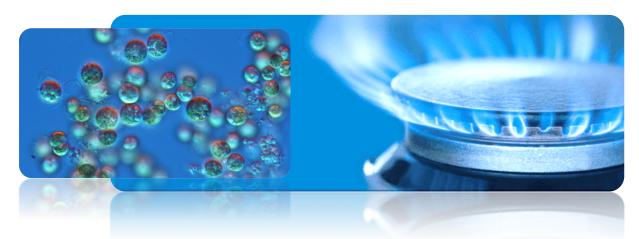








#### **ALLIANCE**



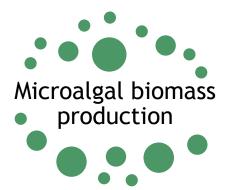
# Biogas production using biomass derived from Baltic microalgae

Marek Klin

Institute of Oceanography, University of Gdańsk, PL

Gothenburg 4.04.2017

#### What is our idea?



- Biomass' biochemistry profile differentiation
- Various media usage (incl. wastewater)

Biogas production biomethan CH<sub>4</sub>

Efficient convertion into biofuel by methanogenic bacteria

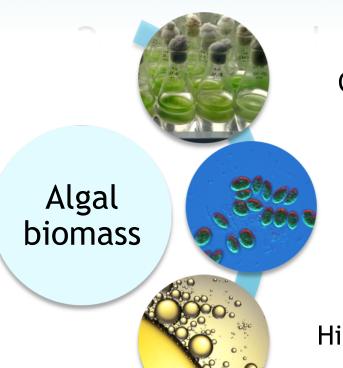


- Know how development
- Technology optimisation
- Profitability assessment





# Stage of development



Optimal growth conditions established

Baltic strains with the highest potential selected

High-energy compounds content enhanced





## Our needs

Biomass anaerobic fermentation tests (various conditions)

Chemical analysis of fermentation products (biomethane %)

Mass cultivation test in semi-industrial scale

Marketing & Business plan







#### Our team

#### Marek Klin M.Sc.

- microalgae productivity and lipid content evaluation
- microalgae isolation and culturing

#### Filip Pniewski Ph.D.

- microalgae ecophysiology
- microalgae isolation and culturing
- the Curator of Culture Collection of Baltic Algae (CCBA)

#### Aleksandra Zgrundo Ph.D.

- ecology
- use of algae in ecotoxicological studies
- monitoring and palaeoreconstructions

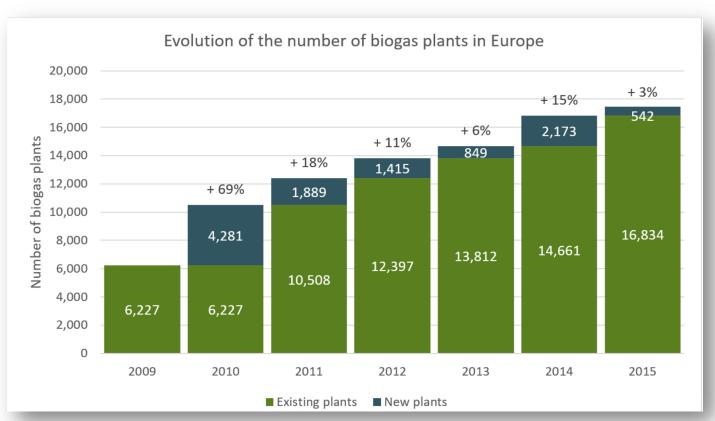
#### Prof. Adam Latała

- plant physiology
- microalgae isolation and culturing
- ecotoxicology
- the Head of Culture Collection of Baltic Algae (CCBA)





# Biogas market









## Target market

### Our main technology customer:

• Combined Heat and Power (CHP) Plant

Other potential beneficients of our technology:

- Wastewater treatment plants
- Agriculture biogas plants
- Fish aquaculture (RAS)
- Geothermia plants
- Other







# What is unique about our idea?

Biomass source



Industrial partner's resources



Sustainable technology

- Unique algae strains from the Baltic sea
- Culture method enhancing energy content

- Saline wastewater
- CO<sub>2</sub>
- Surplus heat and energy usage

- Renewable energy production
- Economically efficient
- Environment friendly technology





## Project time frame

## 12 months

PrePHASE

Strain selection & PHASE1 PHASE2 PHASE3 PHASE4 Condition Lab fermentation PBRs cultivation Industrial fermentation Business plan





## Technology Transfer

- Developed technology will be implemented with a smart CHP plant in northern Poland,
- Any commercialization of developed technology will be conducted with the help of the Technology Transfer Office (TTO) at the University of Gdańsk,
- Intelelectual Property strategy will be developed with TTO.













#### **ALLIANCE**

## Contact

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