

# - Biogas PowerOn 2023



**Biogas and it's Value Chain, Concept & first Experiences from the BioEnergie Park Güstrow**

Christian Eilert, 27th September 2023



# AGENDA

1. Intro EnviTec Biogas
2. Energy Status Quo and the Potential of Biogas
3. Why Bio-LNG
4. The Project BioEnergie Park Güstrow
5. General Technical Points and Hurdles
6. Conclusion



# About us



## ■ ABOUT US

### Briefly introduced



#### **Christian Eilert**

#### **Head of Sales Germany, EnviTec Anlagenbau**

- With EnviTec since 2007
- Sales of biogas plants
- Sales of gas upgrading
- Sales of CO<sub>2</sub> liquefaction



## ABOUT US

### Our portfolio



**Construction**



**Service**



**Own Plant  
Operation**



**Energy Trading**

As a biogas all-rounder, EnviTec covers the entire value chain for the production and upgrading of biogas.



## ABOUT US

### Where you can find us Our headquarters in Germany

#### Head office & Administration

Lohne (Lower Saxony)

#### Sales, Engineering & Fabrication

Saerbeck (North Rhine-Westphalia)



## ABOUT US

### Keyfacts



**2002**

Established

**20**

Years of experience

**2007**

Stock market listing



**720**

Biogas projects

**17**

Countries

**89**

Self-operated  
plants



**421,1**

Turnover in €  
million in 2022



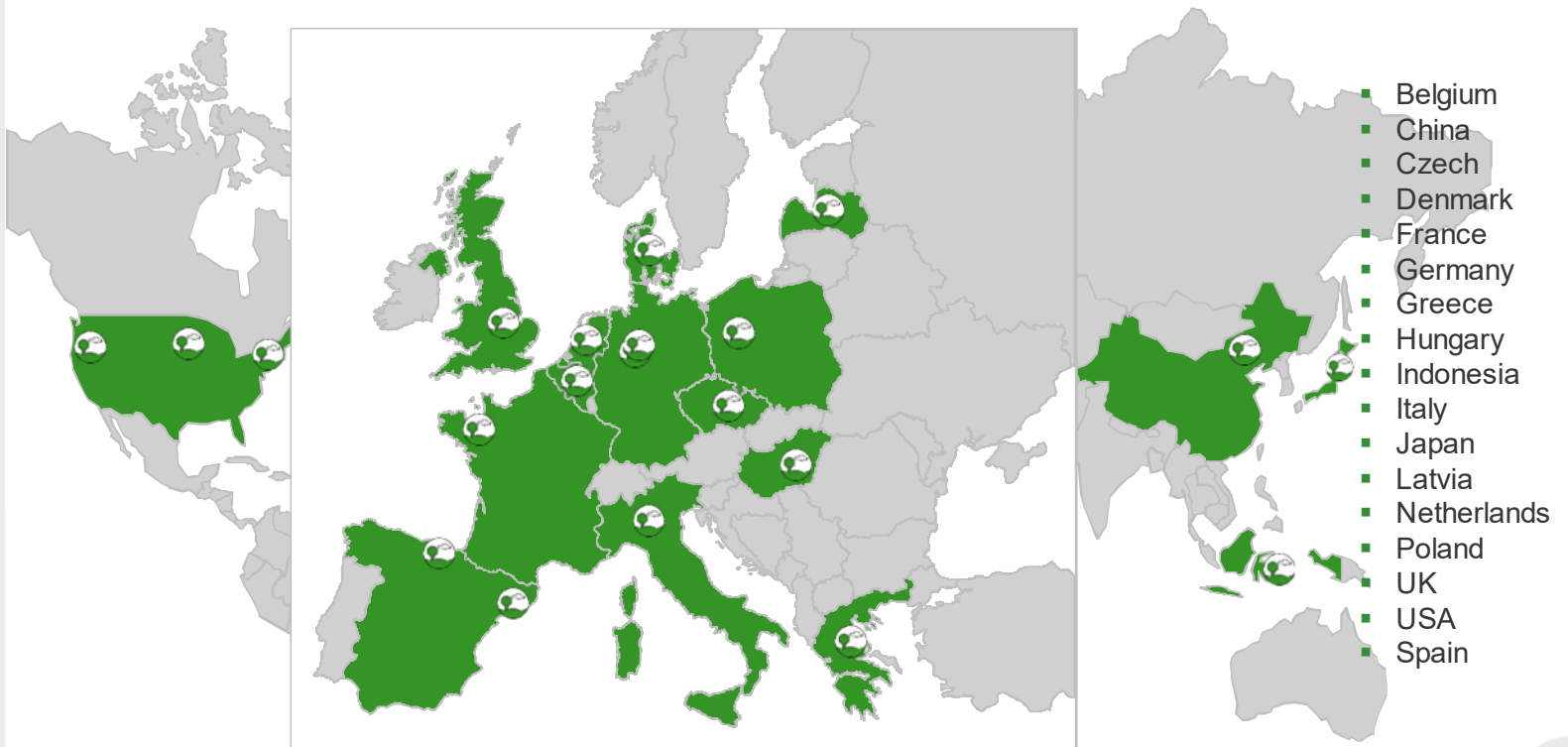
**601**

Employees  
worldwide



## ABOUT US

### Represented worldwide Subsidiaries & strategic cooperations in 16 countries

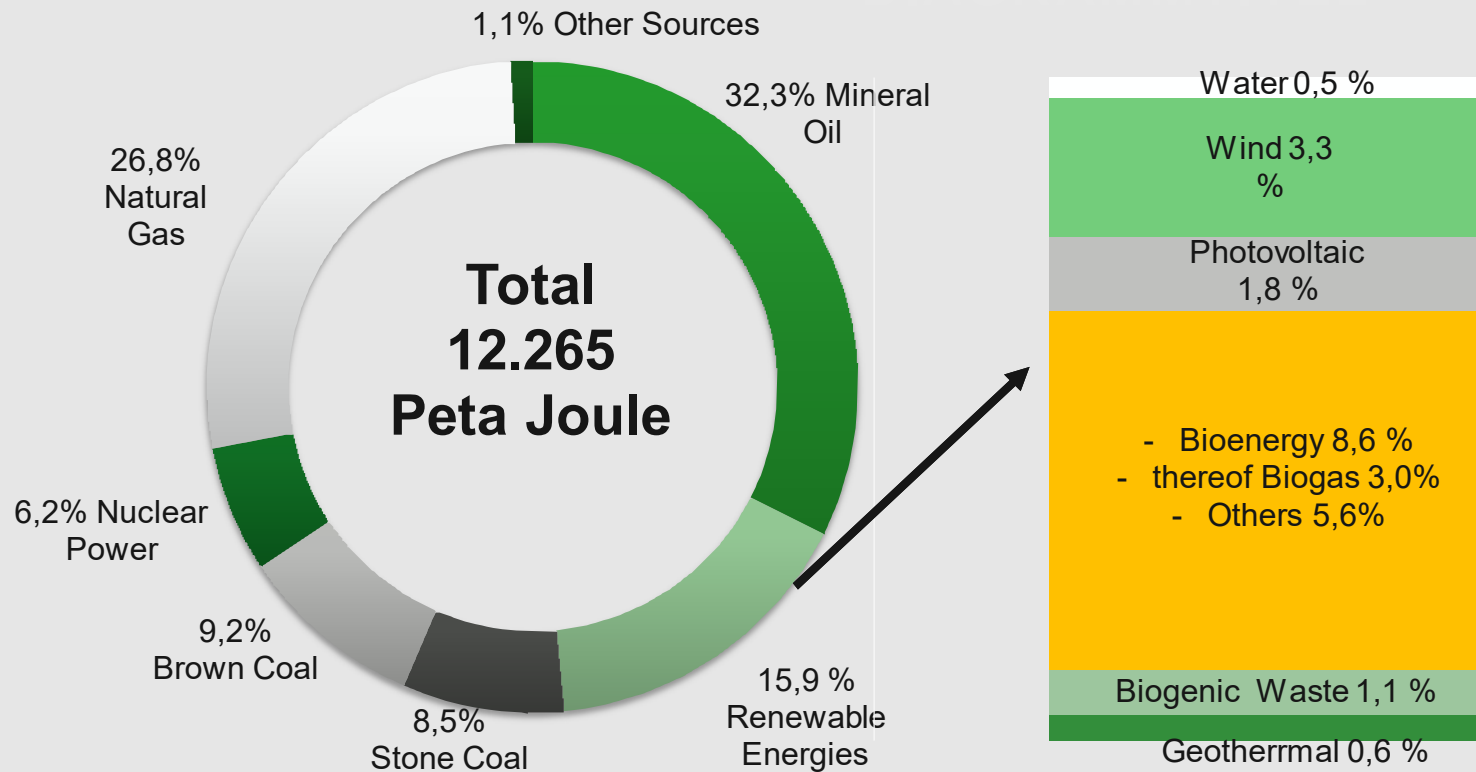




# Energy Demand and the Potential of Biogas



## Primary Energy Consumption 2021 Germany

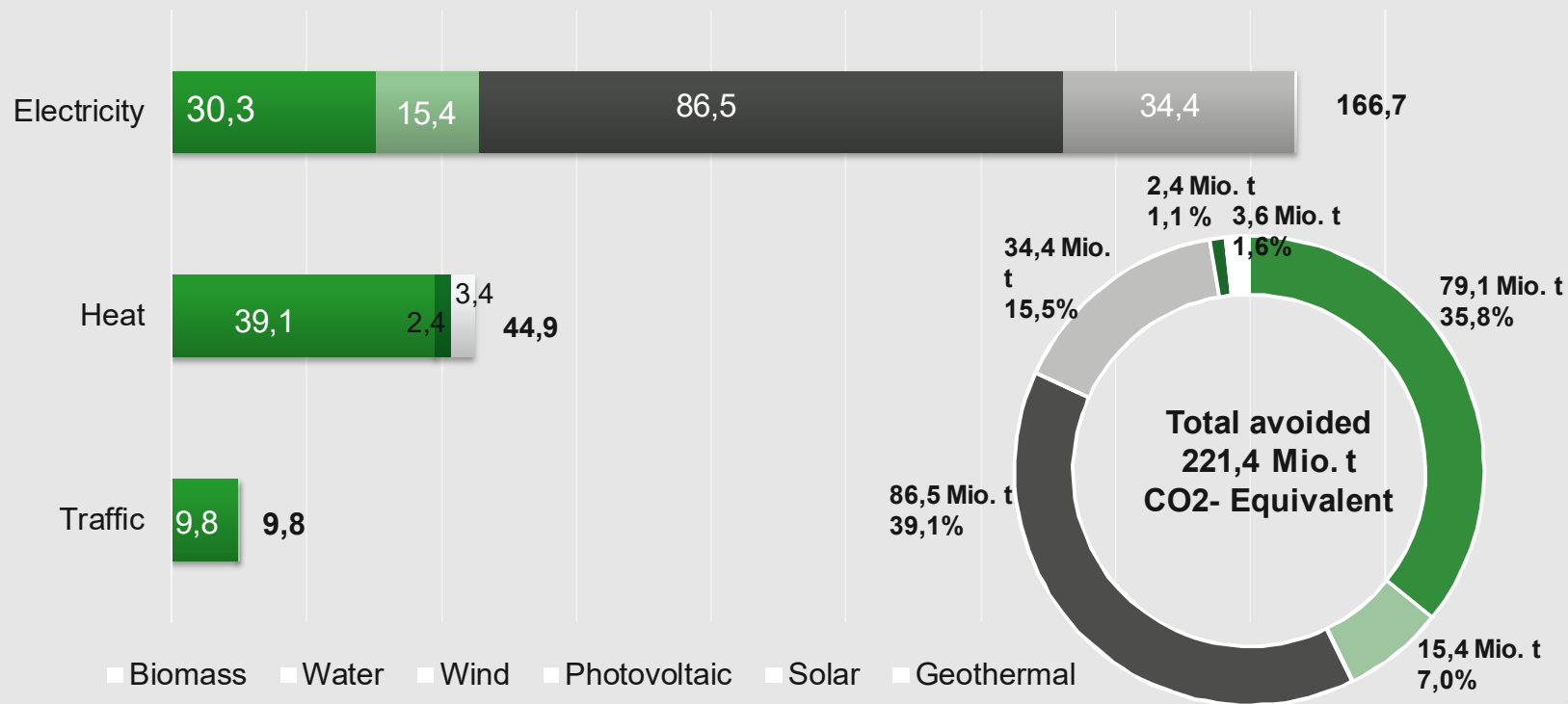


Source: (FNR 2022)



# Avoided Greenhouse Gas Emissions through renewable Energies in 2021

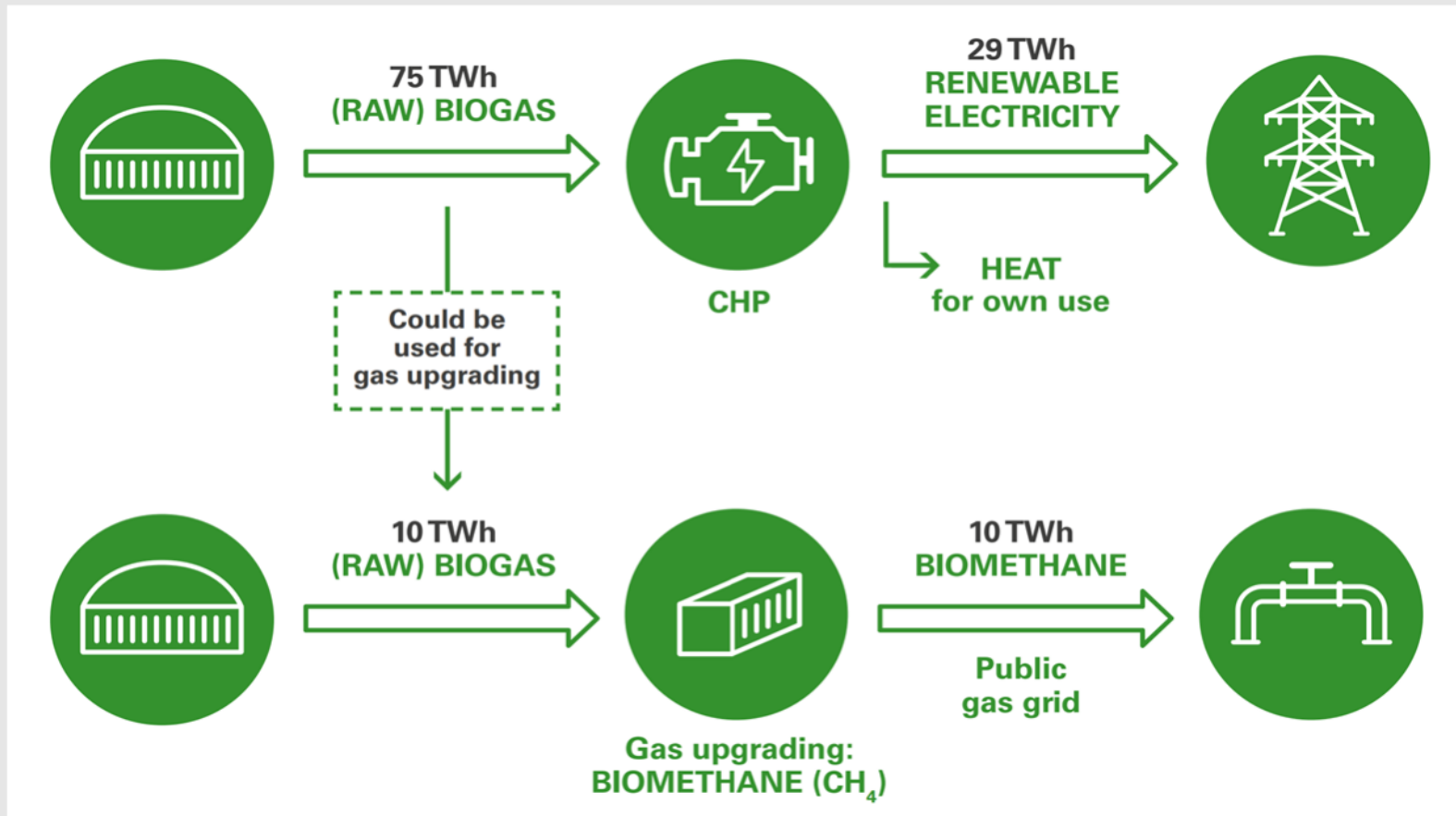
Million Tons CO2 Equivalent



Source: Umweltbundesamt, Emissionsbilanz erneuerbarer Energieträger unter Verwendung von Daten der AGEE-Stat. Stand 03/2022



## Biomethane Potential



## Biogas

### → Relevant

- Biogas is one of the three major renewable energies

### → Versatile

- Biogas can produce electricity, heat
- act as substitute for fossil fuels in form of bio natural gas → BIO CNG and BIO-LNG
- can be stored and is available on demand

### → Future-proof

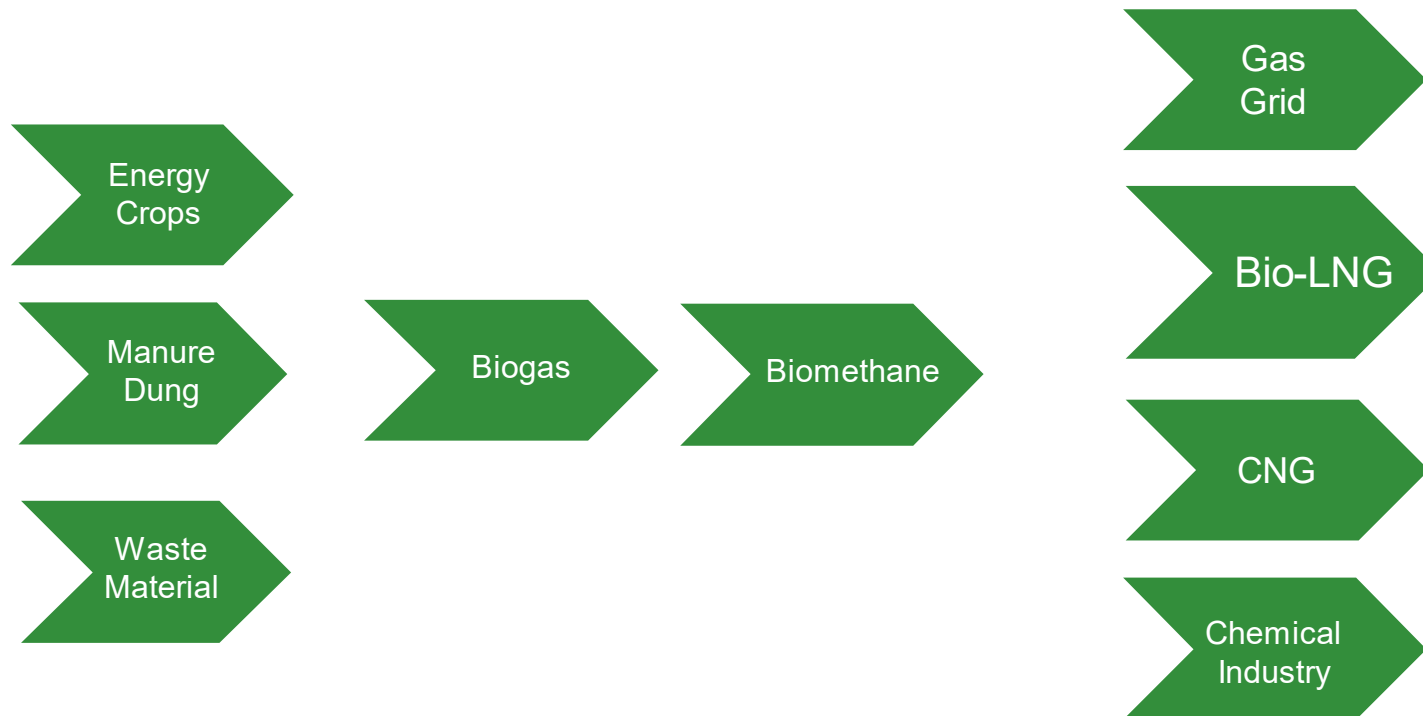
- Biogas is one of the most reliable green energy sources in the world

### → Continuity

- Perfect addition to solar and wind energy



## Next step Biomethane And what comes after



# Why BIO-LNG



## Why Bio-LNG

### Advantages of Bio-LNG compared to diesel

→ **Great distances:**

- Almost all road freight in GER is based on diesel vehicles
- LNG: sole alternative to immediately reduce emissions in the transport sector

→ **Competitive:**

- LNG competitive to diesel and reduces specific GHG-emissions by up to 70%
- Sulfur oxide and particulate matter emissions are reduced by almost 100%
- Nitrogen oxide emissions are reduced by up to 90%
- Noise emissions reduced by up to 50%

→ **Available technology**

→ **“hard-to-abate” sector**

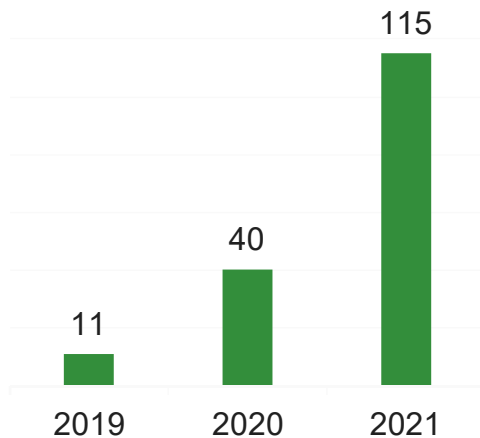




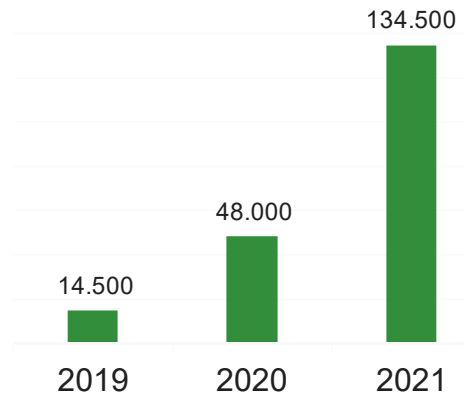
## Why Bio-LNG

Strong market ramp-up of LNG as an alternative fuel in the Heavy-duty segment in the years 2019 - 2021

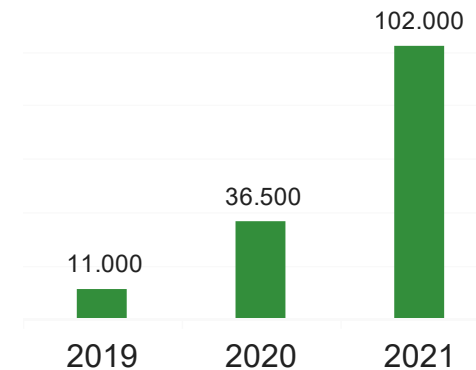
Number of LNG filling stations in GER



Total LNG sales in the heavy-duty segment in GER (in t)



CO2 savings through the use of LNG trucks in GER (in t CO2eq)



Data source: Zukunft Gas, Liqvis




## Why Bio-LNG

### Alternative for

- Trucks
- Ships
- Tractors and other heavy machinery





# The Project BioEnergie Park Güstrow



## BioEnergie Park Güstrow

2009

Commissioning of Germany's largest biogas plant, built by EnviTec Biogas, in 2009

2021

Purchase and transfer to EnviTec Own Investment in 2021

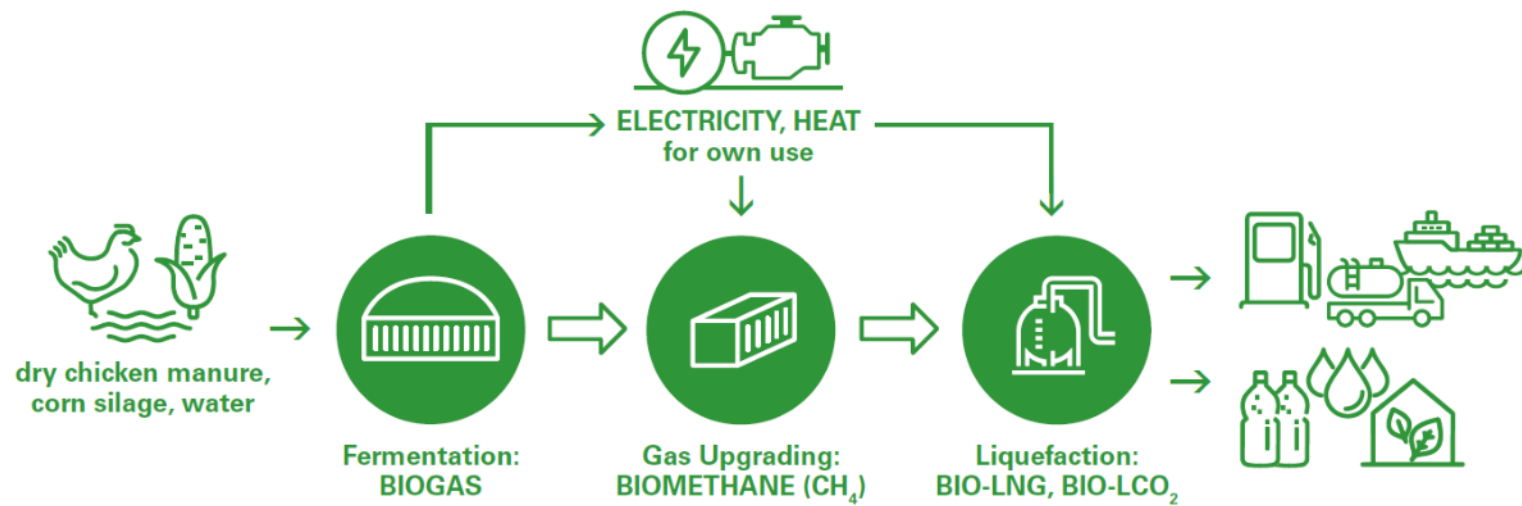
2023

From mid-2023 onwards, EnviTec aims to facilitate the annual production of around 9.600 tons of bio-LNG



# BioEnergie Park Güstrow

## Production and usage of bio-LNG and bio-LCO<sub>2</sub> in Güstrow



# BioEnergie Park Güstrow

## Keyfacts



50

€ million  
investment for  
conversion



26

tons  
bio-LNG per day  
from the region



50

million  
truck kilometers  
a year advanced  
biofuels



41

tons  
bio-LCO2  
per day  
in food quality



25

workplaces  
at the  
BioEnergie  
Park Güstrow



# BioEnergie Park Güstrow

Actual View



# BioEnergie Park Güstrow

Actual View





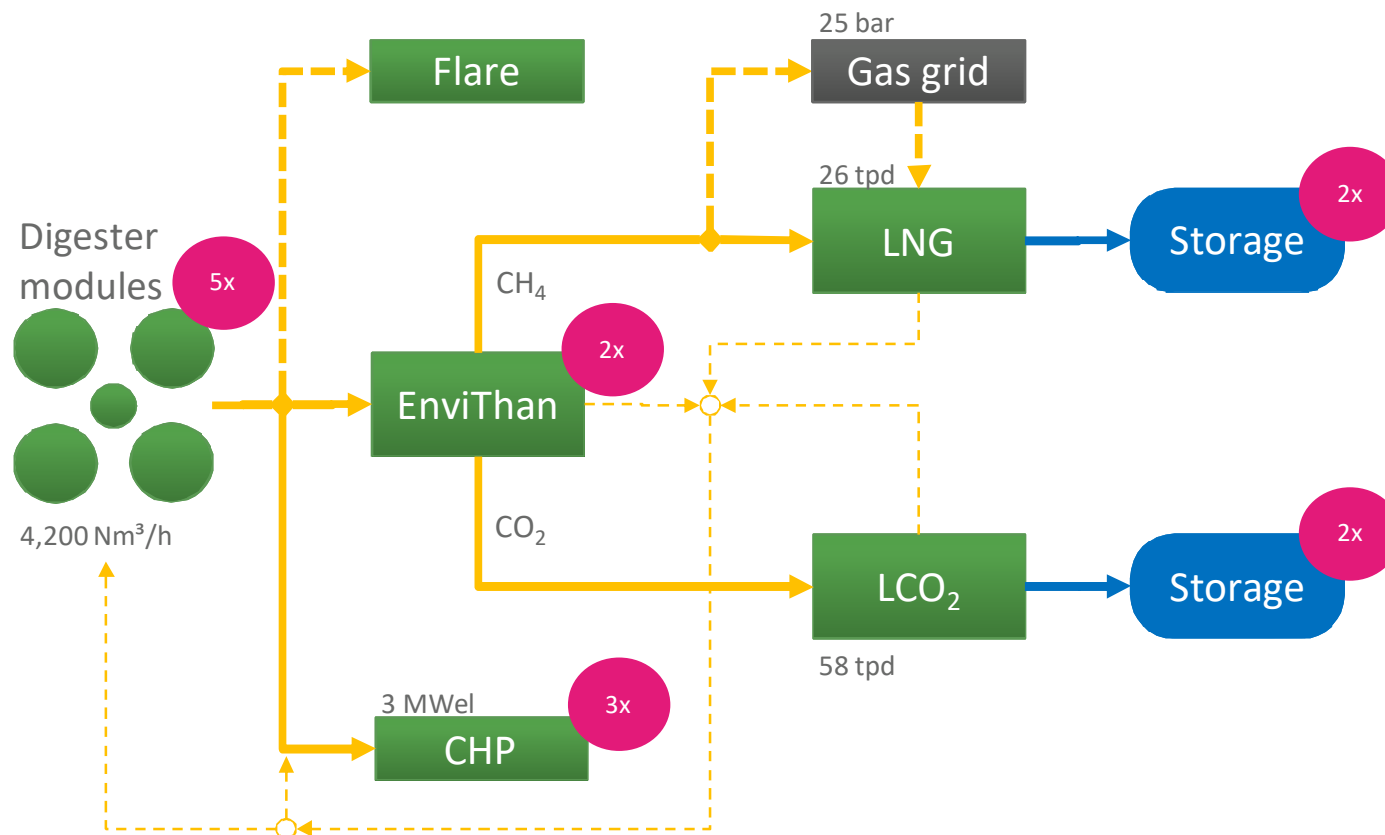


# General Technical Points and Hurdles



## General Technical Points and Hurdles

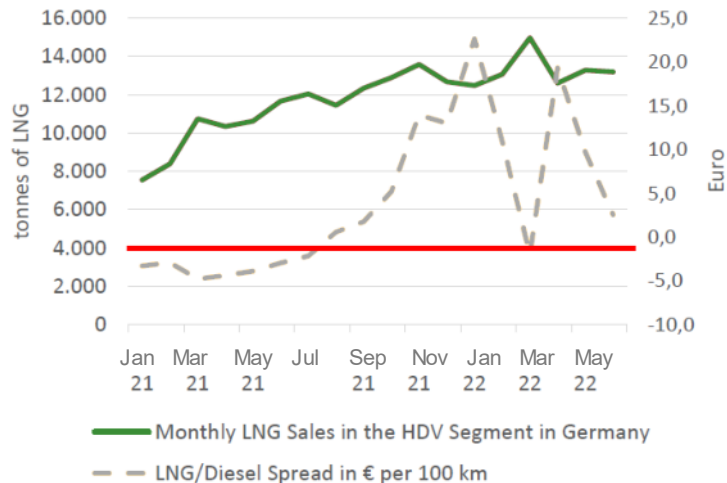
### Technical integration into a whole plant - Project Güstrow



## General Technical Points and Hurdles

High gas prices and a negative LNG/diesel spread have led to a significant decline in sales volumes in H1 2022

Monthly sales of LNG in the heavy-duty segment in Germany (in t) vs LNG-diesel spread since January 2021



### Massive challenges for LNG as a fuel due to external market shock

- Prices for LNG as a fuel currently **not competitive**
- **Fleet operators currently abandoning LNG vehicles** and switching back to diesel vehicles
- **Currently little/no policy support** to mitigate challenges faced by fleet and refueling station operators
- Some fleet operators still opting to purchase LNG trucks as part of their decarbonization strategies despite the difficult market situation

Data source: Zukunft Gas, Liqvis



# Conclusion



## Conclusion

- Emission reduction targets can only be achieved with **biofuels**
- Bio-LNG is the **best solution** for the "hard to avoid" sector – trucks, shipment and other sectors!
- Adequate distribution of **central and decentralized** BIO-LNG production sites
- Biomethane capacity is under development
- Construction of large plants have scaling Effects
- Projects need a long and detailed planning and permission time
- Policy makers are one the biggest threats for the projects/market!



# Thanks for your attention!

**Christian Eilert**

Head of Sales Germany EnviTec Anlagenbau

[c.eilert@envitec-biogas.de](mailto:c.eilert@envitec-biogas.de)

