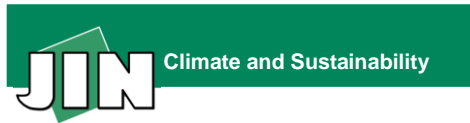


Biogas and biomethane in the Netherlands and Germany

Key differences – Supplementary note to Side-event Energy Convention 19 November 2014



1. Biomethane injection into the natural gas network

COST SHARING. In the Netherlands, the biomethane producer pays all gas grid connection costs. In Germany, these costs are shared between producer and network operator. For most parts of the connection, the biomethane producer is usually liable for only 25% of these costs. The rest is carried by the network and socialised via the gas transport tariffs.

CONTRACT CAPACITY BALANCING. The balancing period for biomethane injection into the gas grid in Germany is one year, while in the Netherlands, feed-in is based on hourly balancing. Germany provides more legal certainty ensuring that feed-in capacity is available for them at all times.

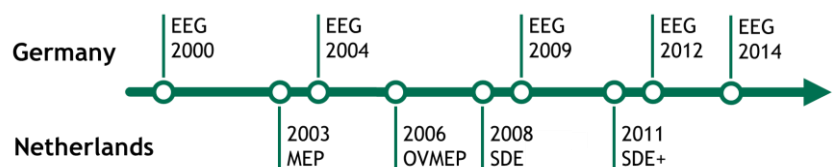
Facility 500 – 550 m ³ /h	Netherlands	(producer share)	Germany	(producer share)
Measurement equipment	80 000	80 000	125 000	6 250
Odourisation	15 000	15 000	14 000	0
Compression	170 000	170 000	50 000	12 500
Connecting pipeline (1 km)	100 000	100 000	160 000	40 000
Other costs	85 000	85 000	21 000	5 250
Total	€ 450 000	€ 450 000	€ 370 000	€ 64 000

2. Feed-in of renewable energy into the electricity grid

There are few differences between Germany and the Netherlands. Both countries apply the 'shallow' charging method where electricity producers pay for their own grid connection, but network operators pay for grid reinforcements.

3. Feed-in subsidy and tariff schemes for biomethane

In Germany only renewable electricity is supported, in the Netherlands also renewable gas and heat. The EEG scheme provides 20 year long support, and hence more long-term certainty than the Dutch SDE+ (12 years).



Assumptions	Value
Year	2012
Heat-value (kW/Nm ³)	8.8 (L-gas)
Energy production per year	31.25 million kWh
Category Germany	95% EVK1, 5% EVK2
Category Netherlands	Allesvergisting
Biomethane per year	3,551,136 Nm ³

SUBSIDY AND TARIFF RATES. For a model plant (see table), feed-in revenue in Germany and the Netherlands would amount to 66.6 and 59.2 cents per Nm³ resp. The total lifetime revenue will differ greatly with 47.3 and 25.2 mln. euros respectively, given the duration of support.

SUBSIDY AND TARIFF RATE SETTING. The tariff for new facilities under the EEG decreases a certain percentage every year (i.e. degression). In the Netherlands, the feed-in tariffs are determined annually. This gives more flexibility for setting competitive subsidy rates, but future rates will be less predictable relative to EEG rates.

FINANCING BUDGET. The German EEG scheme is financed through EEG-Umlage which makes it open-ended (unlimited). In the Netherlands, the SDE+ budget is set by the government. New projects in the Dutch system are uncertain about funding availability which creates uncertainties and hoarding inefficiencies.

ELIGIBLE FEEDSTOCK. 'Positive lists' used for the anaerobic digestion are not identical. As a result, differences in the shares of used biomass are observed (see diagram).

	Maize	Other primary	Manure	Other
DE	39%	15%	41%	5%
NL	8%	5%	59%	28%

MARKET AND FLEXIBILITY PREMIUMS. In 2012, 'direct marketing' has been introduced in Germany. Producers can market their own renewable energy, instead of opting to receive the fixed EEG rate. This model became an obligation for larger facilities only from 2014 onwards. The SDE+ already assumes direct marketing.

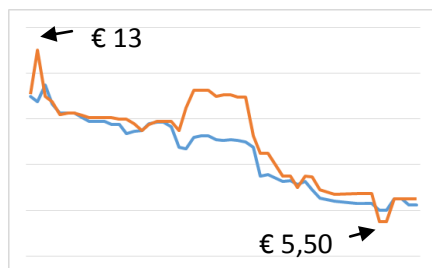
4. Administrative biofuel trade in the transport sector

In both countries transport fuel suppliers have to blend in a certain share of biofuels. The obligations can be met by direct blending or by administrative trade. In the Netherlands, surplus blending performances (biotickets) are traded. In Germany, blending obligations are traded (not performances).

BLENDING OBLIGATIONS. At least 10% renewable fuel has to be blended by 2020 in all member states. From 2015 the German targets are defined in terms of emission reduction ('e.r.') instead of renewable fuel percentages. The Dutch government is on track to apply a similar approach, but this is not yet certain.

SANCTIONS FOR NON-COMPLIANCE. Non-compliance with blending targets result in penalty payments. In Germany, the penalties replace missed obligations, which then serves as a price cap. In the Netherlands, sanctions do not replace obligations; non-compliance may even constitute a criminal offence.

DOUBLE COUNTING. Certain advanced biofuels can be counted double towards the blending obligation. As the obligation in Germany will be replaced by the emission reduction targets in 2015, the German double counting system will be abolished.



PRICES OF BIOTICKETS AND OBLIGATIONS. In Germany in 2012, average obligation derived prices corresponded to € 0.30 to 0.45 per m³ of biomethane. In the Netherlands, the prices for biomethane derived from the bioticket price (see graph), corresponded to € 0.12 to 0.21 per m³. These prices both refer to single-counting biomass, showing a higher price level in Germany.

Blending obligation	Netherlands	Germany
2011	4,25%	6,25%
2012	4,50%	6,25%
2013	5,00%	6,25%
2014	5,50%	6,25%
2015	6,25 %	3% e.r.
2016	-	3% e.r.
2017-2019	-	4,5% e.r.
2020	- (min. 10%)	7% e.r. (= ca. 13%)

5. Guarantees of origin for renewable energy

POSSIBILITIES FOR ADMINISTRATIVE TRADE. In theory, GoOs can be traded independently from the associated commodity in both countries. In practice this only occurs in the Netherlands, where biomethane producers can generate some extra income by selling the GoOs on the top of the feed-in rate. In Germany, GoOs have an administrative role and no market value.

MARKET PRICES. There is a market value for the GoOs in the Netherlands, but this market is not transparent and prices are volatile. Prices for GoOs biomethane are estimated at € 0.04 to € 0.08 per Nm³ (and €0,00 per Nm³ in Germany).

6. Sustainability certification of biogas and biomethane

REPORTING BURDEN. Biogas and biomethane used in transport are subject to sustainability certification requirements. In the Netherlands, the last interface (i.e. fuel supplier - excise warehouse) is liable for proofing the sustainability of renewable fuels. In Germany all interfaces in the value chain have to provide a proof of sustainability to the next interface.

VIRTUAL TRADE. Virtual trading of sustainability certificates is not allowed nor accommodated. However, sustainability can be traded in combination with guarantees of origin. Considering that guarantees of origin in the Netherlands can be traded independently from the underlying commodity, there is more flexibility for virtual trade in the Netherlands.