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**Energy Transition -
Engine of Growth in Europe's Regions?
The case of Poldanor**



8 October 2014



Energy in Poland

**83% of electric energy production
in Poland is based on coal and lignite**

**over 20% of Poland's area
is excessively air-polluted**

**traditional energy resources will run out
within 40-50 years**



Biogas in energy mix

**only 10,8% of energy demand in Poland
derives from RES
producing 5,88 GWhe**

**247 biogas plants
with production capacity of 179,67 MWe**

**among which 56 agricultural biogas plants
with a production capacity 65 MWe**



So what do we do to remedy the problem?

- **We could build a lot of agricultural biogas plants !**
- **Does Poland have enough biomass to supply them ?**
 - **Yes, 100 times more!**

**Poldanor S.A. has done that with success
And: *YES*, it works !**

Future possibilities ?

What moves us?

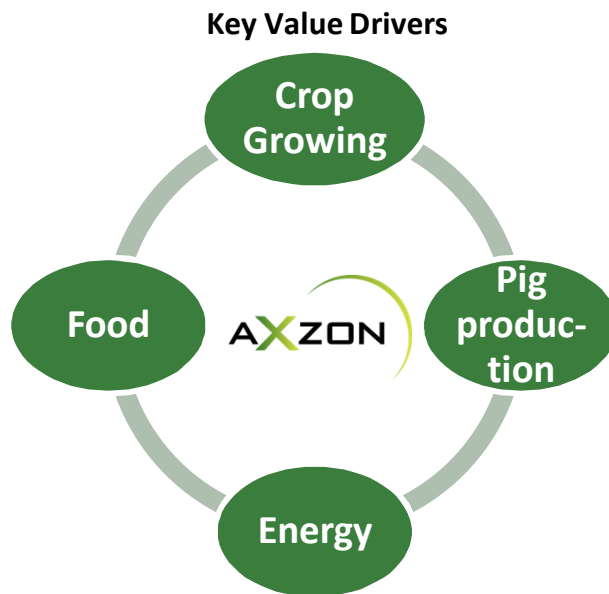


Vision:

“To become the world’s leader in agriculture and food production based on sustainable production standards and high quality of both products and organization”

Mission:

“To produce healthy, high-quality food for human consumption using the least possible resources and having the least possible impact on the natural environment”



MASTERING THE VALUE CHAIN



FROM FIELD TO TABLE



BIOGAS PRODUCTION

**total capacity of 8 biogas
production plants
7,4 Mwe**

**annual production in 2012 equal to 56,5 GWh
- which is sufficient for 16,000 households
and means reduction of GHG: 214.412 t CO₂eq**



Biogas plants - benefits for energy system

- **reduction of fossil fuels' use**
- **spreading of energy sources and location, means higher safety of energy deliveries**
- **more independence from external energy deliveries**
- **symbiosis between energy sources and local energy demand**
- **constant operation not dependant to weather conditions**



Biogas plants - benefits for environment

- **reduction of green-house gases emission (1MW of installed power reduces over 28.000 CO_{2-e})**
- **reduction of odours and dusts**
- **further optimization of use of nitrogen as fertilizer**
- **wastes utilization (e.g. slaughter wastes)**
- **destroying of bacteria and pathogens**
- **destroying of weed seeds means reduction of pesticide use**
- **better uptake of digested nitrogen by crops**
- **reduction of water contamination risk**



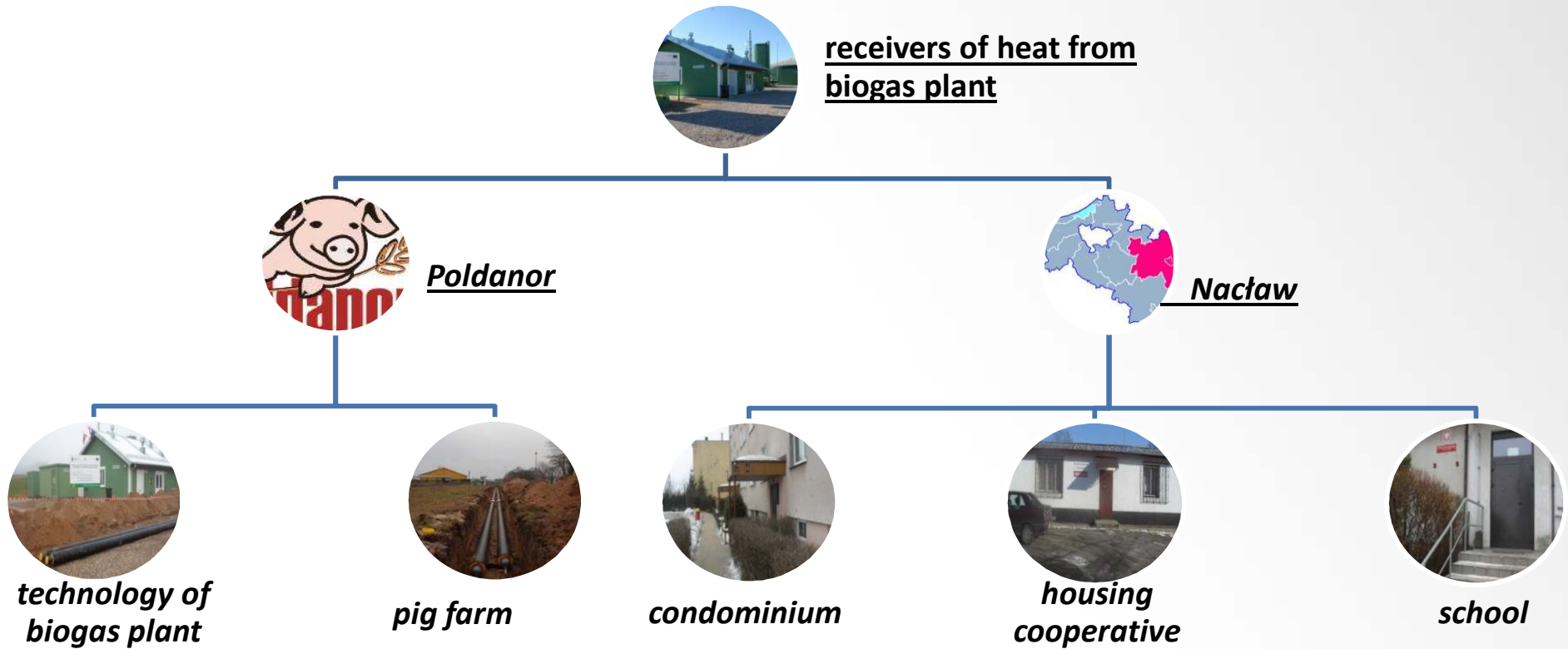
Biogas plants – benefits for local economy

- **income from local taxes**
- **creating local jobs**
- **activation and development of local entrepreneurship**
- **development of rural areas**
- **possibility for farmers to sell biomass**
- **improvement of ,pro-ecology image'**

Substrates

- **plants, including maize silage(whole plant), green matter, mixtures of cereals and cereal/legumes, increase meadow, other green matters, sugar beet leaves, grain of cereals, tree leaves**
- **animal excrements (porcine or bovine manure)**
 - **slaughter wastes**

Biogas plant in Naclaw





Possibilities for the future

- **use of electricity excess to produce hydrogen**
- **hydrogen is the largest accumulator**
- **hydrogen feed into biogas, convert CO₂ to biogas, and reduce CO₂ to zero**
- **biogas used for transportation = fuel that needs no subsidy**
- **national gas companies should lose their monopoly and allow biogas come into gas network**



Zero carbon footprint ' products

0 kg CO₂ / 1 kg vs. 5,5 kg CO₂ / 1 kg of the average benchmark

CERTIFICATE

Certificate-ID: C01-2014-03-21211303

Certified for: Corporate Carbon Footprint & Carbon Neutral Company

Holder of Certification: 

Organizational Boundaries:  Control Approach: 

Valid until: 31 March 2016

Verification Criteria: ISO 14064-3

Report Number: CF-2014-03-21211303

Corporate Carbon Footprint: 0 t CO₂-equivalent per calendar year

The joint corporate carbon footprint of the two companies Poldanor S.A. and Prime Food Sp. z o.o. has been verified. It is confirmed that the certificate holder has correctly calculated its CO₂ emissions according to the ISO 14064-1 standard. Further specifications on methodology and data review can be found in the verification report. The status of validity can be checked under www.certipedia.com with the Certificate-ID. The amount of 121.874 tons CO₂e per calendar year resulting from the company-specific carbon footprint was compensated completely through 121.874 emission reduction units from the biogas plants of Poldanor S.A. for the year 2013. For this reason the companies Poldanor S.A. and Prime Food Sp. z o.o. can be entitled as "Carbon Neutral Companies" for 2013.

Cologne, March 13th, 2014


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Precisely Right.



Thank you for your attention!

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