

Potential biomethane production in Europe

The role of renewable gases in a smart low-carbon energy system

European Sustainable Energy Week

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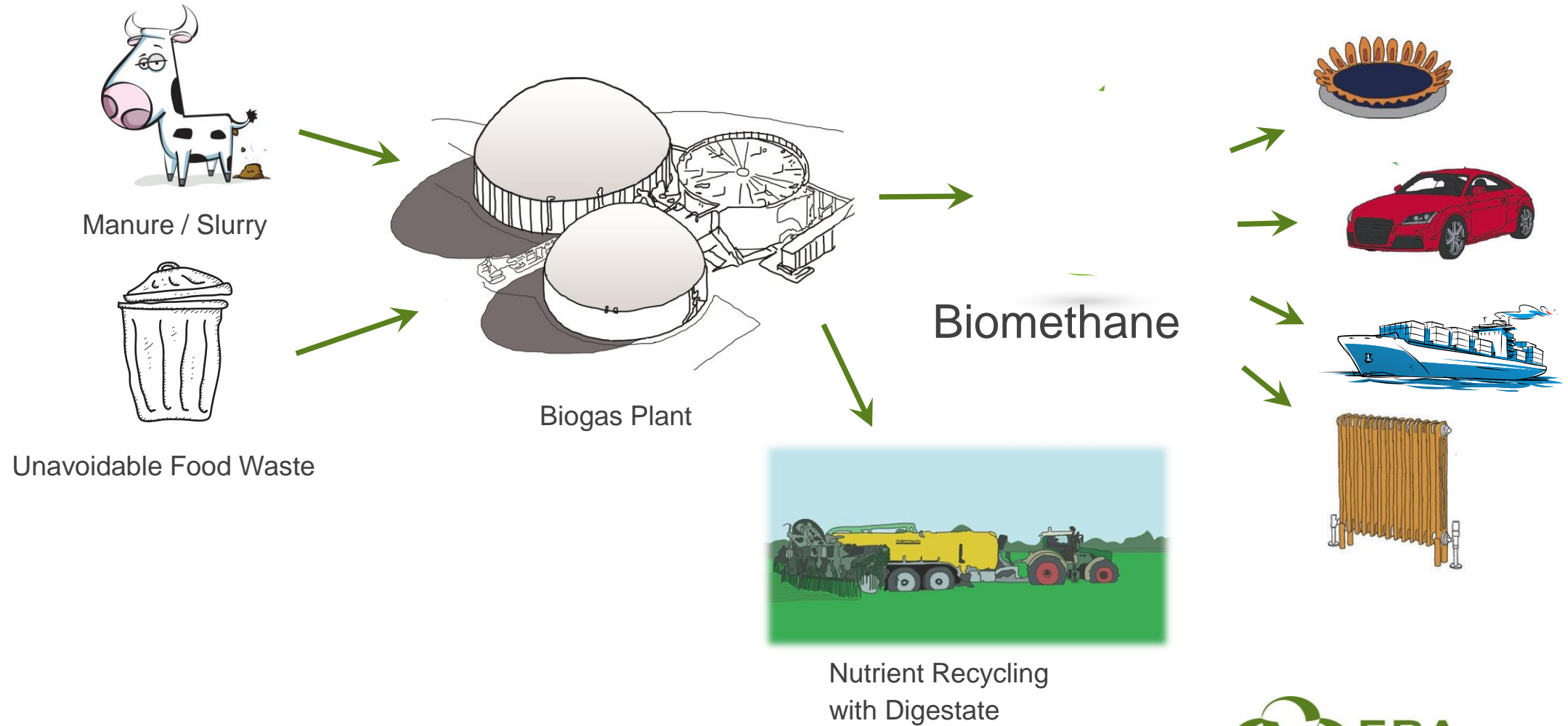
Chairman, European Biogas Association



EBA

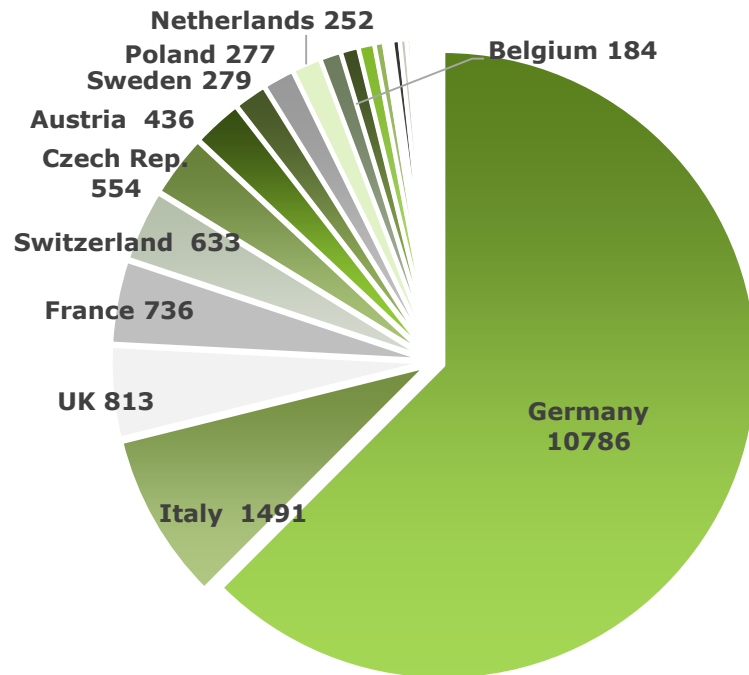
European Biogas Association

Biogas and biomethane

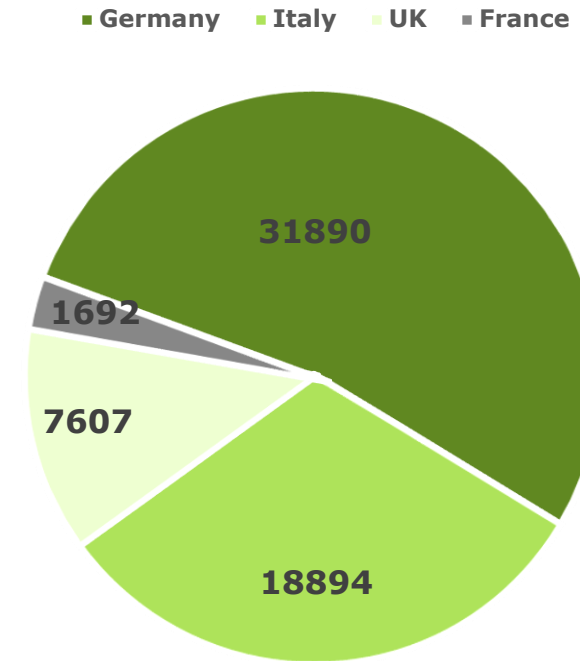


The Numbers – 2014 and 2015

Number of Plants¹ – 2014



Electricity Generation GWh/year^{2,3} - 2015



17,240 biogas plants in Europe – Total Installed capacity of 8,293 MW_{el}

¹EBA Biogas Statistics, 2015, ²IEA Bioenergy Task 37

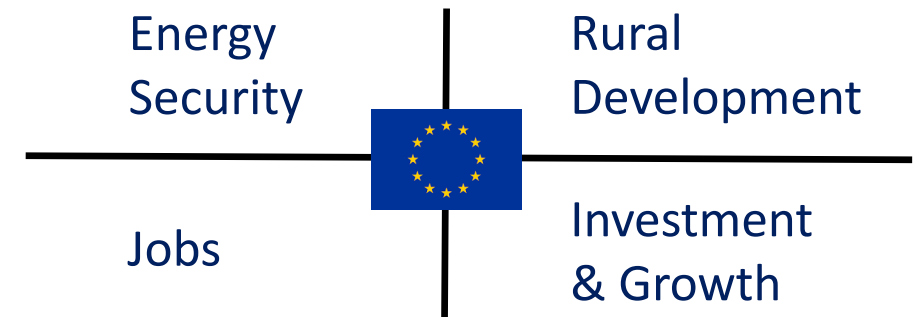
³ GSE – Gestore Servizi Energetici – Energy by Renewable Source in Italy – 2015 Data

Biomethane Industry

How?

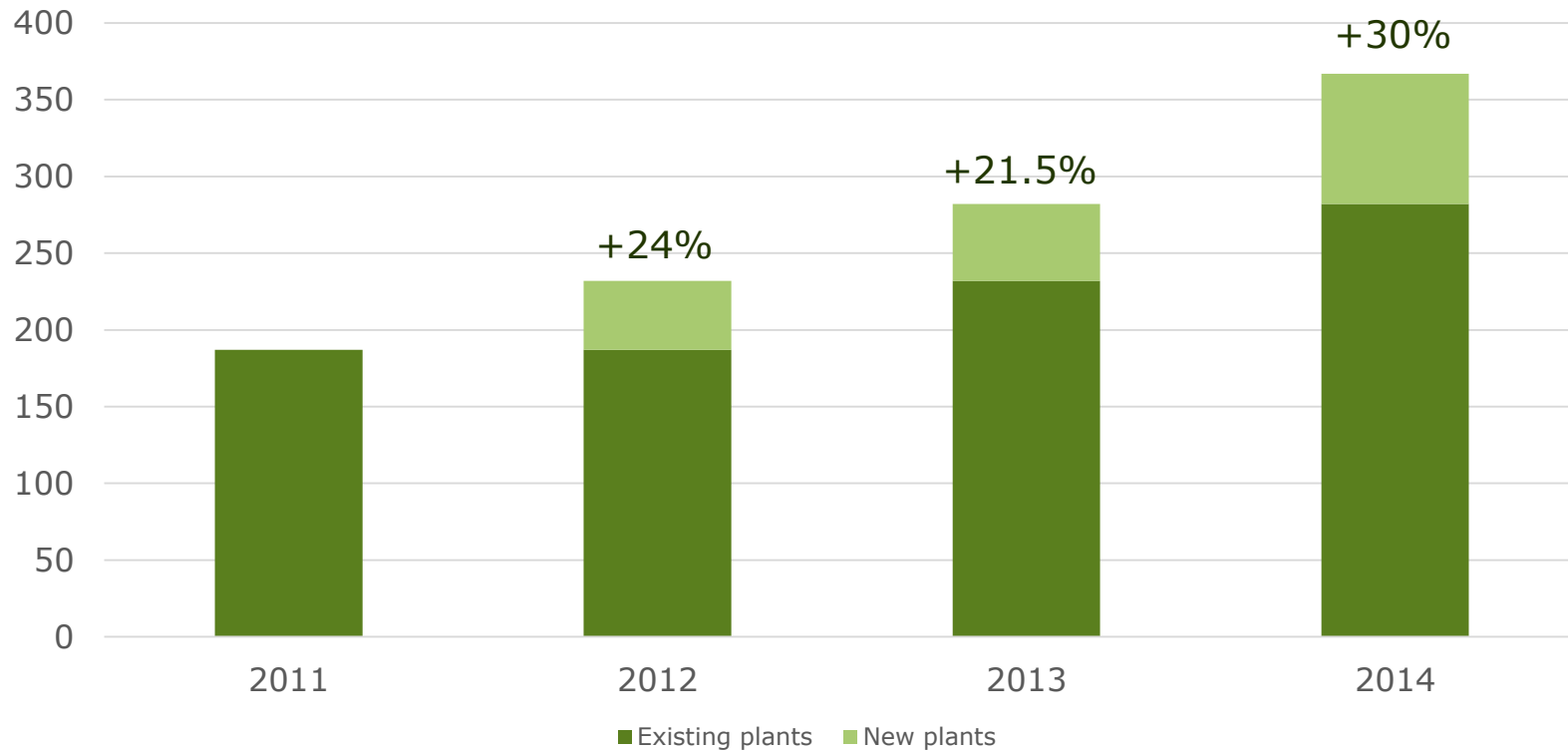
- **Anaerobic digestion** *followed by biogas upgrading*
- **Gasification** *followed by syngas conversion to biomethane*
- **Other technologies** *producing methane from biogenic carbon (i.e. Power-to-Gas)*

What?



Biomethane Growth

Existing and new biomethane plants commissioned per year

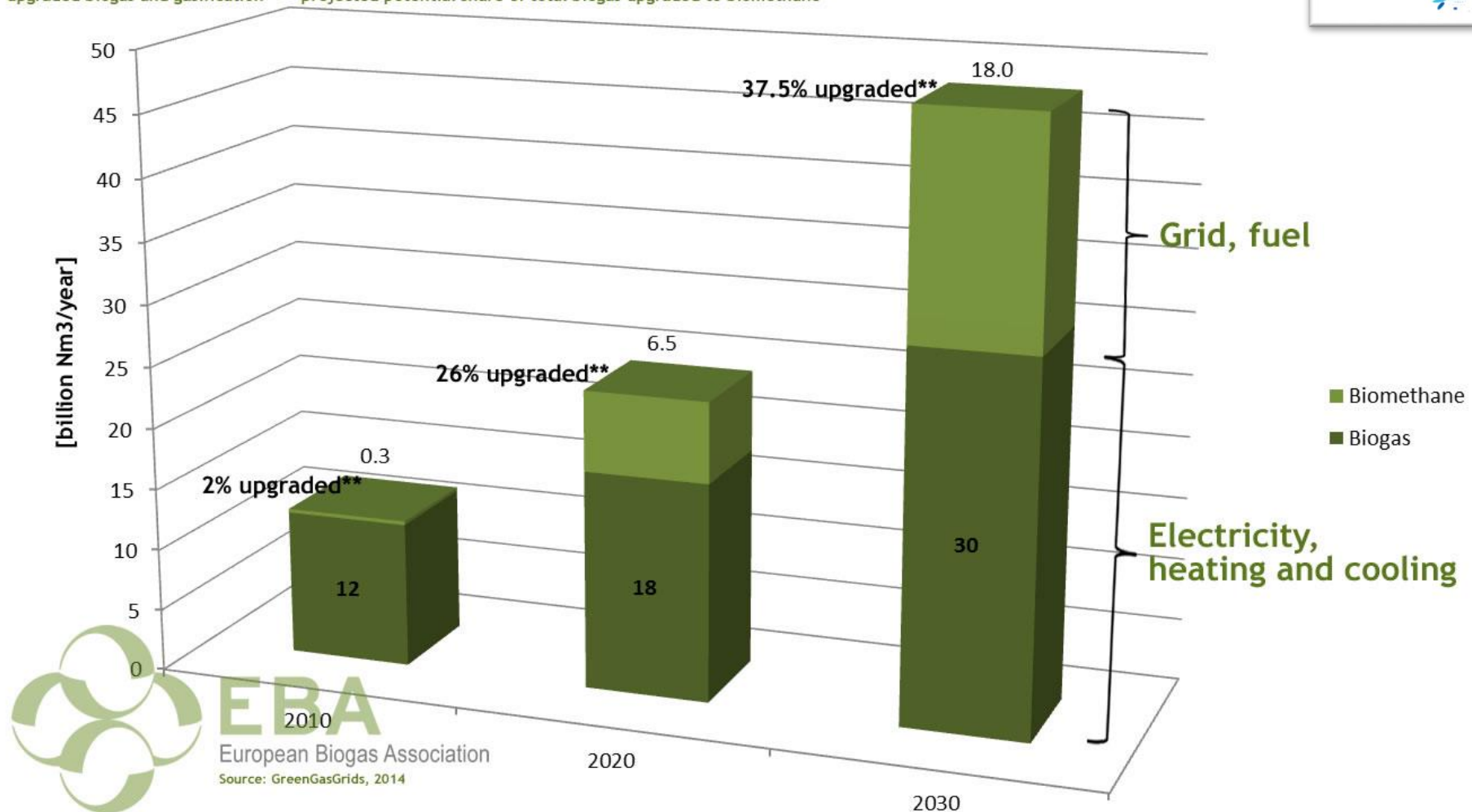


Growth Potential (AD and Gasification)



Biogas/Biomethane* potential

*upgraded biogas and gasification **projected potential share of total biogas upgraded to biomethane



Feedstock Potential – The Circular Economy

- 78 MT of green waste landfilled in the EU in 2012
Emitting 110 MT CO₂eq¹
 - If digested, these emissions would have been avoided
 - In addition, 11 million tons of CO₂eq from fossil fuel would have been substituted
- Digesting this and returning the organic fertiliser would deliver:
 - ✓ 400,000t of nitrogen (N)
 - ✓ 120,000t of phosphorus (P₂O₅)
 - ✓ 450,000t potassium (K₂O)
 - ✓ 3 million tonnes of organic carbon (to fight soil erosion)

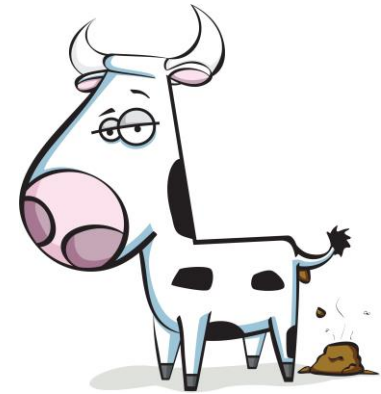
Every YEAR!



¹ National Reporting Landfill Directive

Feedstock Potential – Sustainable Agriculture

- Livestock farming can have a significant environmental impact:
 - ✓ 1.27 BT manure and slurry generated annually in the EU¹
 - ✓ 1.73% of EU 2012 GHG emissions were from manure storage¹
 - ✓ Manures low nutrient availability can pollute water
- Currently 3.3% of manure produced within the EU is digested
 - ✓ This avoids 10.5 MTCO₂eq being released and improves nitrogen availability.
 - ✓ Front runners - DE digests 14%, DK aims for 50% by 2020
- **EBA's EU objective is to digest 33% of available manure within the EU. This would avoid 105 MT of CO₂eq**



¹ FAOSTAT

Challenges and Tasks

Political:

- Equal treatment of domestic and imported products
- Harmonisation of national support systems
- Support for biomethane (as an advanced biofuel)
- Investment protection

Virtual volume transfer through mass balancing in the European natural gas network

Cross-border transfer of sustainability claims



Cross Border Mass Balancing

- **ERGaR (European Renewable Gas Registry)**
 - **Designed as:** „Special Purpose Voluntary Scheme”
 - **To Enable:** mass balancing of biomethane distributed along the European natural gas network
 - **European Biomethane Guarantees of Origin** issued by the national biomethane registries
- **Aiming to:** be recognised by Commission under **RED**

Thank you

European Biogas Association

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