

# Presentation **Green** Energy

**Trade Press Conference**

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# Green Energy GmbH & Co. KG

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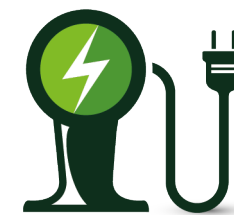
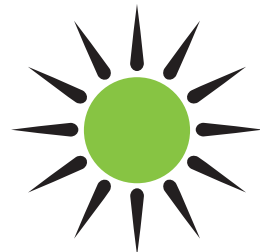


**Günter Sudholz**

**Ascan Hertz**

We..

- ... supply energy!
- ... provide you with warmth!
- ... generate electricity; regardless of the weather!
- ... deliver green fuel!
- ... offer autarky for the HARTING Technology Group at the location Espelkamp



# Where?

## Biomethane plant Uchte

- Renewable raw materials converted into biomethane
- Gas for over 2,800 households



## Energy centre "plant 2" Espelkamp

- Heat supply HARTING Plant 2 (590 households\*\*)
- Electricity for 600 households\*\*\*



## Energy centre "plant 3" Espelkamp

- Heat supply HARTING Plants 1, 4, 8 and Stadtwerke Espelkamp (600 households\*\*)
- Electricity for 785 households\*\*\*

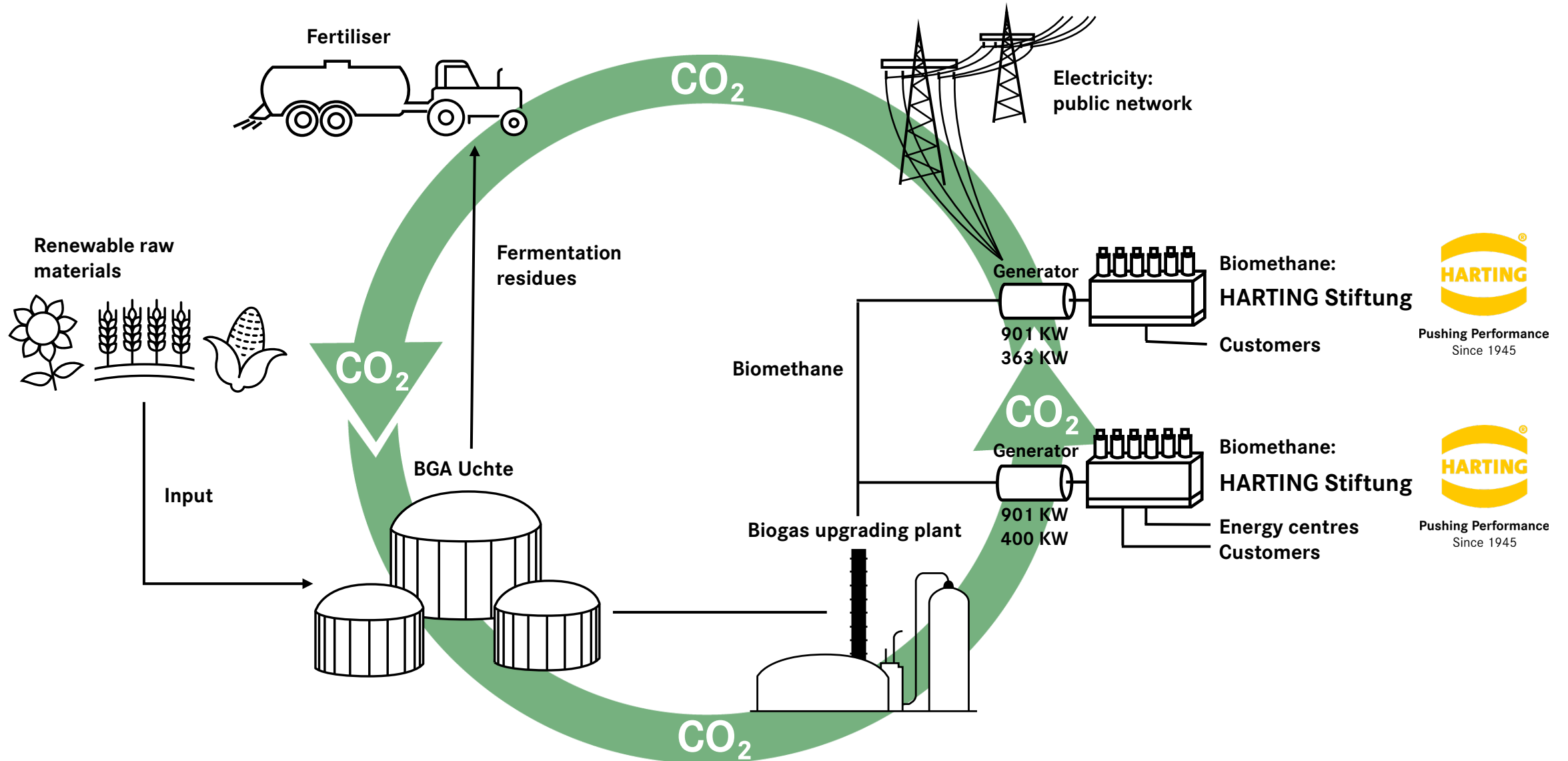


## Biogas plant Espelkamp

- Renewable raw materials converted into biogas
- Biogas for aluminium smelter plant 2
- Biogas for "plant 2" and "plant 3" energy centres



# Biogas plant + Biogas upgrading plant Uchte





# Biomethane plant Uchte

- 1: Two fermenters (4,500 m<sup>3</sup> each)
- 2: One secondary digester (3,500 m<sup>3</sup>)
- 3: Two fermentation residue stores (10,000 m<sup>3</sup> each)
- 4: Biogas upgrading plant „Pressurised water scrubbing“
- 5: Absorption refrigeration plant (230 kW cooling capacity for pressurised water scrubbing)
- 6: BHKW (405 kW<sub>el</sub> for own power supply)
- 7: Mobile silo plant (4 chambers; 70,000 tonnes)
- 8: Wind turbines (500 kW each)



# Green Energy diagram

SUSTAINABILITY

M&P Agrar GmbH  
Co. KG

Dietmar Harting  
Landwirtschaft  
GmbH & Co. KG

Maize / GPS

Approx. 40,000 t/a

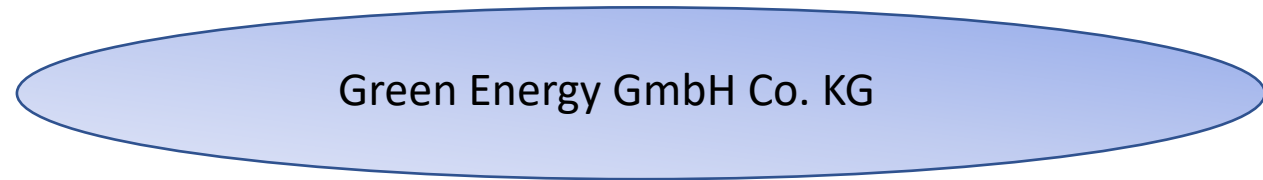
Conventional\*

Regional suppliers

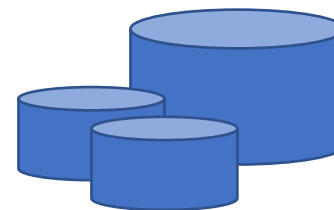
Non-sustainable biomass  
from sustainably certified  
companies

Maize / GPS/Grass

Approx. 4,000 t/a

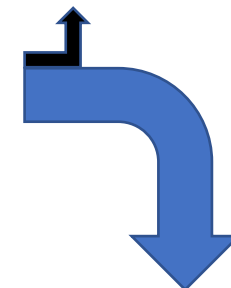


Biogas plant



65.000,000 kWh/a

Methane slip



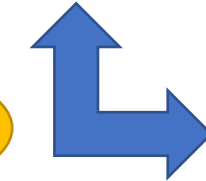
Biomethane  
upgrading plant

Losses



Gas  
supplier

Energy centres  
Espelkamp



HARTING  
Stiftung and  
Stadtwerke  
Espelkamp

\*There is no self-declaration by the producers; no check as to whether biomass fulfils the sustainability criteria after all



# Sustainability certification

## Biomethane plant Uchte



- Annual recertification
- Calculation of the THG reduction rate
- Sustainable biomass/biofuel

## Energy centre Espelkamp



- Annual recertification
- Sustainability for power and heat production

# Energy centres

- Electricity & heat from combined heat and power generation
- Efficiency over 90 %
- Biomethane utilisation

## Plant 3

- 901 kW
- 400 kW

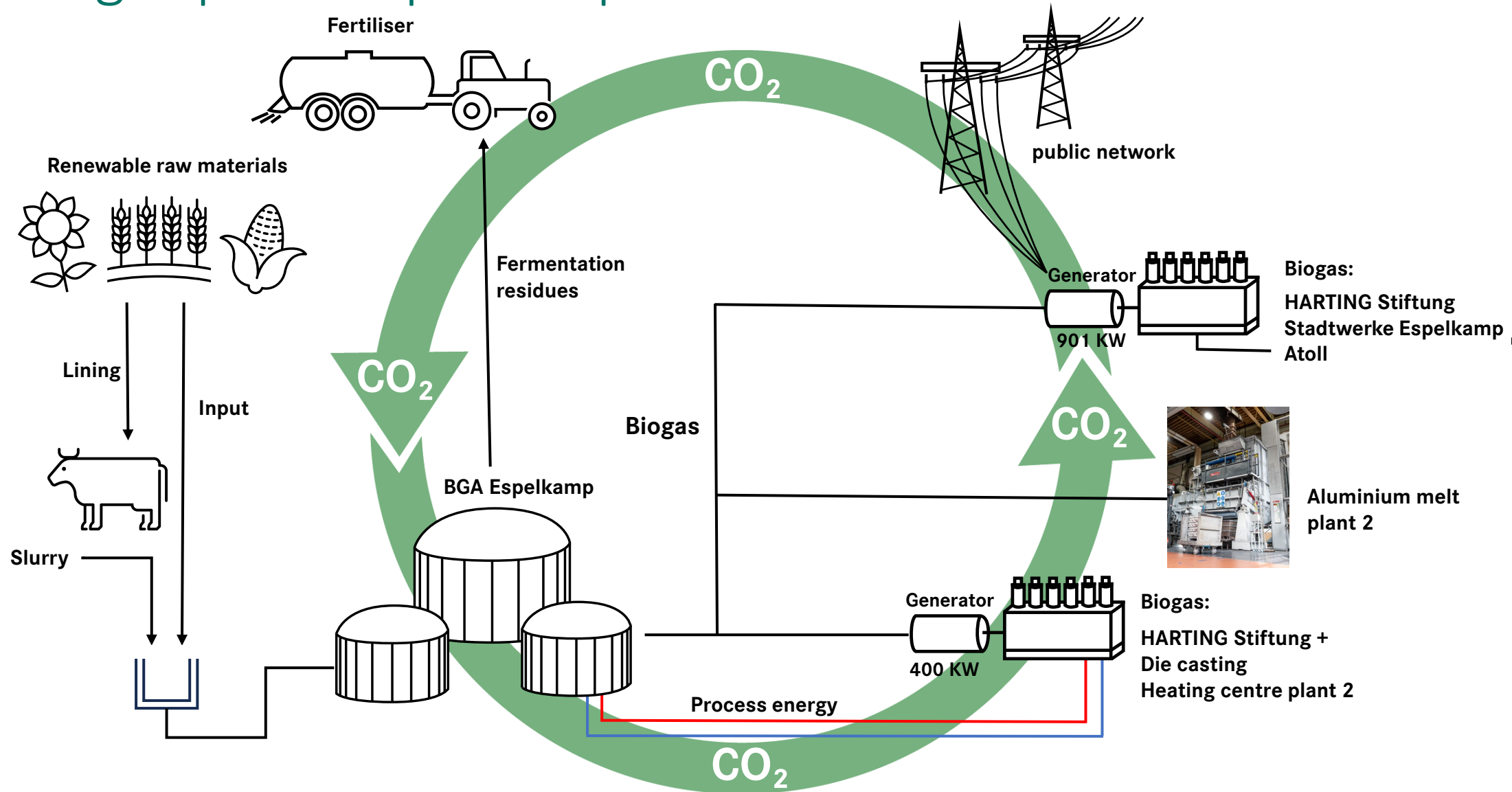


## Plant 2

- 901 kW
- 363 kW



# Biogas plant Espelkamp



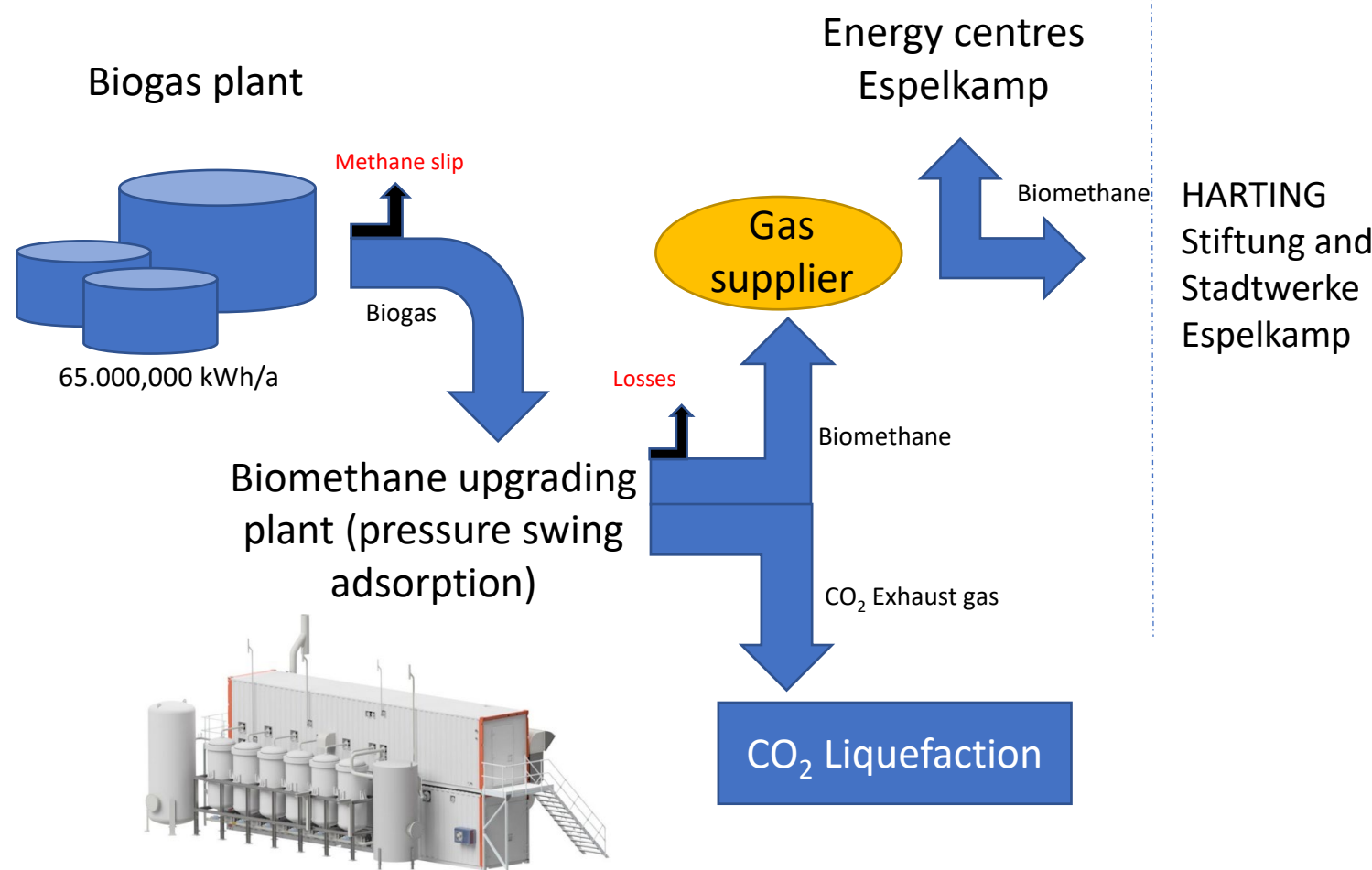


# And now?

Our contribution to a **green** future

## Production of green gases:

- Biomethane
- CO<sub>2</sub> liquefaction (EIGA quality)
  - ↓ Negative CO<sub>2</sub> balance  
6.000 t/a savings
- Biogas upgrading plant (pressure swing adsorption)



# And now?

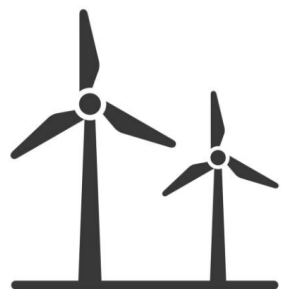
## Our contribution to a green future

In cooperation with Dietmar Harting Windkraft GmbH

Transformer station Lohhof

Marketing of own electricity to HARTING Stiftung GmbH & Co. KG

Dismantling of 6 E 40 wind turbines with an annual output of 500 KW 4.8 million KWh of electricity



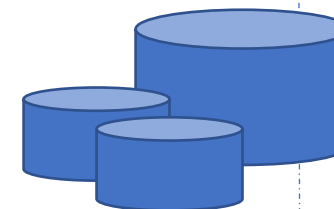
Windpark Lohhof

Enercon E-138 (4,2 MW)  
AEP: 18 Mio. kWh/a

Enercon E-138 (4,2 MW)  
AEP: 9 Mio. kWh/a

**Biomethane plant Uchte**

From 2026: 3.3 million kWh/a own consumption

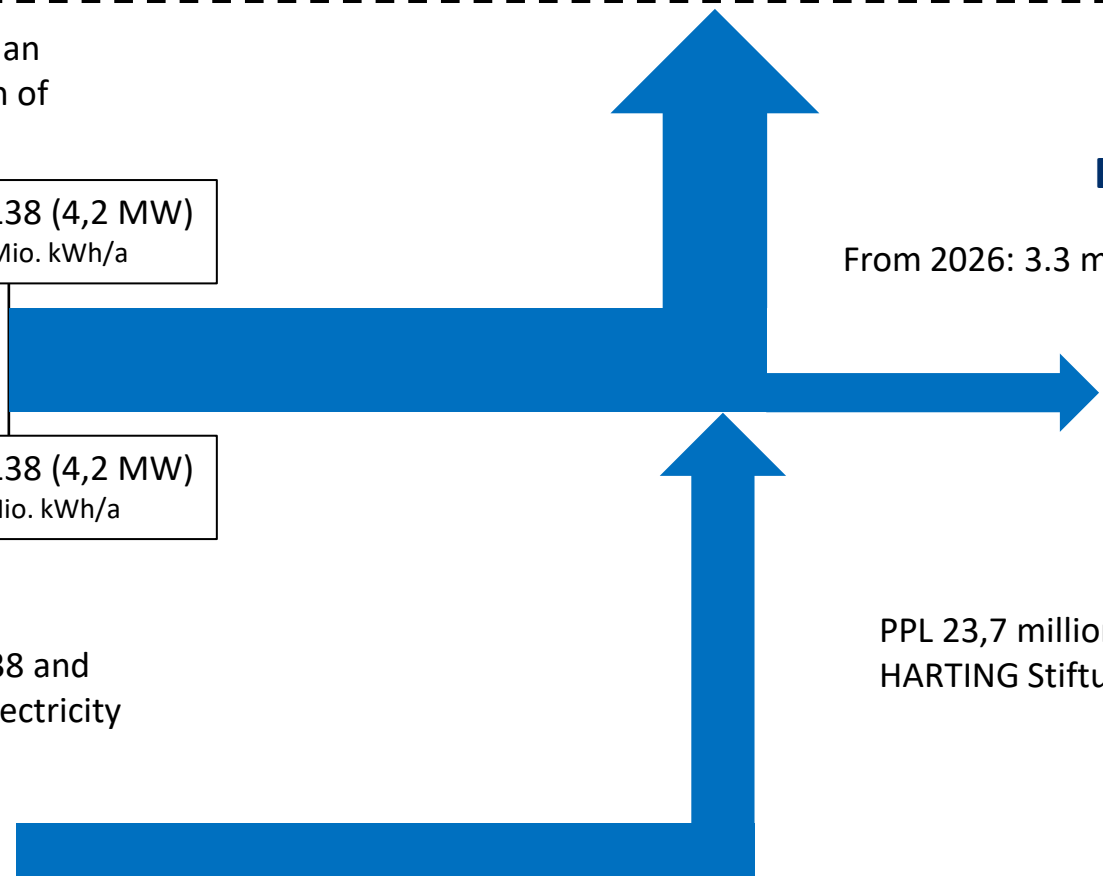


New construction of 3 wind turbines E 138 and 4.2 MW annual output 27 million KWh electricity

PPL 23,7 million kWh  
HARTING Stiftung



Pushing Performance  
Since 1945







**Thank you very much for your attention!**