IEA Bioenergy Task 40
Sustainable international bioenergy trade

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Fachgespräch Bioenergieforschung
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TU WIEN TECHNISCHE UNIVERSITÄT WIEN Vienna University of Technology
IEA FORSCHUNGS KOOPERATION

Biomethan: Status and factors affecting market development and trade*

- **Joint study IEA Task40 and Task37**
- **Published September 2014 on**

http://bioenergytrade.org/publications.html

- **http://www.iea-biogas.net/ for more current information**
- **Further readings – current Horizon2020 project www.biosurf.eu**

Dissertationsschrift 2016

*Thrän D, Billig E, Daniel-Gromke J, Ponitka J, Seiffert M, Baldwin J, et al. Biomethane. Status and Factors Affecting Market Development and Trade. 92 Pages. 2014.

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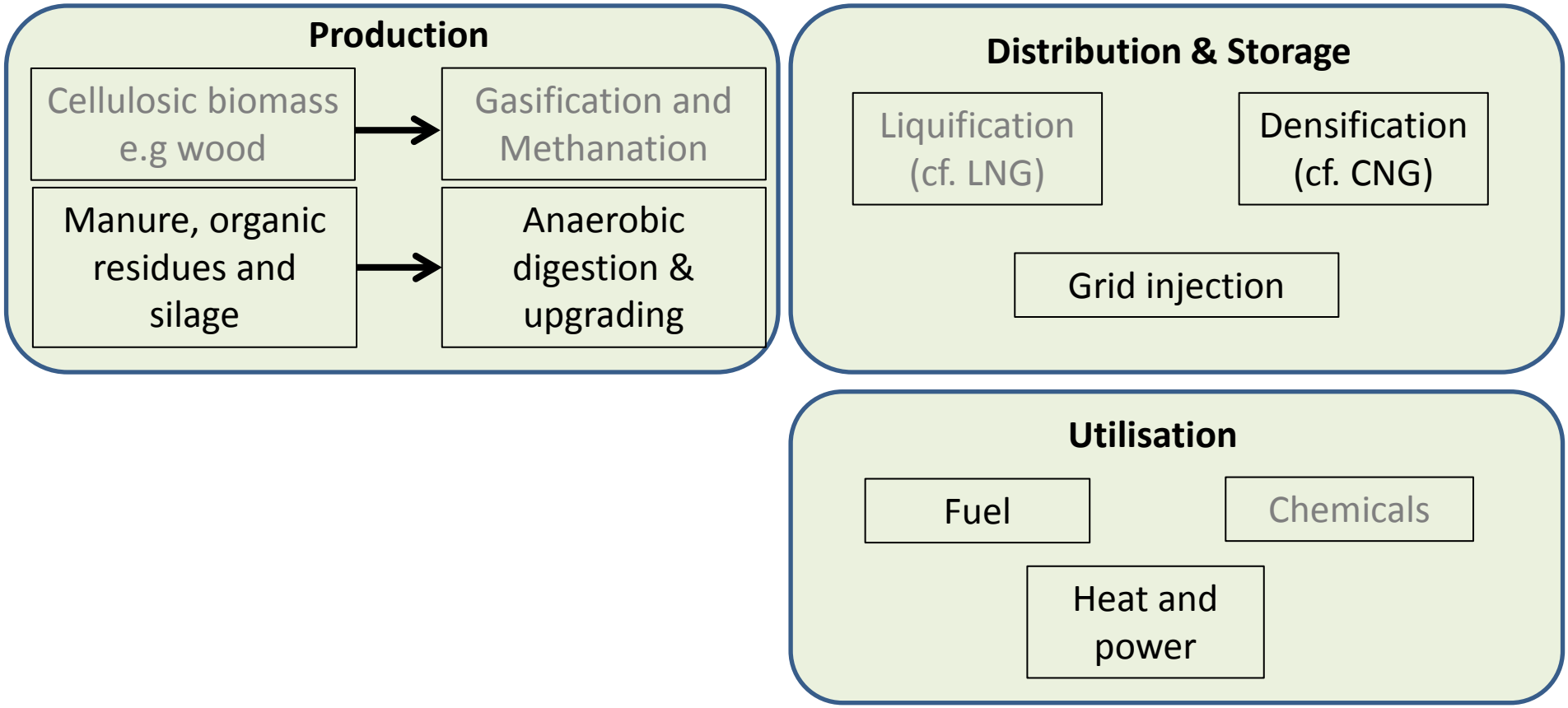
Content

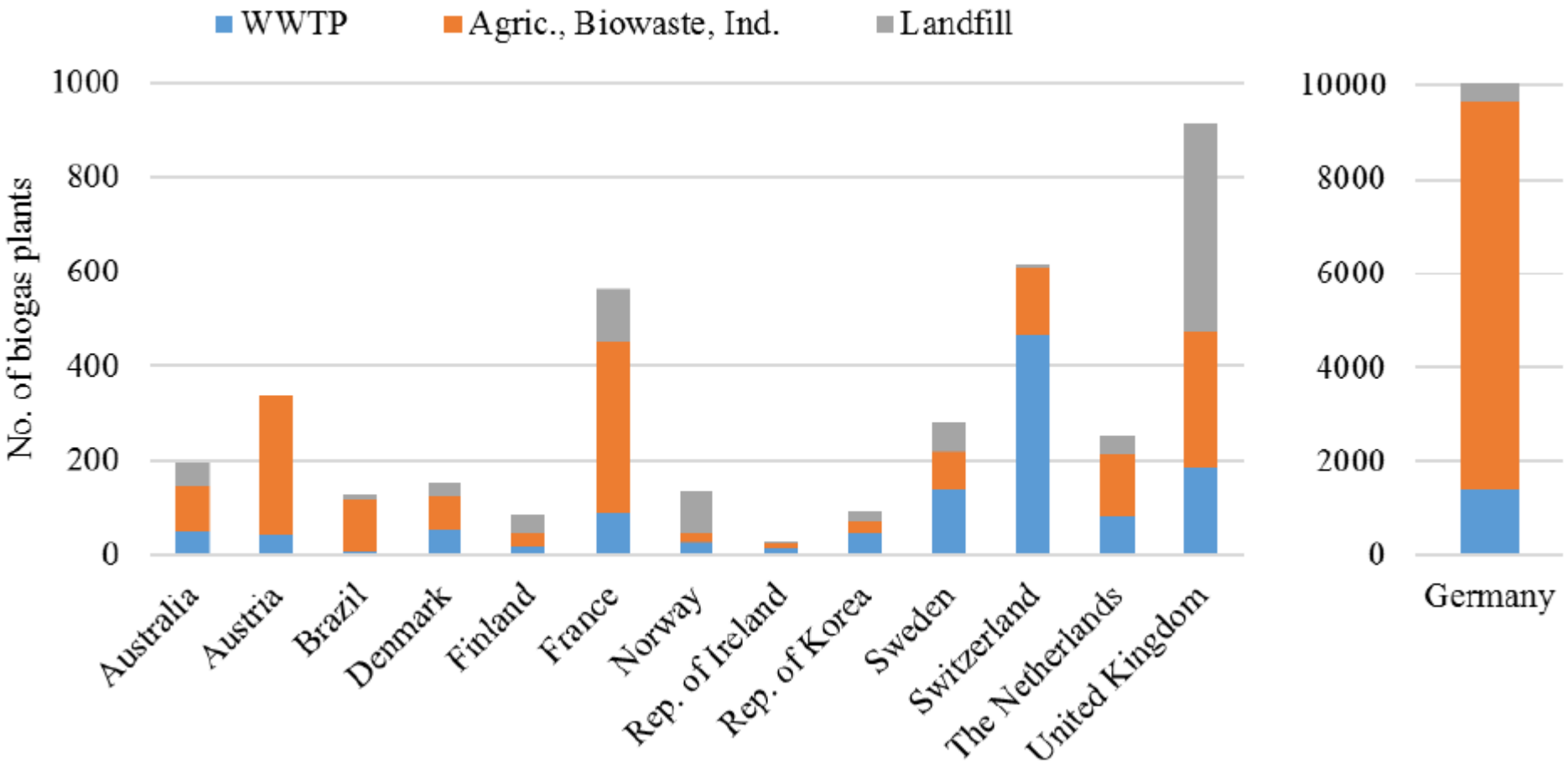
1. Biogas and biomethane supply chains
2. Market status quo
3. From regional transport to cross-border trade
4. Outlook and conclusions

General supply chain architecture



Source: own illustration

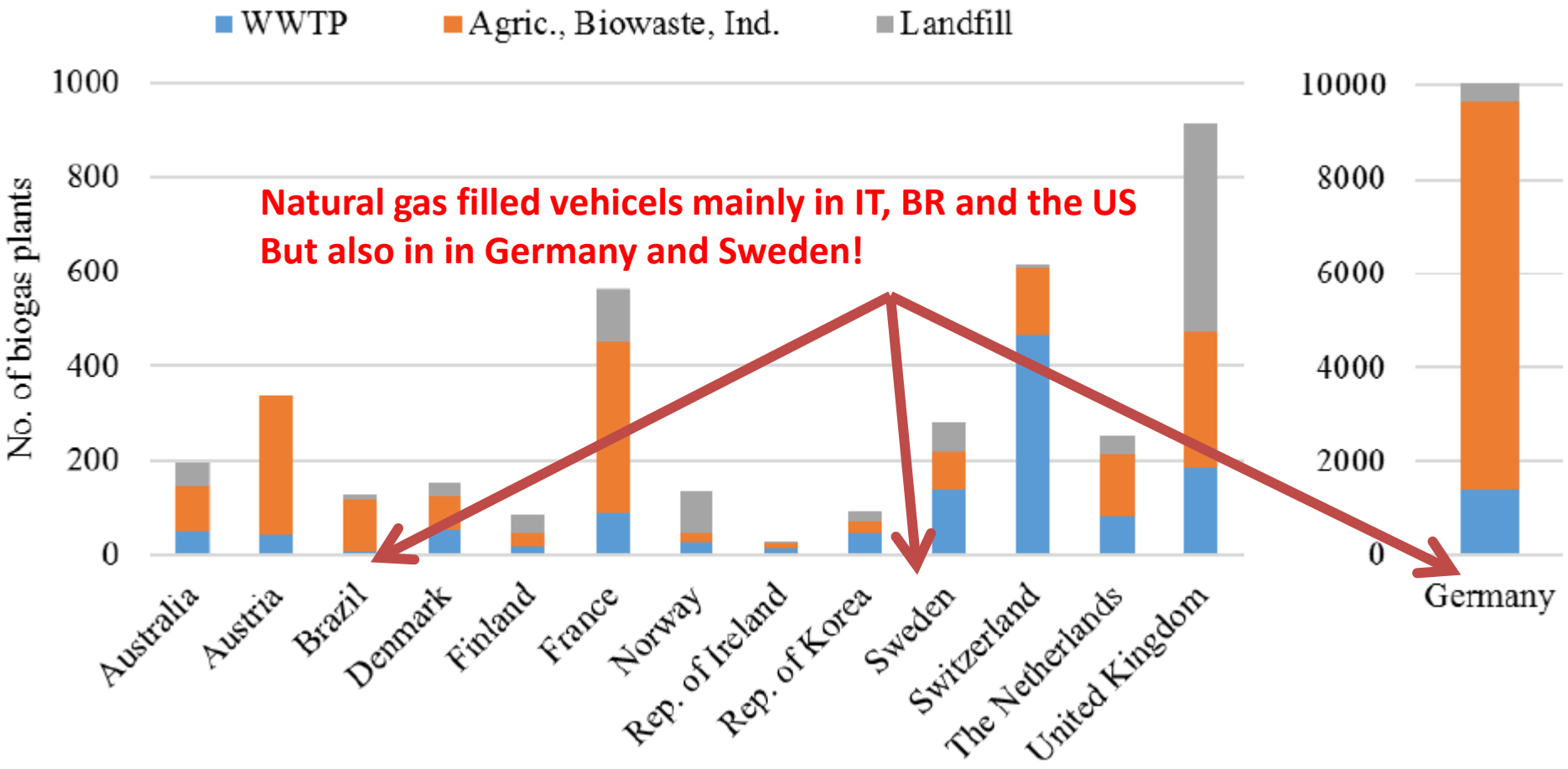
Status quo



Number of biogas plants, in operation in the IEA Task37 member countries (2014/2015)

Source: IEA Bioenergy Task37 Country Reports Summary

Status quo



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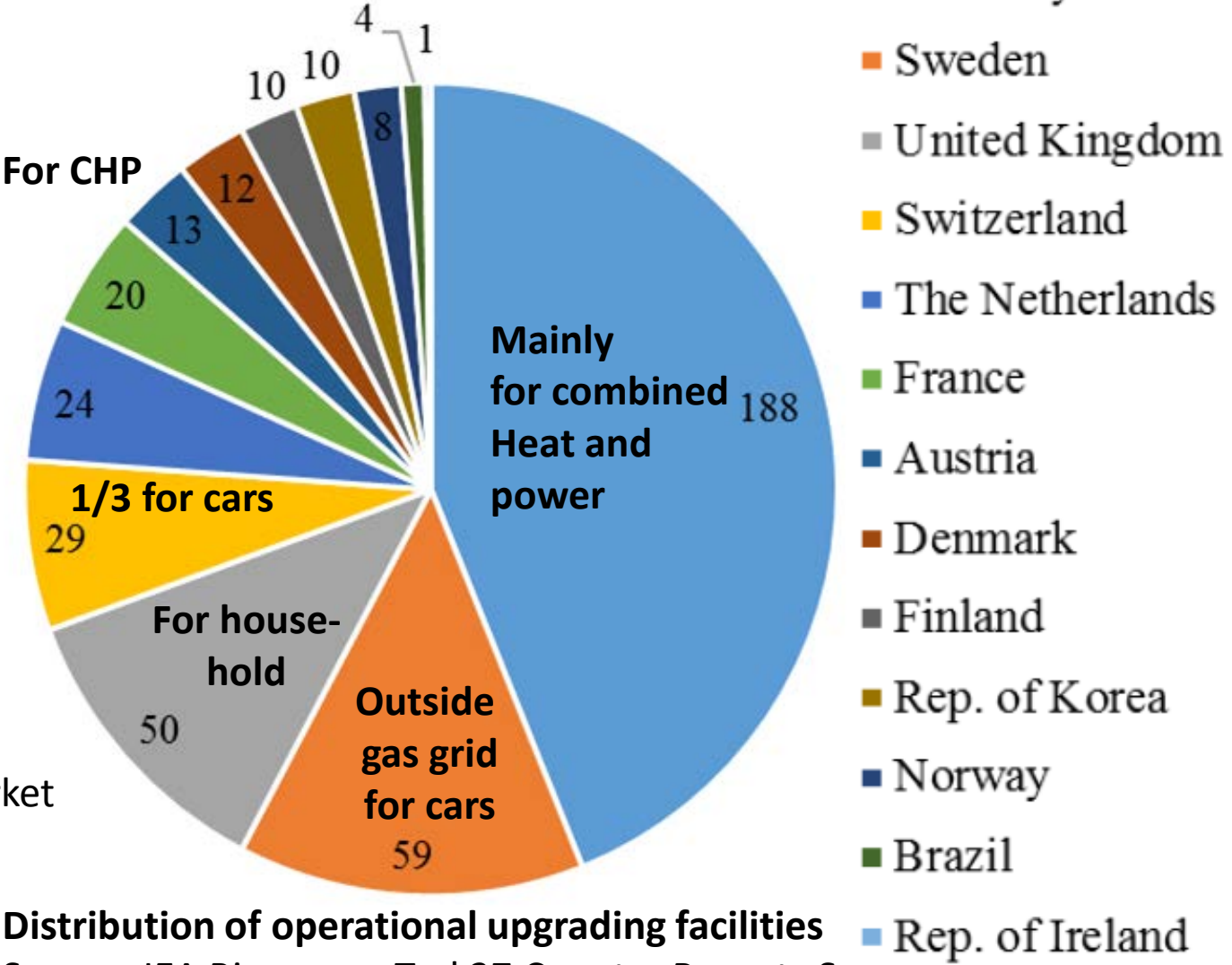
Source: IEA Bioenergy Task37 Country Reports Summary

Status quo

Vehicle fuel share for EU28 at about 12% of total bio-methane production

Share of CNG and LNG on total vehicle fuel market in EU28 Is below 1%

5% of gaseous fuel market is biomethane



Distribution of operational upgrading facilities

Source: IEA Bioenergy Task37 Country Reports Summary

Trade with biomethane

Container for transport of compressed vehicel gas (in gas cylinders) in Sweden Source: Thrän et al, 2014

- Outside the grid, up to 200km in compressed state
- Longer distances if liquified
- Micro (local) grids
- Natural gas grid

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Standardisation - Technical

CEN/TC408 working group

- Injection into the gas grid: prEN 16723-1
- For the utilisation in vehicles: prEN 16723-2
- And for other utilisation: prEN 16726

Parameters of interest: Source: based on Thrän et al., 2014

Health issues	For engines	Gas grid & infrastructure
CO limit	Methane number	Water content
Odorisation (some Sulfur)	Sulfur limit	Hydrogen sulphide
Microbial content	Silicon	Ammonia
…	…	Oxygen …

Standardisation - Sustainability

Criteria and monitoring:

- GBEP criteria
- Criteria from EU directives
- Monitoring and reporting of sustainability issues

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Registers with aim of compatibility and recognition of origin:

- SE <- mainly due to tax exemption / compressed gas statistics
- IT planned
- DE, AT, DK, FR, UK , CH, NL, FI active

Guaranties of origin

ERGaR = European Renewable Gas Registry

Outlook and conclusions

- **Existing infrastructure**:
  Grid / Storage / Vehicles/ Filling Stations/ Households connected / CHPs …

- **Trading:** if common (1) technical AND (2) sustainable standards and monitoring agreement

- **Upcoming?** Thermo-chemical conversion / EU28 gas filled vehicle market / liquified biomethane

Vielen Dank für Ihre Aufmerksamkeit

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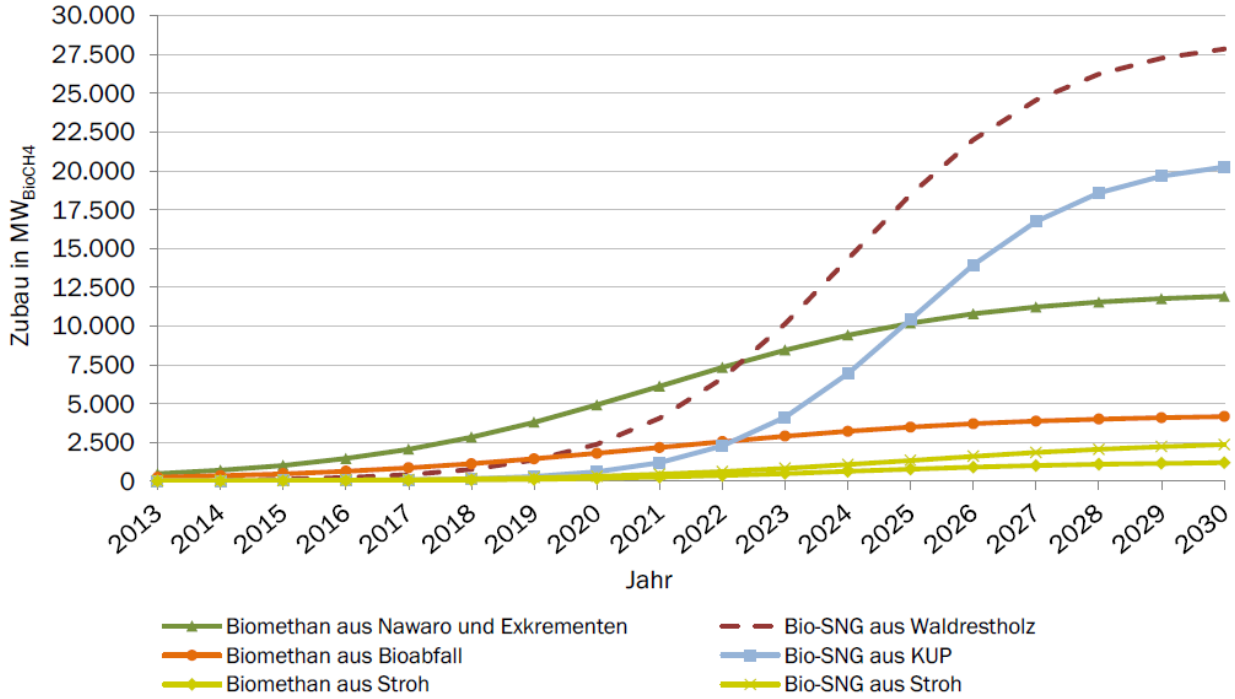

Abbildung 3-6 Abschätzung des theoretisch möglichen Leistungszubaus von Biomethan und Bio-SNG von 2013 bis 2030 in Europa (inkl. 10 % Umrüstung der bestehenden Biogasanlagen zu Biogasaufbereitungs-anlagen)

Source: [1]

Billig E. Bewertung technischer und wirtschaftlicher Entwicklungspotenziale künftiger und bestehender Biomasse-zu-Methan-Konversionsprozesse. 2016.