

Biogas from agricultural residues and waste

European Biogas Association

EU4Energy Vienna Policy Forum: Bioenergy for Heat

24 April 2018, Vienna, Austria



EBA

European Biogas Association

EBA, THE EUROPEAN BIOGAS ASSOCIATION

What is 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 gas, waste and renewable associations
- Based in Brussels, **Renewable Energy House** (REH)

26 countries – 37 National Organisations
64 Companies – representing >7,000 stakeholders



www.european-biogas.eu



Full members (associations)

| | |
|-----------------------|--|
| <u>Austria</u> | (ARGE Kompost & Biogas) |
| <u>Belgium</u> | (ValBiom – Wallonian Biogas Association) / (EDORA – Federation of renewable energies) / (Biogas-E– Anaerobic digestion platform of Flanders) / Vlaco - Vlaamse Compostorganisati |
| <u>Czech Republic</u> | (CzBA - Czech Biogas Association) |
| <u>Denmark</u> | (Brancheforeningen for Biogas - Danish Biogas Association) |
| <u>Estonia</u> | (MTÜ – Estonian Biogas Association) |
| <u>Finland</u> | (Suomen Biokaasuyhdistys – Finnish Biogas Association) |
| <u>France</u> | (AAMF – Association of Biogas Farmers of France) / (ATEE Club Biogaz) / (METHEOR – Association for the Ecological Anaerobic Digestion of Waste) |
| <u>Germany</u> | (Fachverband Biogas – German Biogas Association) / (FNBB - Society for the Promotion of Sustainable Biogas and Bioenergy) |
| <u>Greece</u> | (HEL.BI.O. - Hellenic Biogas Association) |
| <u>Hungary</u> | (Magyar Biogáz Egyesület - Hungarian Biogas Association) |
| <u>Ireland</u> | (Composting and Anaerobic Digestion Association of Ireland, CRE) / (IrBEA Irish Bioenergy Association) / RGFI – Renewable |
| <u>Gas</u> | Forum Ireland |
| <u>Italy</u> | (CIB Consorzio Italiano Biogas e Gassificazione) / (FIPER) |
| <u>Latvia</u> | (Latvijas Bigazes Asociacija – Latvian Biogas Association) |
| <u>Lithuania</u> | (Lietuvos Biodužu Asociacija - Lithuanian Biogas Association) |
| <u>Netherlands</u> | (VGGP - Association of Green Gas Producers) / BBO-Biogas Branche Organisatie |
| <u>Poland</u> | (PIGEO - Polish Economic Chamber of Renewable Energy) / UPEBI – (Union of Producers and Employers of Biogas Industry) |
| <u>Romania</u> | (ARBIO - Romanian Association of Biomass and Biogas) |
| <u>Serbia</u> | (Udruženje Biogas Srbija - Biogas Association of Serbia) |
| <u>Slovenia</u> | (Slovenian Biogas Association) |
| <u>Spain</u> | (AEBIG - Spanish Biogas Association) |
| <u>Sweden</u> | (Energigas Sverige - Swedish Gas Association) |
| <u>Switzerland</u> | (Biomasse Suisse – Swiss Biomass Association) |
| <u>United Kingdom</u> | (ADBA – The Anaerobic Digestion and Biogas Association)/ REA Biogas Group - UK Renewable Energy Association |

Associated members (companies, universities, private persons)



Dutch
Metrology
Institute

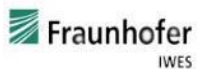


TSenergyGROUP



Dr. Jörgen Held
(RENEWTEC)

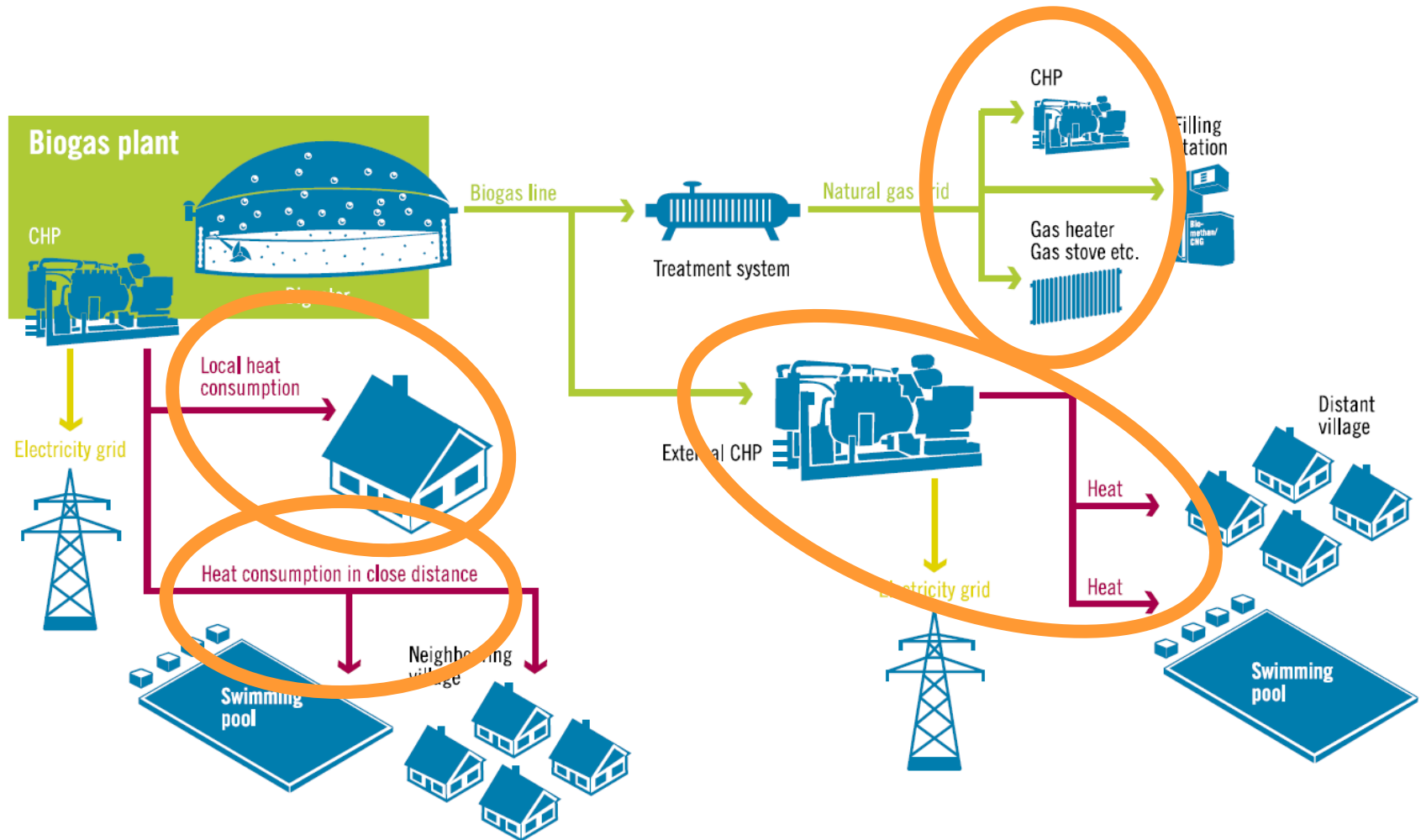
Lars Salling



Knowledge grows

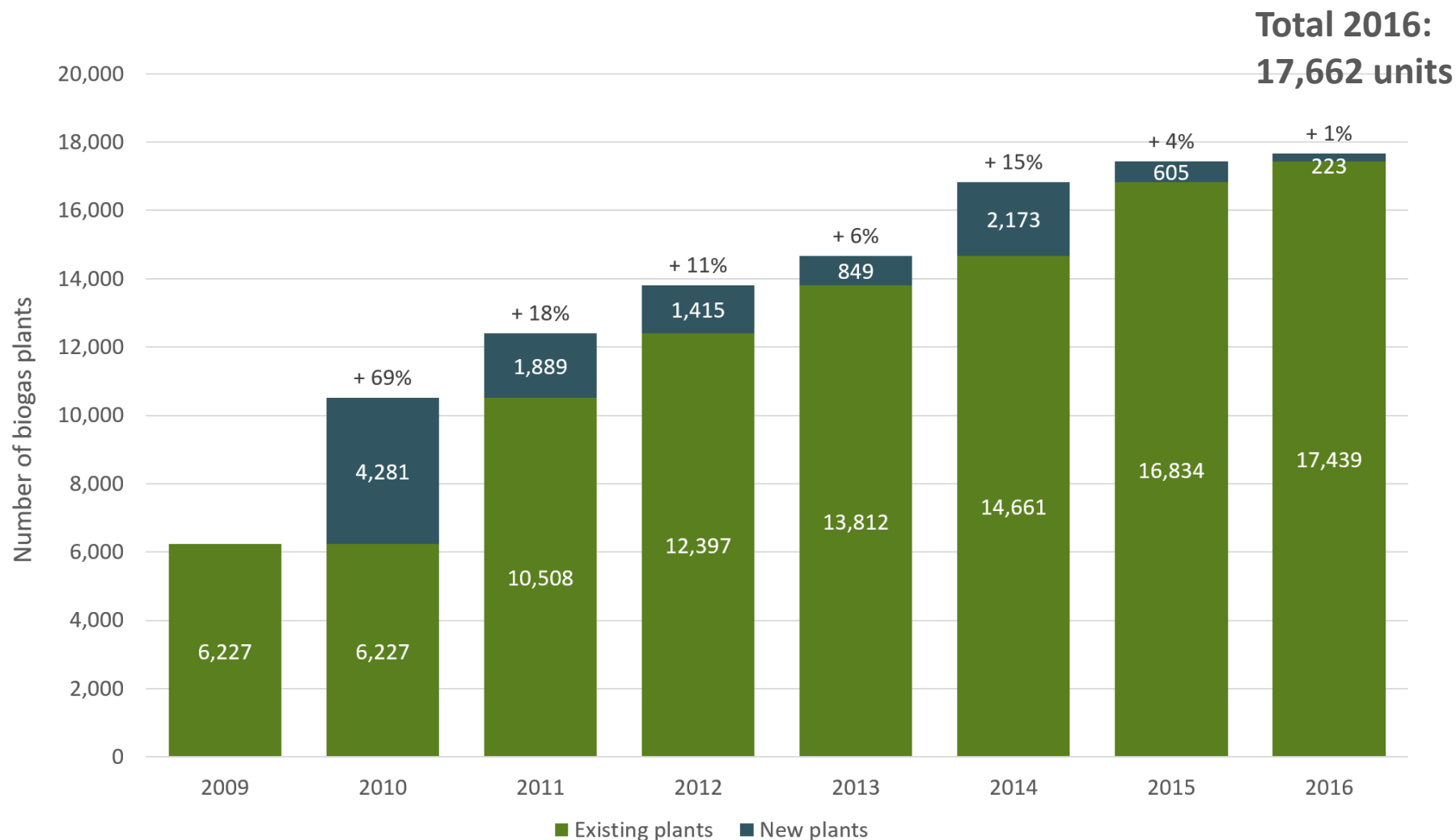
BIOGAS BASICS & MARKET OVERVIEW

End-products



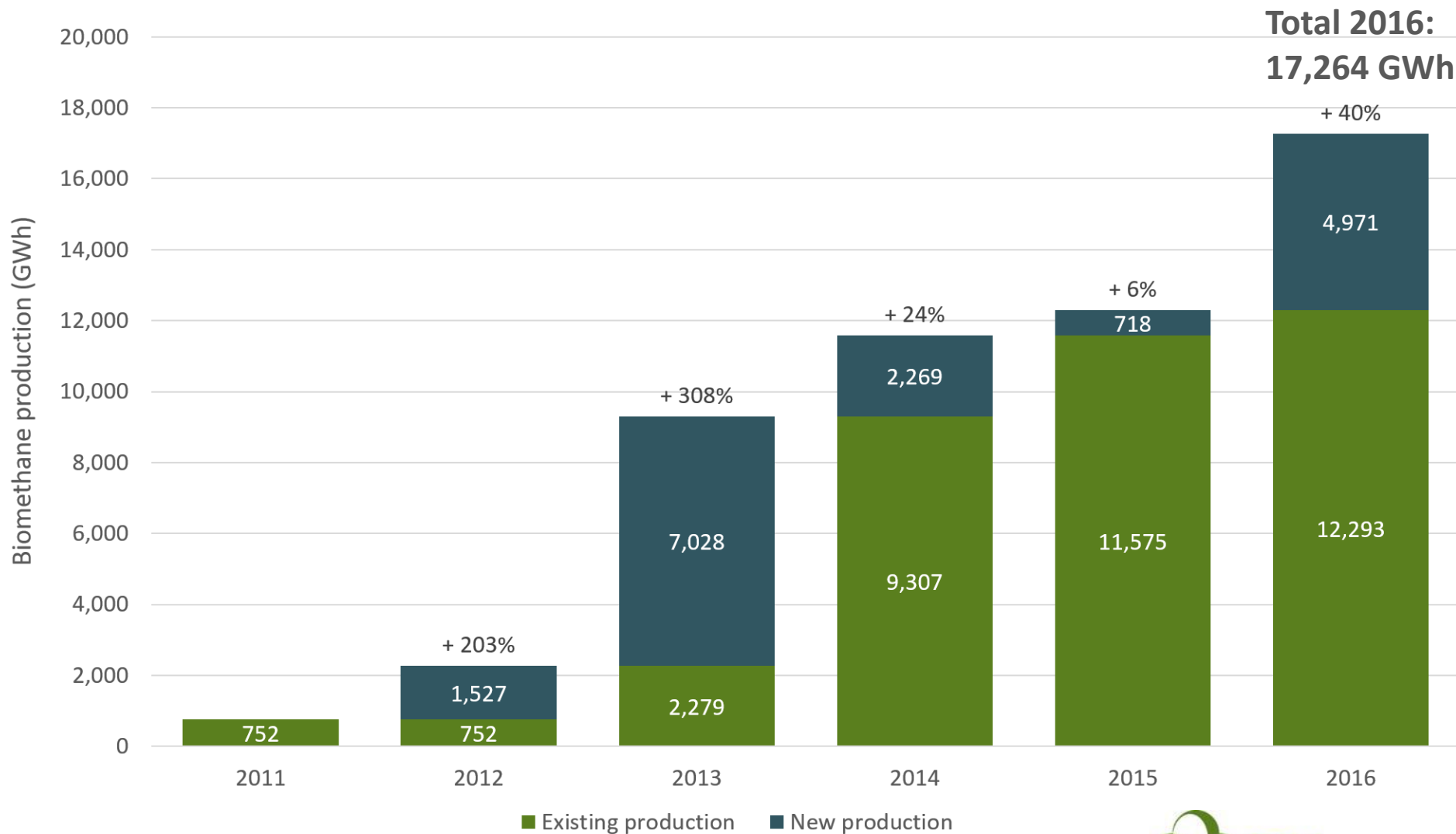
Source: Biowaste to Biogas (Fachverband Biogas)

Evolution of the number of biogas plants in Europe



Source: EBA Statistical Report 2017

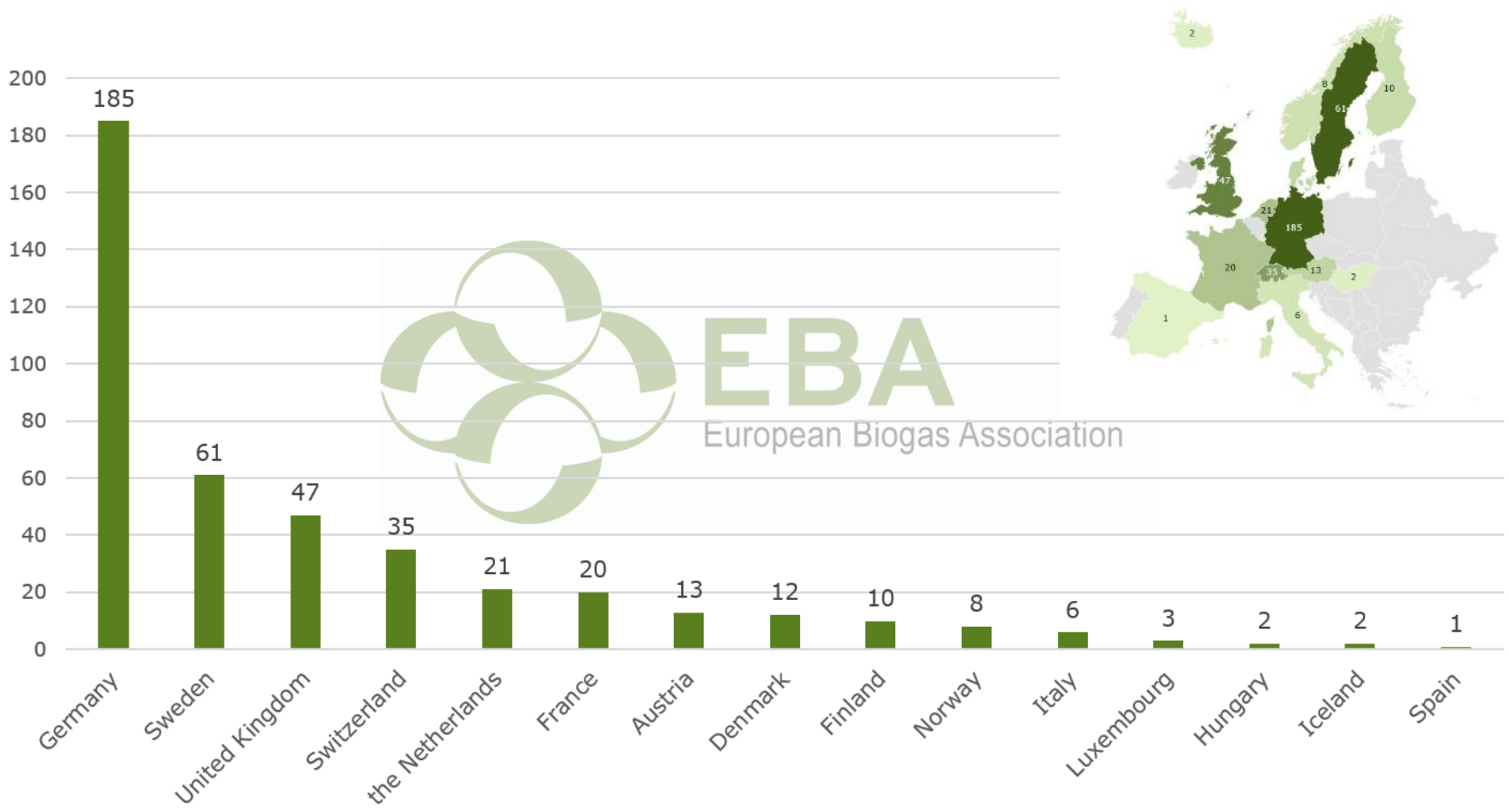
Evolution of the biomethane production in Europe (GWh)



Source: EBA Statistical Report 2017

UPDATED

Distribution of the Biomethane Plants in 2015



Total number in 2015: 426



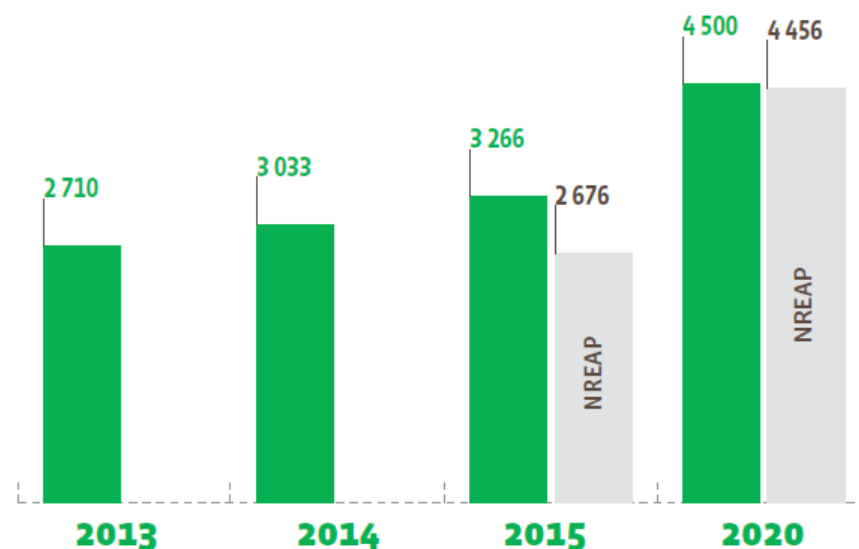
Heat from biogas production in Europe

Gross heat production from biogas in the European Union in 2014 and in 2015 (in ktoe)
in the transformation sector*

| | 2014 | | | 2015* | | |
|-----------------|------------------|--------------|--------------|------------------|--------------|--------------|
| | Heat only plants | CHP plants | Total | Heat only plants | CHP plants | Total |
| Germany | 54.4 | 102.8 | 157.2 | 71.8 | 150.0 | 221.8 |
| Italy | 0.3 | 238.5 | 238.8 | 0.3 | 205.3 | 205.6 |
| Denmark | 7.1 | 36.1 | 43.2 | 11.2 | 39.0 | 50.2 |
| France | 2.4 | 20.9 | 23.3 | 2.7 | 31.6 | 34.3 |
| Latvia | 0.0 | 18.2 | 18.2 | 0.0 | 21.3 | 21.3 |
| Finland | 7.6 | 8.1 | 15.7 | 6.8 | 11.4 | 18.2 |
| Czech Republic | 0.0 | 13.5 | 13.5 | 0.0 | 14.8 | 14.8 |
| Slovakia | 0.0 | 7.8 | 7.8 | 0.0 | 11.3 | 11.3 |
| Poland | 0.2 | 6.9 | 7.1 | 0.3 | 10.1 | 10.4 |
| Belgium | 0.0 | 7.6 | 7.6 | 0.0 | 9.3 | 9.3 |
| Slovenia | 0.0 | 8.4 | 8.4 | 0.0 | 7.3 | 7.3 |
| Sweden | 4.0 | 4.8 | 8.8 | 3.0 | 3.6 | 6.6 |
| Croatia | 0.0 | 3.2 | 3.2 | 0.0 | 5.2 | 5.2 |
| Romania | 0.0 | 3.9 | 3.9 | 0.1 | 3.7 | 3.8 |
| Austria | 1.7 | 3.3 | 5.0 | 1.6 | 1.8 | 3.4 |
| Hungary | 0.0 | 1.8 | 1.8 | 1.3 | 1.9 | 3.2 |
| Estonia | 0.0 | 1.3 | 1.3 | 0.0 | 2.7 | 2.7 |
| Lithuania | 0.0 | 2.2 | 2.2 | 0.0 | 2.2 | 2.2 |
| Luxembourg | 0.0 | 1.8 | 1.8 | 0.0 | 1.9 | 1.9 |
| Cyprus | 0.0 | 1.1 | 1.1 | 0.0 | 1.2 | 1.2 |
| Netherlands | 0.0 | 1.1 | 1.1 | 0.0 | 1.1 | 1.1 |
| Bulgaria | 0.0 | 1.3 | 1.3 | 0.0 | 0.6 | 0.6 |
| Malta | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| Greece | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ireland | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Portugal | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Spain | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| United Kingdom | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total EU | 77.8 | 494.6 | 572.4 | 98.9 | 537.2 | 636.1 |

* Correspond to "Derived heat" (see Eurostat definition). Source: Eurostat 2016

Comparison of the current trend of biogas heat consumption against the NREAP (National Renewable Energy Action Plans) roadmap (in ktoe)

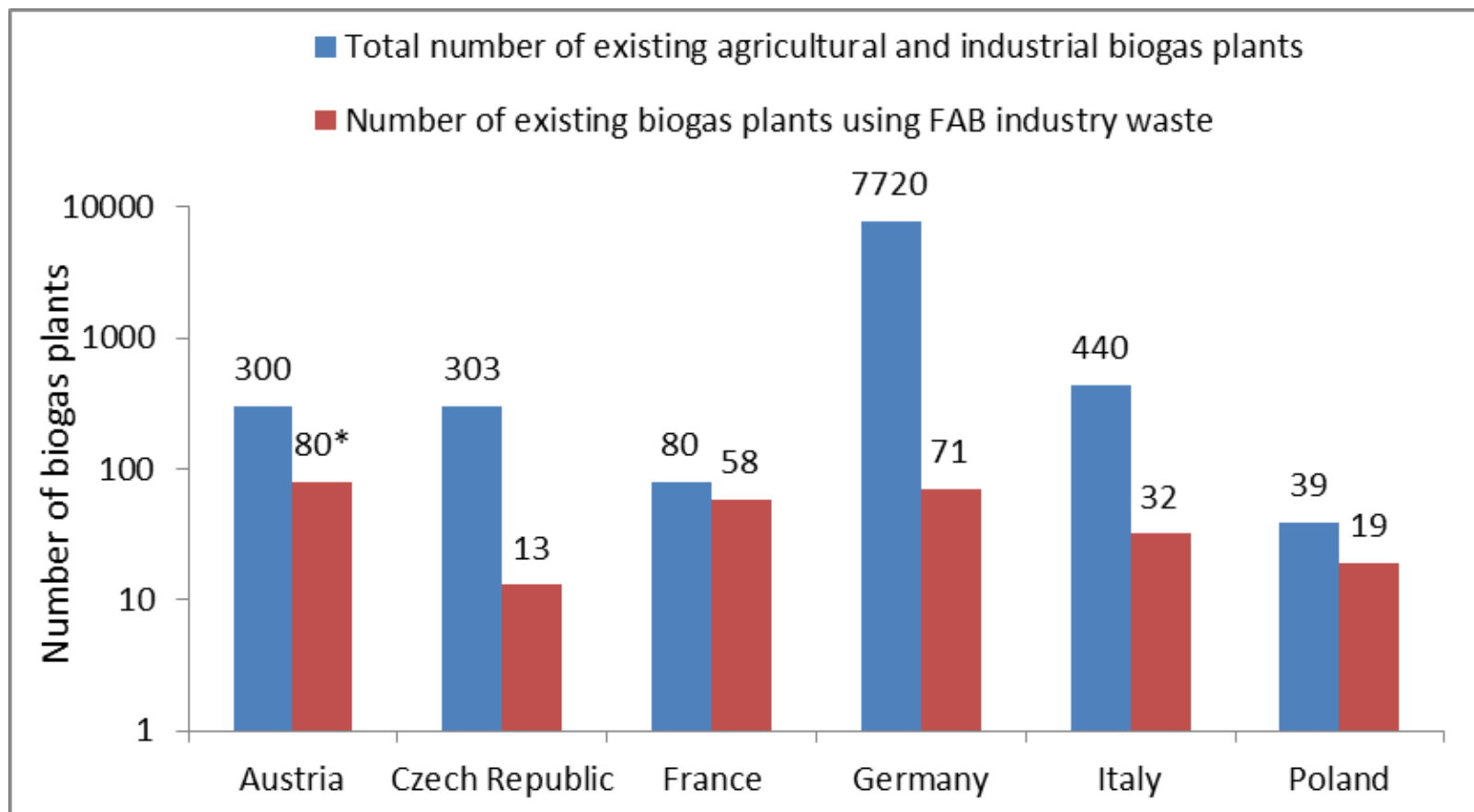


Source: EurObserv'ER 2016

Source: 16th EurObserv'ER Report, edition 2016

BIOGAS FROM AGRICULTURAL RESIDUES AND WASTE

Biogas from FAB food and beverage waste



* - waste biogas plants allowed to use FAB industry waste

Handbook – biogas production in the food & beverage industry

Best practice examples



Maps of biogas plants using FAB waste



www.fabbiogas.eu

EU project FABbiogas funded by IEE Europe, 2013-2015

<http://www.fabbiogas.eu/en/project-results/mapping-biogas-plants-using-fab-industry-waste/>

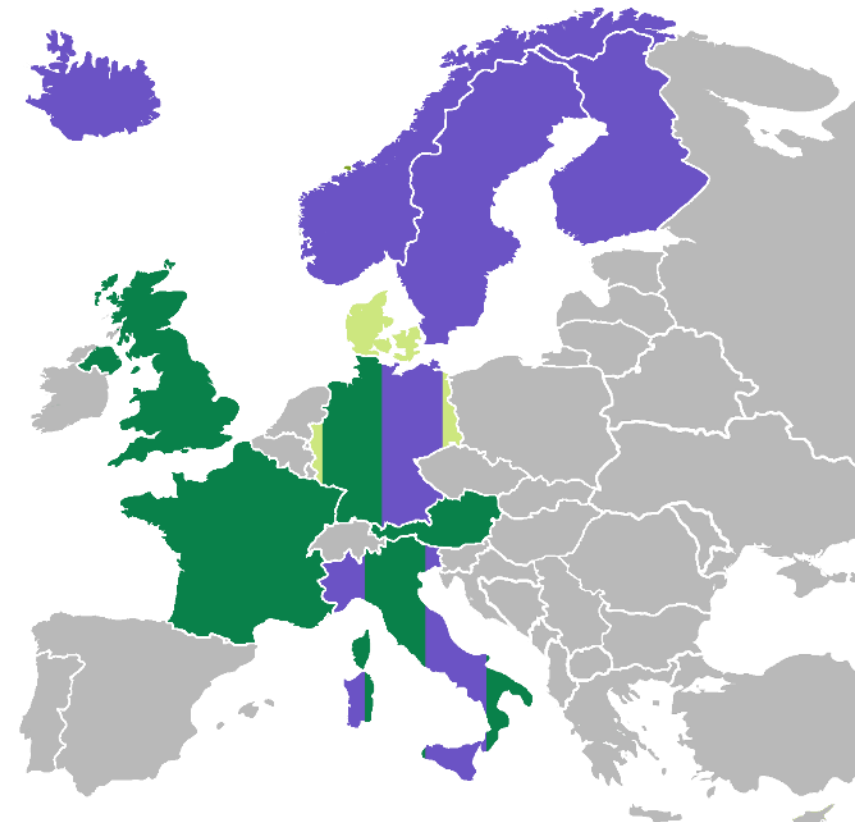
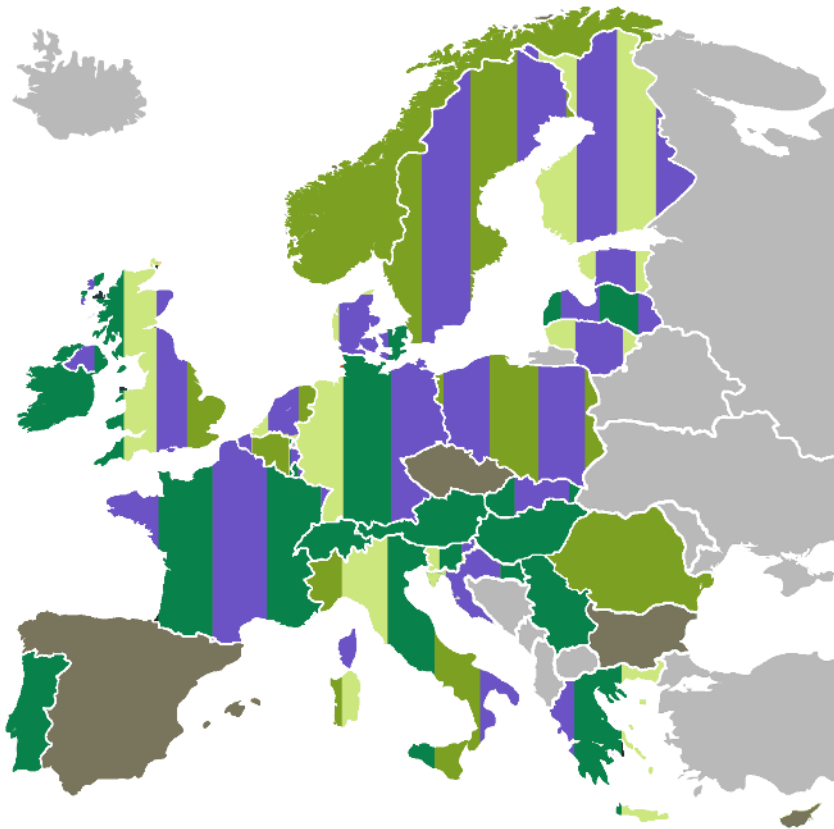


SUPPORT SCHEMES FOR BIOGAS AND BIOMETHANE

Support schemes for biogas and biomethane

- Feed-in tariff
- Feed-in premium
- GC
- Fiscal incentives / subsidies
- Previously supported but SS terminated

- Feed-in tariff
- Feed-in premium
- Fiscal incentives / subsidies



Source: EBA Statistical Report 2017

European Renewable Gas Registry

Vision and Mission

MISSION

Building on national renewable gas registries to establish an **independent, transparent and trustworthy documentation scheme for cross border transfer and mass balancing of renewable gas injected into the European natural gas network** securing the exclusion of double sale and double counting

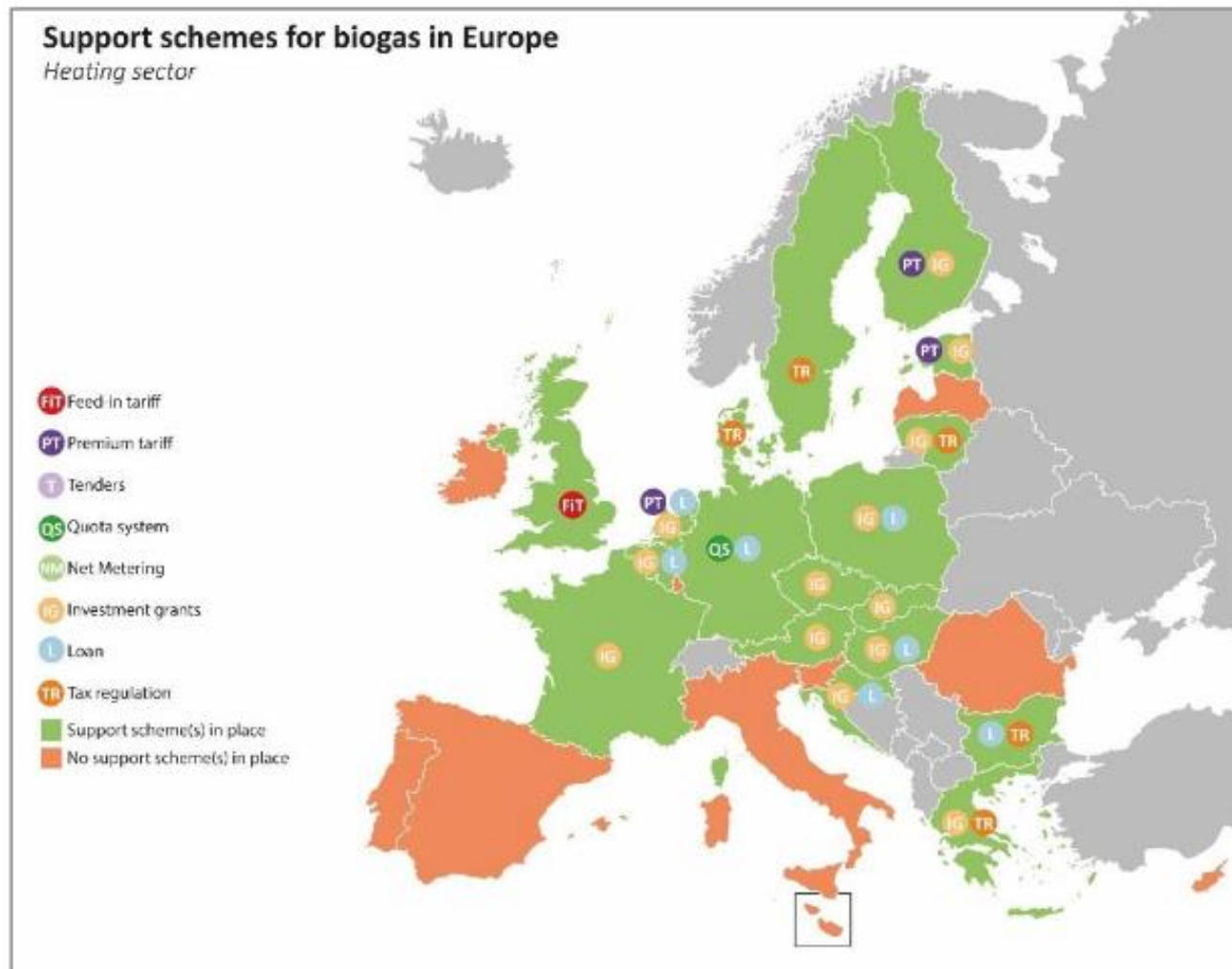
VISION

Renewable gas will be increasingly produced and traded cross border in an integrated European market through the natural grids network reaching all end customer segments

GOAL

To be recognised by the European Commission as a voluntary scheme under the Renewable Energy Directive 2009/28/EC

Support schemes for biogas in the heating sector



Source: EC study by CE Delft « Optimal use of biogas from waste streams », 2016

Renewable Heat Incentive (RHI)

Prolongation of the UK RHI:

- new plants to the RHI must produce at least 50% of their biogas from waste or residue for all of that gas to be eligible for full support
- > 1MWth: annual independent sustainability audit report
- Biomethane producers may register for the RHI once they have injected biomethane

Implementation of the Irish RHI

- Irish RHI for biomethane injection is expected to be announced by the government in 2018

EBA position on biogas for heat

- Maximising of the full efficiency of biogas plants through optimal support for heat recovery
- Strengthen financial instruments for heating and cooling
- Enabling of a common European biomethane market via internal European cross-border trade
- Joining the Advisory Group Meetings of the DG ENER study on Competitiveness of RES Heating and Cooling

Questions?

- In which energy sector do you see the highest need for biogas/biomethane in your country?
 - Heat
 - Electricity
 - transport

Thank you

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