

An aerial photograph of Zurich, Switzerland, taken at sunset. The sky is a mix of orange, red, and purple. The city's buildings are visible, with some lights starting to glow. A large, semi-transparent white number '5' is overlaid on the left side of the image. A white wireframe cube is positioned on the right side, partially overlapping the city and the sky. The text 'Five Years Forward' is written in a large, white, sans-serif font across the top, and 'Where Ideas Meet Energy' is written in a smaller, white, sans-serif font below it.

# Five Years Forward

Where Ideas Meet Energy

September 17, 2025,  
Rooftop Talacker 50 – Zurich

bioGem  
express

## —The Green Gas Generation Starts Here

At our 5th anniversary evening, we shared our outlook on the market, the regulatory landscape, and the role bGX will play in the years ahead.

Our new tagline, “**The Green Gas Generation**”, captures this vision in a few words: a new chapter for renewable energy, driven by people, ideas, and solutions that make the transition real.

It reflects our belief that the energy transition is not only about technology, but about the people and partnerships who bring it to life — creating value today and shaping the solutions of tomorrow.

*Explore the full presentation!*

bioGem

express

# Five Years Forward

Where Ideas Meet Energy

5

- Introduction
- BioGem Express AG Milestones
- Market Assessments: Yesterday, Today, Tomorrow
- Perspectives from the Steel Industry
- Future Topics: 'The Green Gas Generation' (production Denmark)
- Offices & Contact



# —The bGX Team



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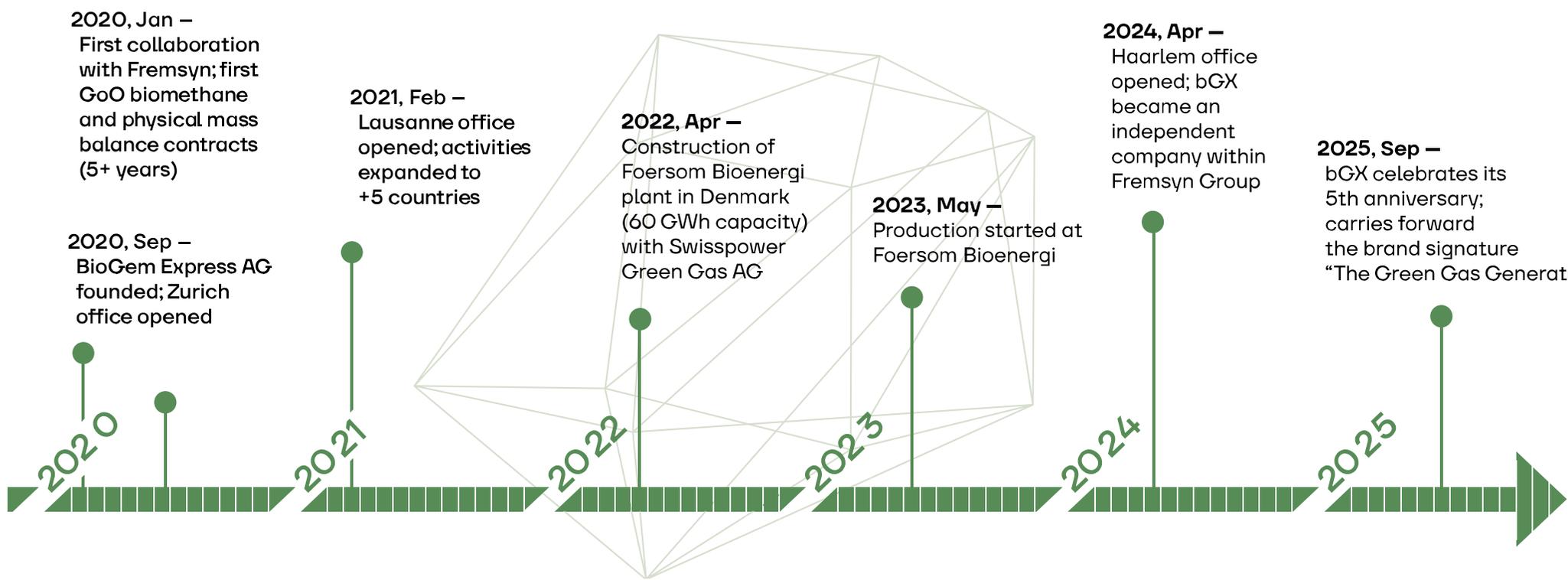
# — bGX Milestones



**50+** *clients already rely on bGX solutions*

**5TWh+** *of biomethane under contract*

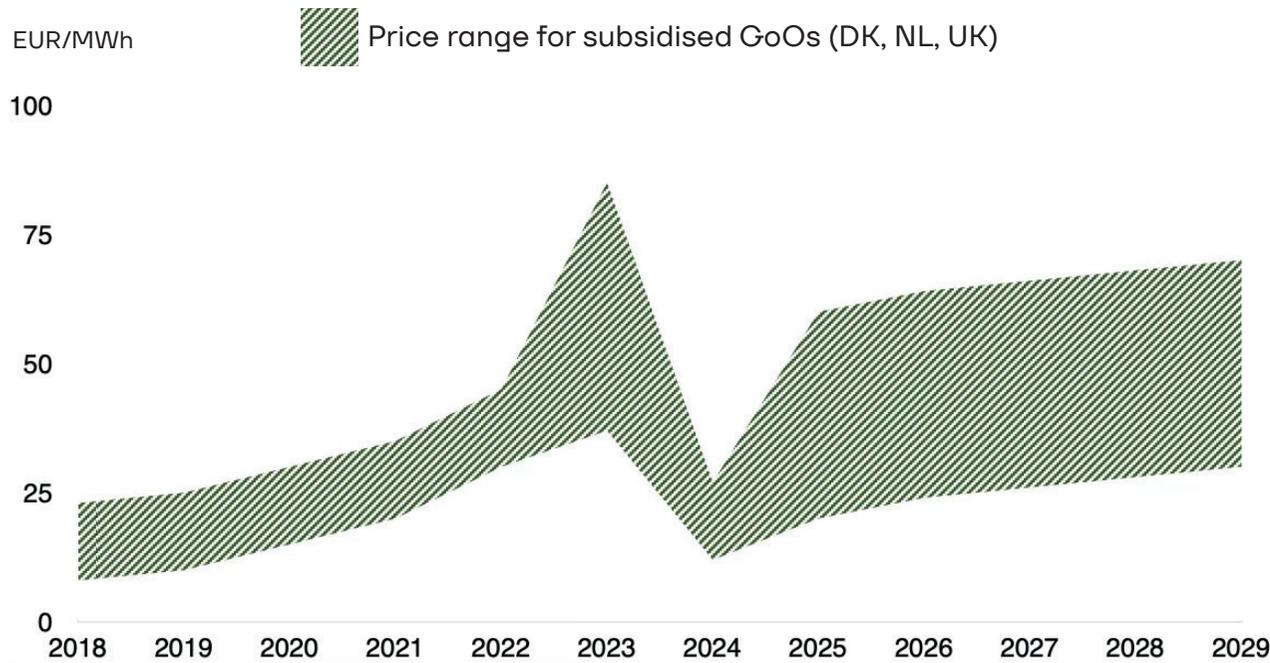
**~1 mln tons of CO<sub>2</sub> avoided**  
*compared to natural gas*



# —Market Assessments



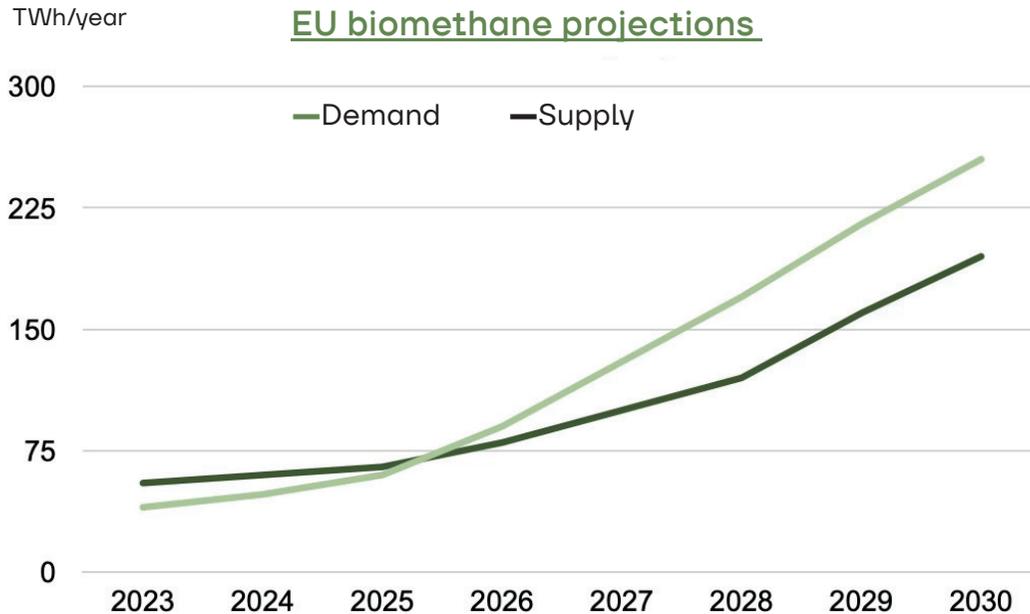
# Market Assessments: Yesterday, Today, Tomorrow



- End of 2024 & early 2025, biggest prices decline in the last 2 years
- Prices rose sharply again since Spring 2025 – especially for high GHG savings biomethane:
  - I. Maritim sector
  - II. ETS
  - III. Transport/ compliance markets

Source: bGX estimates

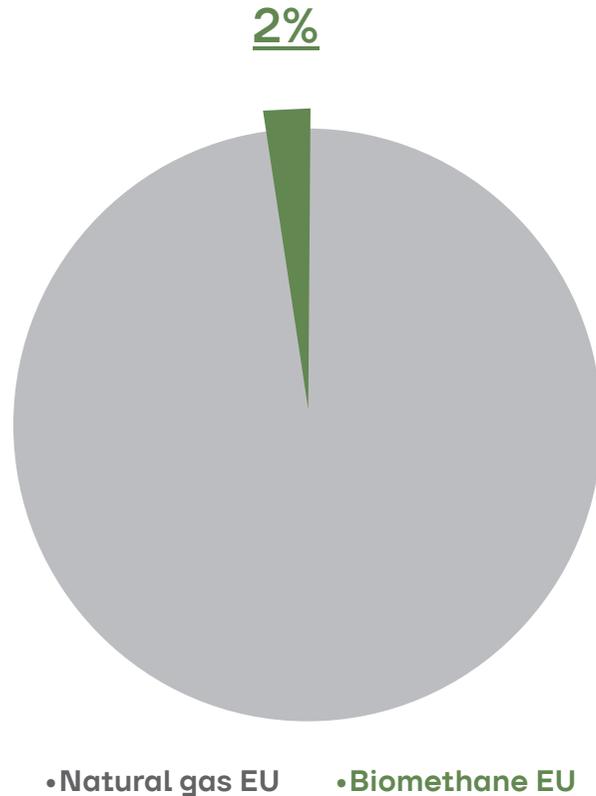
# \_\_Biomethane demand to surpass production



- Spot oversupply of biomethane, still demand is expected to outpace supply soon, leading to price increases
- Driven by national blending mandates and rising demand from industry and the transport sector, biomethane demand is projected to grow over sixfold by 2030, while supply is expected to expand only threefold

Source: bGX estimates

## \_Where is Biomethane today



Source: European Biogas Association (EBA)

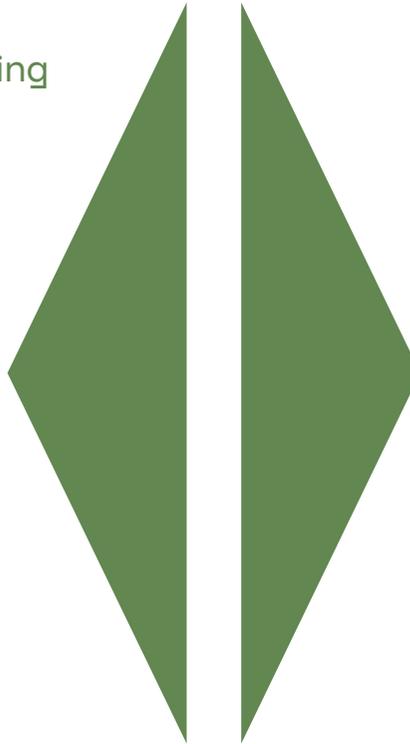
- European biomethane production is about 60 TWh/y from over 1600 plants
- 2% of EU natural gas consumption ~3000 TWh/y - CH natural gas consumption over 30 TWh/y
- Heating 42%; Power 15%; Transport 23% RED, Industry 13%, other 7%.
- Biomethane is currently supported by:
  - Feed-in subsidies in DK, BE, FR, IT, NL and UK
  - Voluntary markets
  - 3 Regulatory European Emission frameworks
    - EU ETS, in operation since 2005
    - Renewable Energy Directive (RED) since 2009
    - FuelEU Maritime since 2025

## \_Views on the natural gas market

### Policy makers:

Natural gas declining, Biomethane growing

- Electrification: heat pumps & Electric Vehicles in Transport
- Hydrogen is a key gateway to the future
- Growth in Anaerobic digestion and Gasification
- Higher targets for decarbonisation



### Market:

Natural gas will keep a bigger role in the energy mix:

- Electrification stays behind; low e-prices, grid congestion
- Invasion of EV & heat pumps shows hair cracks
- Hydrogen and gasification stay behind on plan and cost
- Shipping & road transport (liquified) see the natural gas transition path
- Slow growth in biomethane production:
  - Permitting
  - Financing (no long-term off-takes)

## —What is holding back biomethane production?

**Lack of long-term contracts combined with a volatile spot market is slowing investment in more biomethane production capacity**

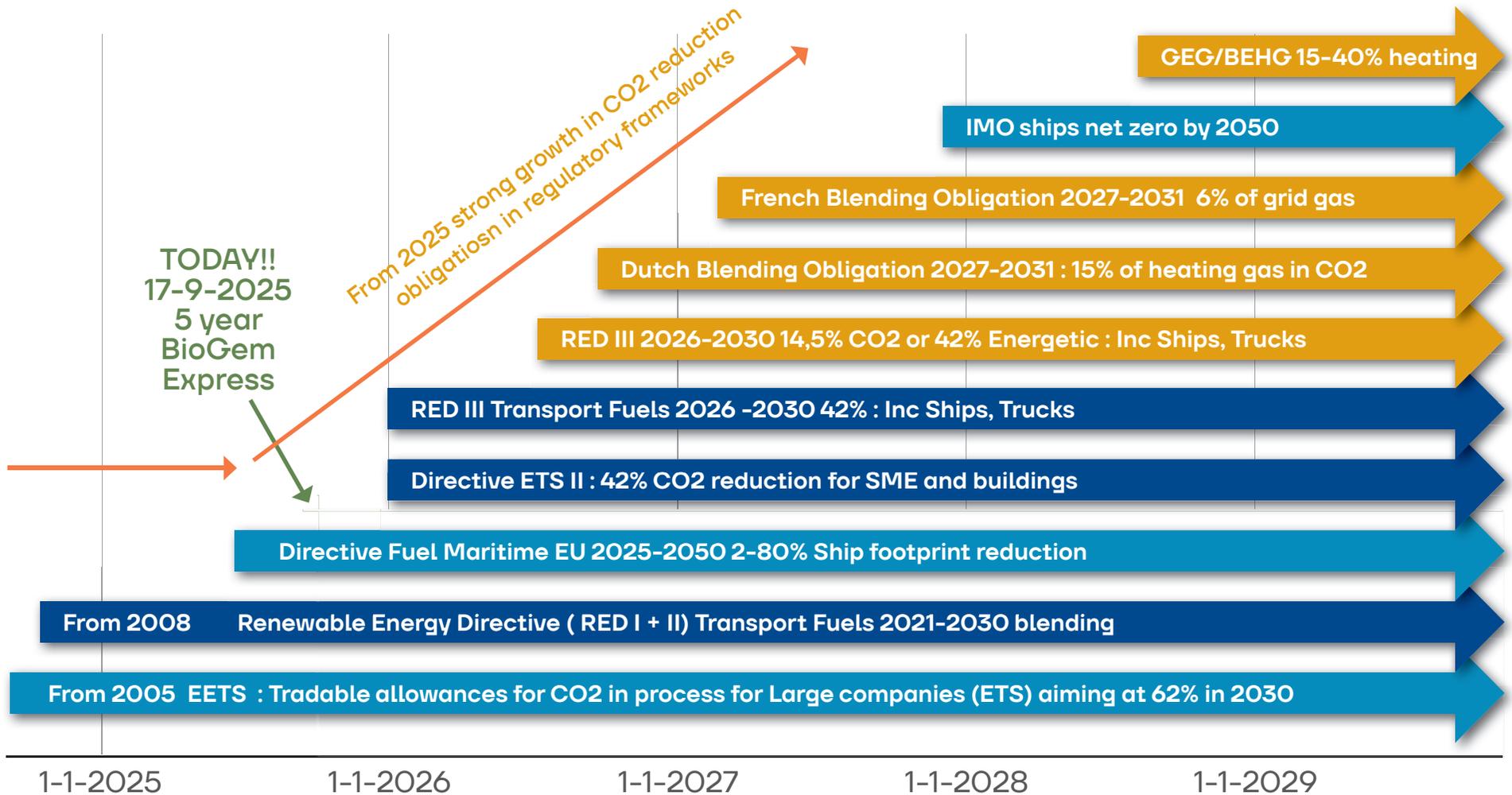
Today's overloaded spot market is defined by:

- Fragmented implementation of new Frameworks block long term contracts
  - Different starting dates for RED III and ETS 2 per country
  - Two mechanisms in valorisation : CO2 savings or Renewable energy blending
- Recent warm winters mitigated effect of Ukraine war effects
- Large insolvencies and fraudulent imports of biofuels blur oversight
- Markets were very weak and volatile until mid 25
- Summer 2025: markets turn with Fuel Maritime EU heading the new regulations

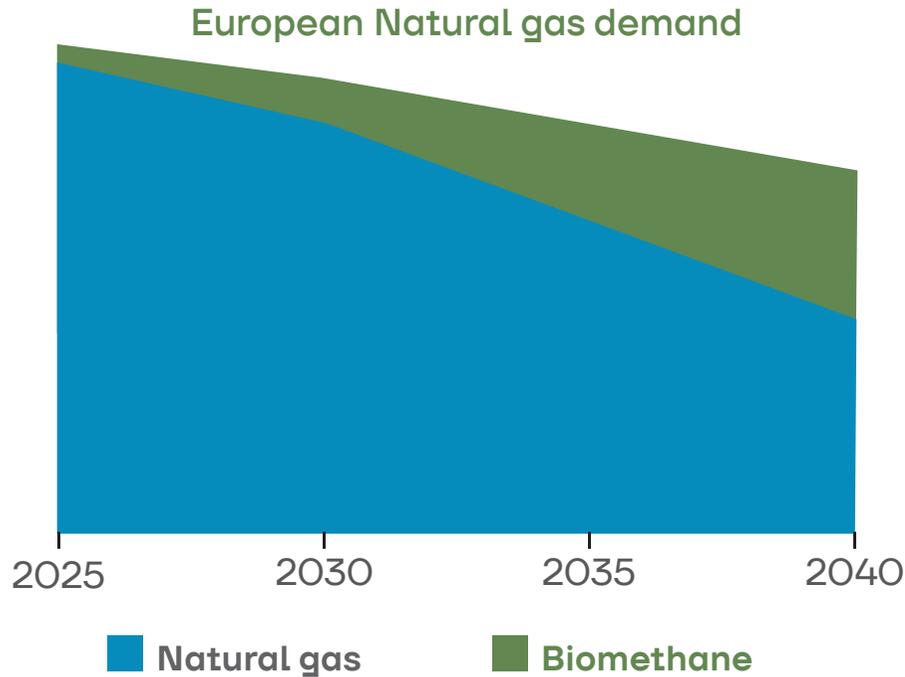
**But:** A new Regulatory Era timeframe is emerging

# \_Regulatories changes horizon

orange national level, blue EU level, dark blue end-user



# \_Outlook for Biomethane buyers



## BGX foresees a sellers market

- EU Gas consumption will decrease but slowly
- EU has a binding 2030 target of sourcing 42.5% renewable energy, applied to gas, this is well over 1'200 TWh/year
- EU biomethane production outlook is 340 TWh/year in 2030, 6x current production
- Decarbonisation targets will require much more biomethane
- Production can not follow the pace
- Exceeding demand in 2026 - 2032 in biomethane once RED III, ETS 2 are in place

## BGX recommends

Recommends customers to secure long term biomethane supply

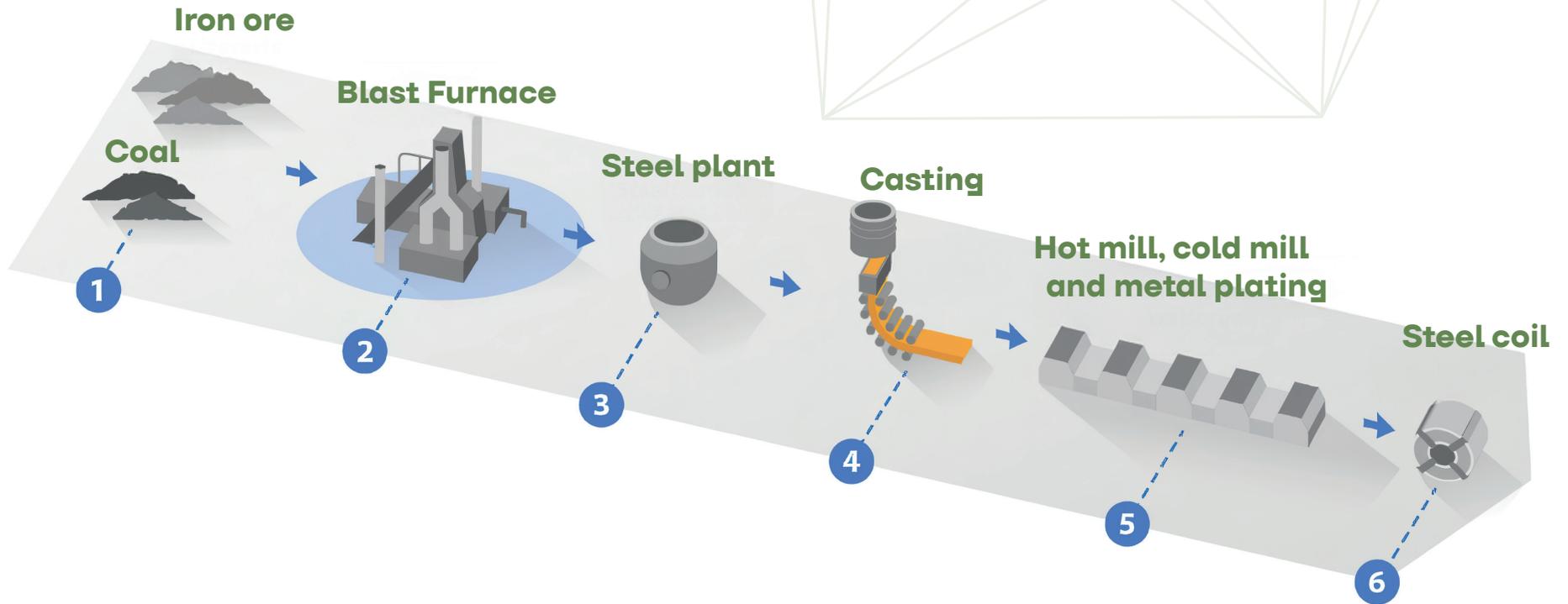


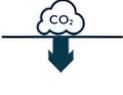
- **Prices will no longer stay at reasonable levels**
- **Existing and coming production request Long Term contracts**
- **Remember CO2 savings or renewable energy blending**

# — Perspectives from the Steel Industry



# \_Perspectives from the Steel Industry

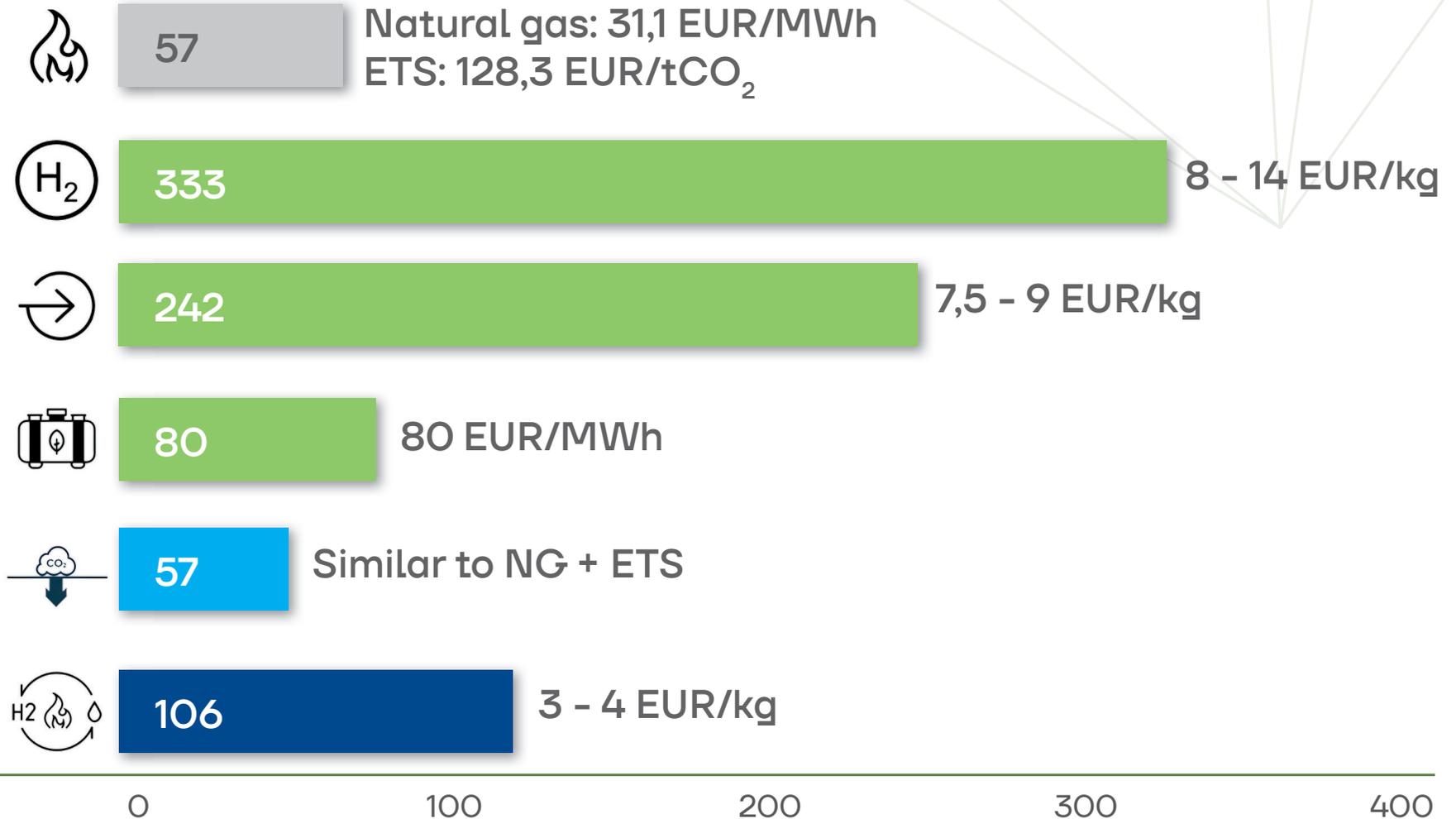


Energy vector	Renewable
 <b>Natural Gas</b>	
 <b>EU Green Hydrogen</b>	✓
 <b>Imported Green Hydrogen</b>	✓
 <b>Biomethane</b>	✓
 <b>CCS</b>	
 <b>Blue Hydrogen</b>	
 <b>Electricity</b>	✓

# Cost Comparison Natural Gas Alternatives in 2030

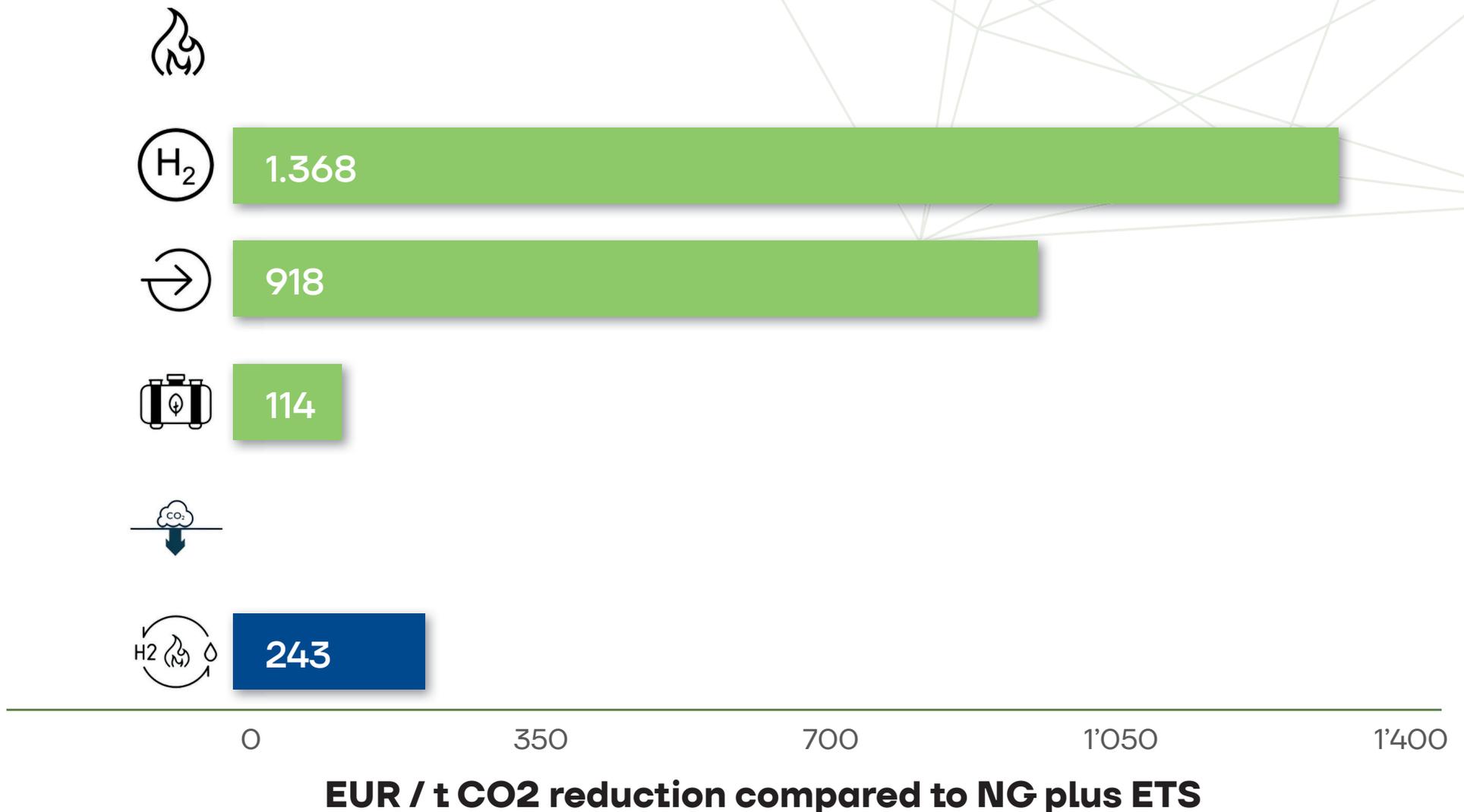
## In Euro per MWh (at the gate)

Costs in EUR/MWh (real 2025)



# Feasibility Gap Natural Gas Alternatives in 2030

Additional costs compared to natural gas in EUR/tCO<sub>2</sub> abated



1: To emit 1 ton of CO<sub>2</sub> using natural gas, 4.21 MWh of natural gas must be consumed. 2: Hydrogen equivalent: 4.21 MWh of hydrogen is approximately equal to 108 kg of hydrogen. 3: Assumption for alternatives: All alternative energy sources are assumed to have an emission factor of 0, meaning that there are no CO<sub>2</sub> emissions.

# Requirements for the Large Industrial Usage of Biomethane

## Focus areas for change

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**Biomethane roll-out policy should cover industries' carbon needs**



**Allow the use of foreign biomethane GoO certificates in the Netherlands for lowering the required EU-ETS allowances**

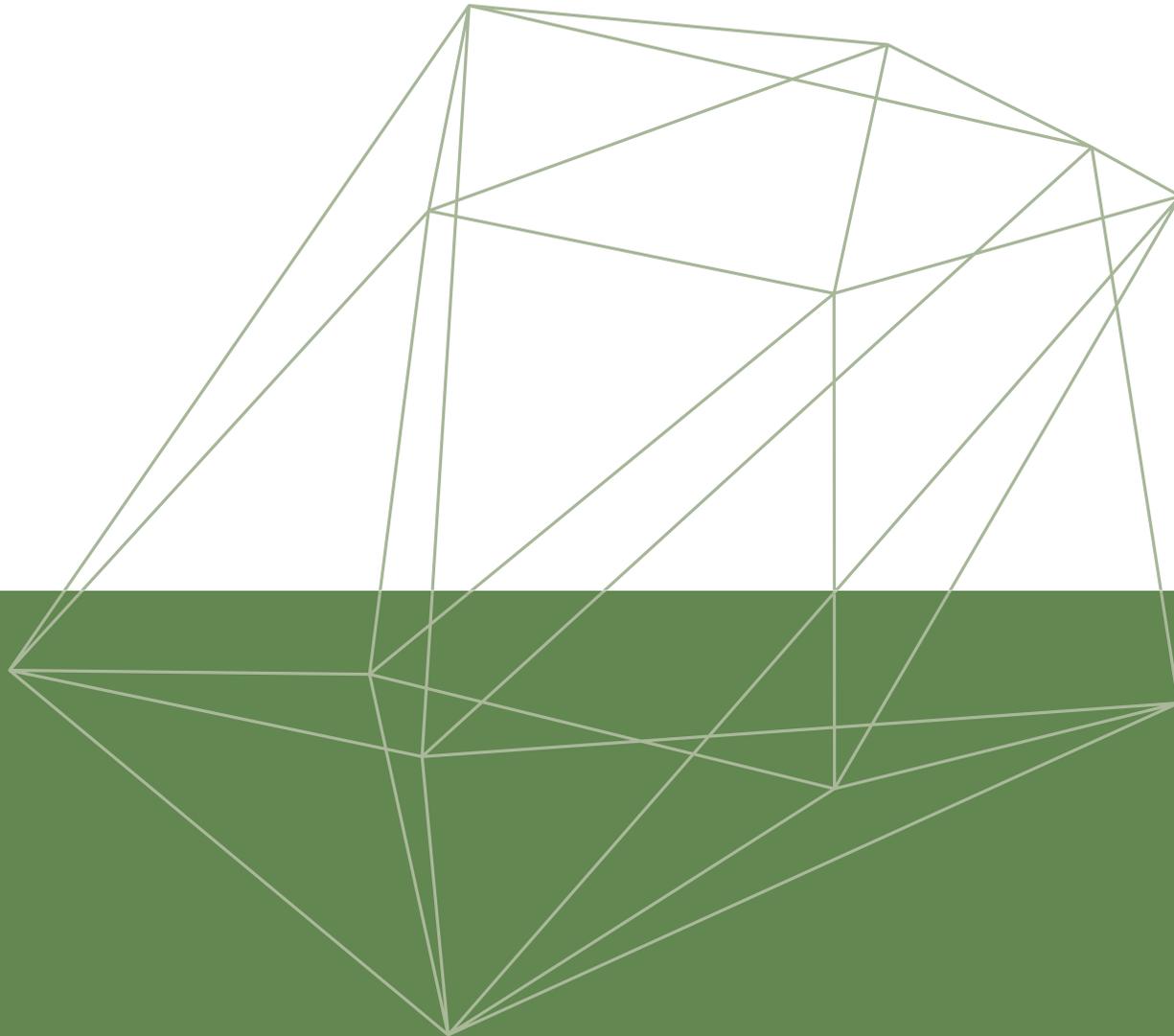


**Reduced energy taxes for biomethane**



**Acknowledgement of biomethane for scope 1 emissions under the GHG Protocol and SBTi**

# —The Green Gas Generation



## — The Green Gas Generation Extending our own production in Denmark



### **Thorsø Biogasanlæg**

Production capacity: 75 GWh/y  
Biomass: Manure & residues  
Expansion: 165GWh/y



### **Foersom Bioenergi**

Production capacity: 65 GWh/y  
Biomass: Manure & residues  
Expansion: 150 GWh/y

## —The Green Gas Generation Extending our own production in Denmark



### **Energi Vegger**

Production capacity: 50 GWh/y  
Biomass: Manure & residues  
Expansion: 95 GWh/y



### **Odsherred Bioenergi**

Production capacity: 110 GWh/y  
Biomass: Manure, agricultural waste  
and nature conservation

# \_The Green Gas Generation

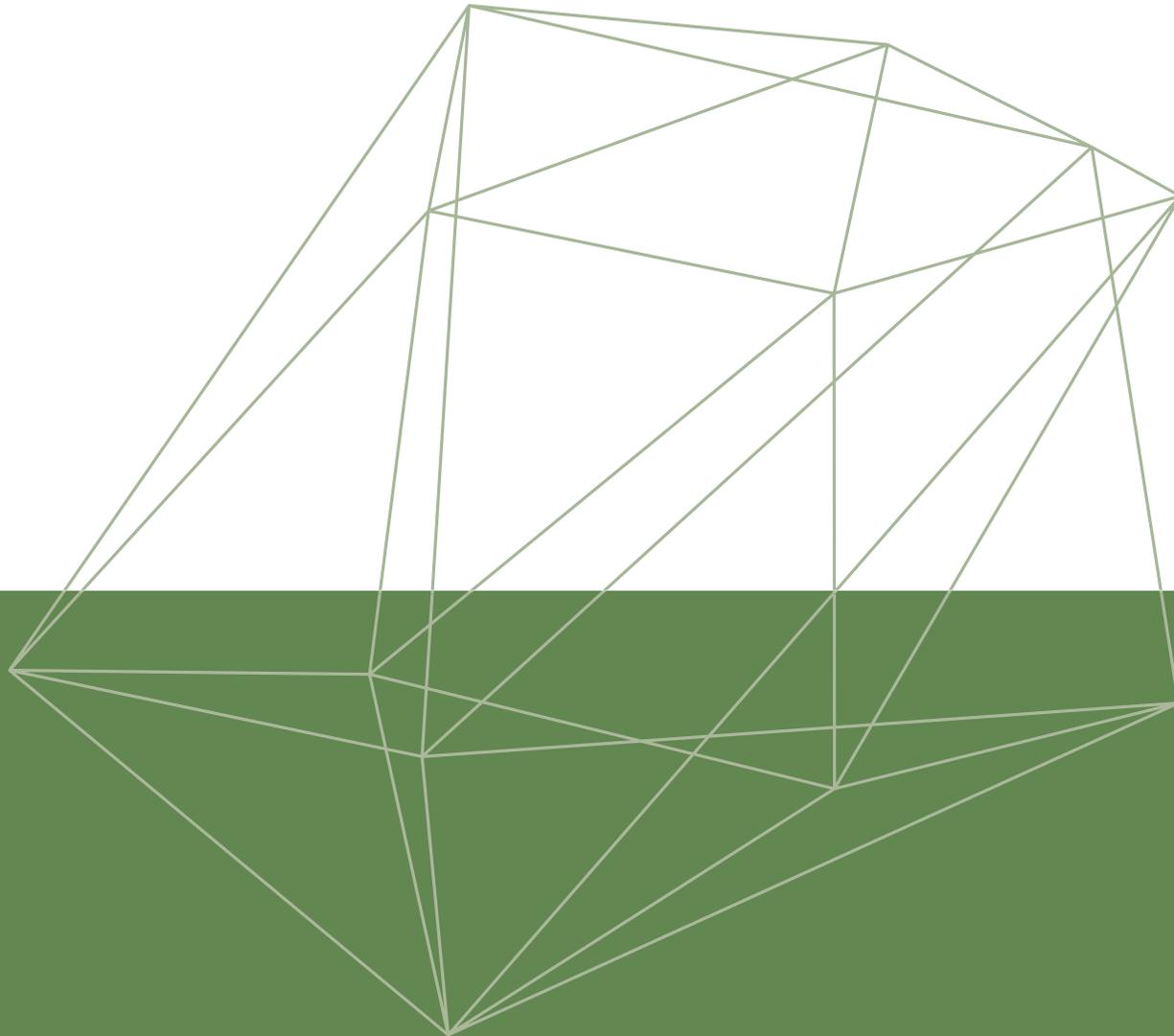
- Supply diversification



- Making cross-border CO2 solutions possible (ITMOS)



# \_Offices & Contact



## \_Shaping tomorrow starts here

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*the Green Gas Generation*

*Thank you!*

*We're excited to invite you to visit our brand new website at  
[www.biogemexpress.com](http://www.biogemexpress.com)*