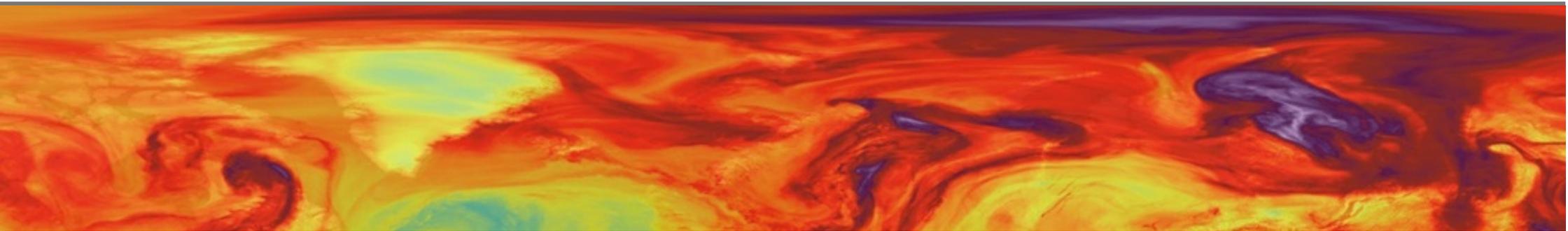


Atmove

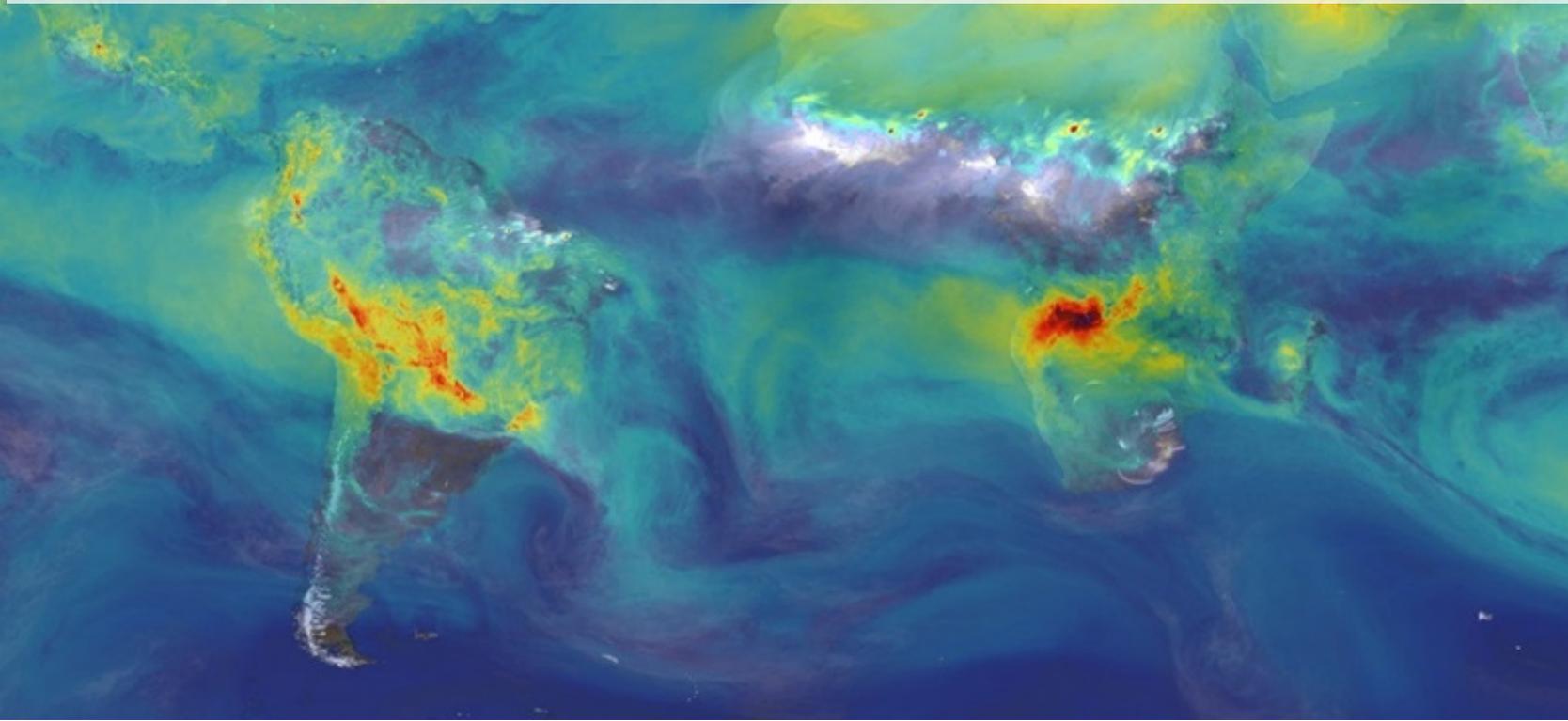
Biogas and biomethane for mobility application

Potential CO2 Impact of BioCNG Mobility

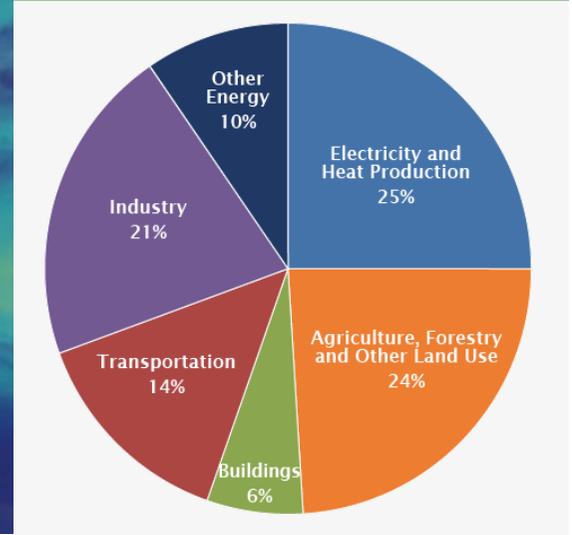
Atmove tackles 38% of the global CO2 emissions



Agriculture is responsible for 24%
Transport for 14%
of the global CO2 emissions



Global Greenhouse Gas Emissions by Economic Sector





Facts

427,500,000

Small farms worldwide

75 %

**OF WORLDWIDE
FOOD PRODUCTION**

**SPEND UP TO 50%
FOR FUEL AND
FERTILIZER**

Challenges

**AGRICULTURE
GHG EMISSIONS 24%**

DIESEL TOO EXPENSIVE

**FOOD DEMAND
PLUS 70% until 2050**

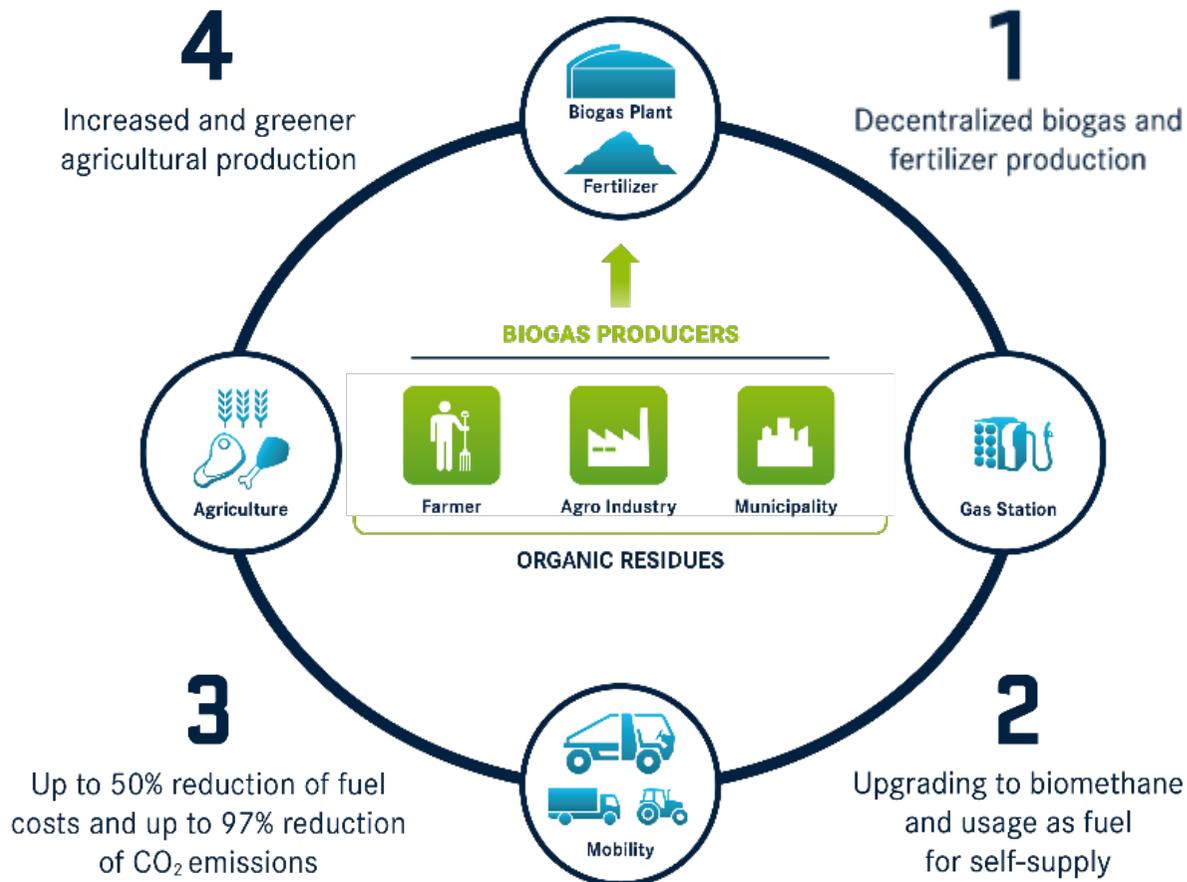
Solutions

**USE OF AGRICULTURAL
WASTE**

**REDUCTION OF FUEL
COSTS**

**USE OF MACHINES FOR
MORE PRODUCTIVITY**

A modular system solution along the value chain of biogas



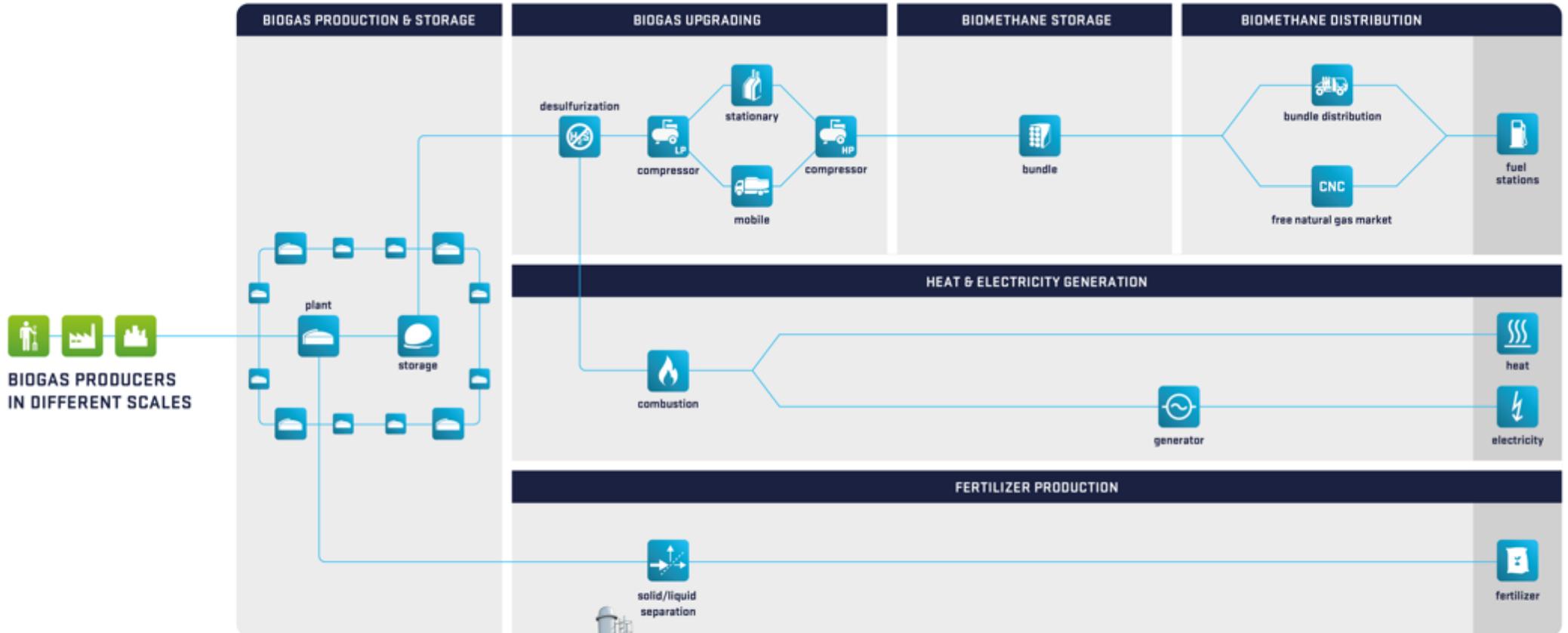
Frugal Innovation:

- Robust and Safe
- Modular and Moveable
- Easy to Maintain
- Cost Efficient
- Energy Self-Sufficient
- Business Model for Cooperatives

Standardized product range to cover 80% of the market needs

Atmove Biomethane Infrastructure

Modular solutions for different scales



BIOGAS PRODUCERS
IN DIFFERENT SCALES

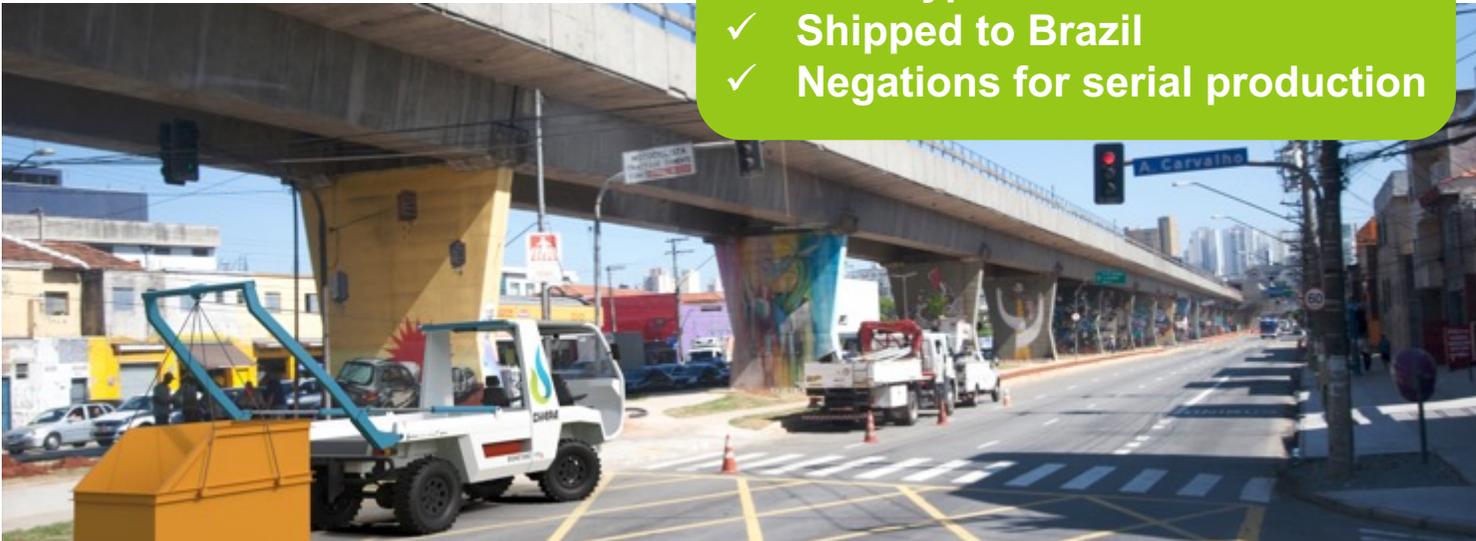


CH4PA

Product Overview



- ✓ Prototype designed
- ✓ Prototype constructed
- ✓ Shipped to Brazil
- ✓ Negotiations for serial production



Mobile Upgrading Unit - MoBi

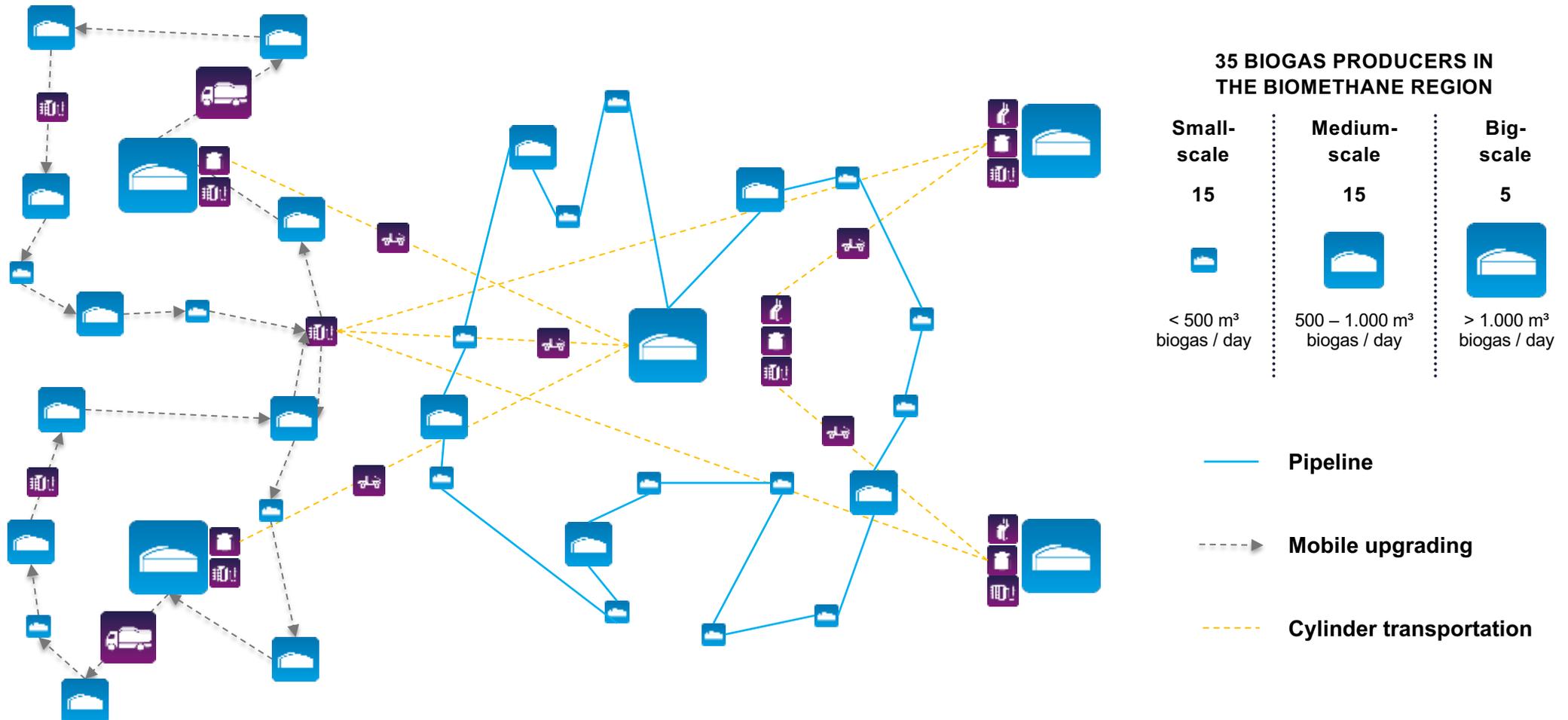
Product Overview



- ✓ Feasibility study
- ✓ Prototype designed
- ✓ IP rights reserved

Atmove Biomethane Region

Modell of Infrastructure of a Biomethane Region



- 60 Biogas / Biomethane storages
- 3 Stationary upgrading
- 2 Mobile upgrading
- 8 Gas filling station
- 5 CH4pa

Awards Atmove



- **R20 Schwarzenegger foundation:** Atmove selected under the 10 global reference projects
- **Mission Innovation:** Atmove selected under the 100 best CO2 reducing projects worldwide
- **Austrian SDG Award:** Atmove selected as one of best 3 company projects



United Nations Sustainable Development Goals





R20 AUSTRIAN WORLD SUMMIT SPECIAL REPORT 2018



SUCCESS FACTORS AND POLICY RECOMMENDATIONS – FOCUSING ON BIOMASS & WASTE TO ENERGY



ATMOVE - BIOMETHANE MOBILITY FOR BRAZIL

Innovation for small and medium farmers using residuals from agriculture as fuel and fertilizer

Atmove is working on a biogas-based mobility solution (bio-methane) for rural areas in Brazil to drastically reduce the dependence on fossil fuels, the fuel prices by 50% and emissions by almost 100%. The solutions target small and medium sized farmers and municipalities as well as the agro-industry. The agricultural residues are used to produce biogas which is upgraded to a 100% renewable fuel, Bio-CNG. In cooperation with the Brazilian partner Itaipu-PTI (CIBiogas) and with the support of Austrian funding three targets were reached:

1. Atmove created an innovation hub to "tropicalize" Austrian and European technology in the field of biogas production, methanation and mobility.
2. Building of cooperation with Austrian and Brazilian Universities in the biogas sector and in particular with the universities in Paraná.
3. CH4pa - prototype of a biomethane tractor - was constructed under the aspects of frugal innovation and efficiency to cover local needs and develop a virtual prototype of an innovative Mobile Upgrading Truck (MoB), which converts Biogas to Bio-CNG on site and therefore massively reduces investment costs for farmers. The biogas-biomethane-CH4pa system was tested in Itaipu Technology Park and serves as a prerequisite for a first pilot region in Paraná.



Impacts and Benefits
The main focus is to develop sustainable and scalable biogas-based energy and mobility solutions tailored to the needs of Brazilian farmers. This biogas mobility system can help cooperatives and municipalities to reduce their waste problems, fuel costs and emissions while being economically feasible.



- STAGE 1: Concept Development, Site Identification
- STAGE 2: Pre-Feasibility Studies
- STAGE 3: Feasibility Studies
- STAGE 4: Permitting, Financing, Contracts
- STAGE 5: Engineering, Construction, Operation

Submitter: Spirit Design GmbH
Location: Itaipu - Foz do Iguaçu, Paraná, Brazil
Website: <http://atmove.at>
Contact: georg.wagner@atmove.at



Atmove

Scope of services



Atmove Management Team



Mag. Georg Wagner

Founder, Strategy,
Business Development,
Innovation and Technology
Transfer

Markus Althausen

Project development and
finance

Günther Bochmann

Advisor Biogas
technologies & production

Michael Harasek

Technical Director,
Biogas Upgrading

Ulf Mannhardt

Financial Advisor
Brazil-Europe



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Thank you!

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