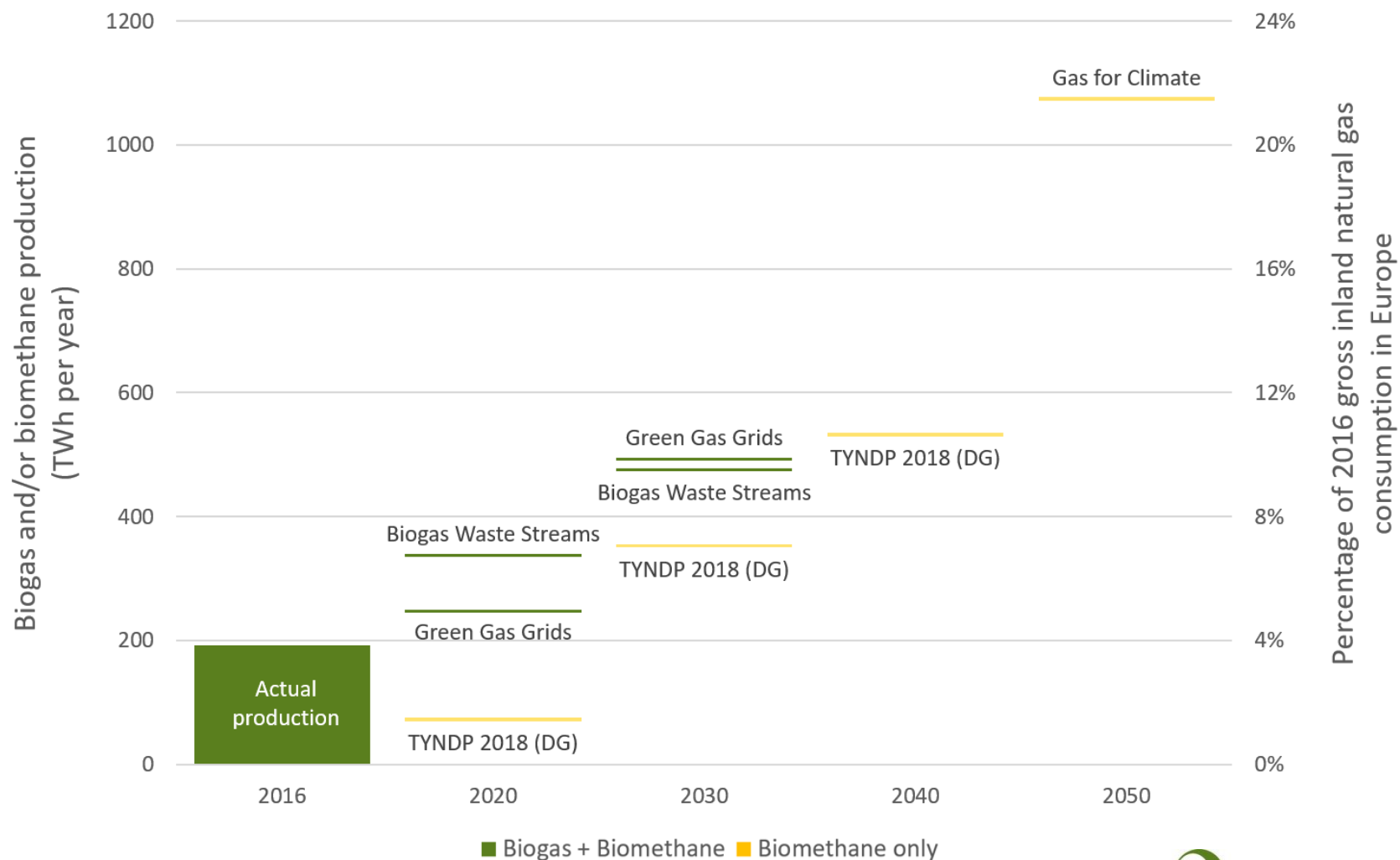
Basic statistical numbers

Indicator	Unit	Value	Share
Number of anaerobic digestion plants		17.662	
Number of biogas upgrading plants		503	2,8%
Total biogas production	ktoe/year	16.660	
Total biogas production	GWh/year	193.756	
Estimated biomethane production	GWh/year	17.264	8,9%
Biomethane used as vehicle fuel (appr.)	GWh/year	2.070	12,0%
Gross electricity production	GWh/year	62.704	

Main trends

- ❑ from biogas > to biomethane,
- ❑ *from local use > to wide-range distribution through the natural gas networks,*
- ❑ from local electricity generation > to the utilisation of co-generated thermal energy in central/district heating systems,
- ❑ *from electricity > to transportation fuel application,*
- ❑ from food/feed crops > to waste, agri-residues and agricultural by-products.

Biogas and biomethane potentials



Biomethane cross-border trade today

a) Virtual trade with certificates.

b) Few physical cross-border transactions through the European natural gas pipeline network.

- **Pre-set transport routes** from the producer to the enduser, transport&transit administration following the rules applied for natural gas deliveries.
- **Balancing within short period of time** (hourly, daily).
- **No transfer of sustainability characteristics** attached to the consignment(s) – RED biofuel requirements are not fulfilled.

National biomethane registries

- ❑ Main function: **track, confirm and document the biomethane transactions** along the entire contractual chain by means of Guarantees of Origin
- ❑ **Independent, neutral, professional** organisations (subject to independent audit controls)
- ❑ Established through government actions **or** voluntary cooperation of market players (preferably with government mandate)
- ❑ Serving as “**lighthouse**”: administrative support in meeting regulative requirements, guidance/assistance to potential biomethane investors
- ❑ Assisting production and trade through **building market confidence**
- ❑ Facilitating **cross-border trade** through the network of biomethane registries (ERGaR)

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European Renewable Gas Registry (ERGaR)

- ❑ **ERGaR aisbl** (non-profit international organisation) established 28th September, 2016 in Belgium
- ❑ Network of national biomethane registries **www.ergar.org**
- ❑ **20 members from 11 countries**
- ❑ **ERGaR RED** - biomethane specific voluntary scheme established and operated by ERGaR aisbl
- ❑ **Function: mass balancing of biomethane** distributed along the European natural gas network with transfer of related sustainability certification
- ❑ **Core documents: Guarantees of Origin** issued by the national biomethane registries
- ❑ **In December 2017 ERGaR RED applied for recognition by the European Commission** under the RED as a voluntary scheme

Main messages

- Investments for **small scale biogas plants** processing locally available manure and organic waste must be facilitated by appropriate FiT support.
- *For larger units **the biomethane pathway should be enabled** in domestic regulations and followed by stakeholders.*
- The usage of **biomethane as transportation fuel** (blended into CNG/LNG) is to be promoted by government policies and industry cooperation – with special attention to the production of „advanced“ biomethane.
- *The biggest challenge to the biogas/biomethane industry remains: the costs of production exceed the natural gas prices > the **industry is dependent on support provided by governments and consumers.***
- The **cooperation between the natural gas and biomethane industries** must be strengthened in every field (investments, production, distribution, marketing).
- *The future of biogas/biomethane industry of every EU member state **will be decided on national – and not on European – level.***

RED II: raw materials for „advanced” biomethane

- ✓ Algae
- ✓ Biomass fraction of mixed municipal waste
- ✓ Bio-waste from private households
- ✓ Biomass fraction of industrial waste including material from retail, wholesale and the agro-food and fish industry
- ✓ Straw
- ✓ Animal manure and sewage sludge
- ✓ Other non-food cellulosic material (including low starch cover crops)

The future of the Polish biogas/biomethane industry is decided in Warsaw and not in Brussels





Source: Sofia Nordström, FordonsGas Sverige AB

Dziękuję bardzo za uwagę !

European Biogas Association

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