

Bio-waste technologies. Challenges and opportunities in the City of Gdynia.



From strategies to activities - Bioenergy Promotion

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Agenda

1. Short information about the city
2. “Assumptions for the Plan of Supply heat, electric energy and gas fuels for the City of Gdynia”
3. Waste Utilization Facility EkoDolina LTD
4. Sewage Treatment Plant Dębogórze
5. Public transport in Gdynia
6. Promoting energy from renewable sources
7. Our successes
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Gdynia – short description



Gdynia is a city situated on the Baltic Sea coast in the Pomeranian region. It is a young city, as it received the city rights in 1926, with a population of about 250,000. Gdynia is a part of 1 million agglomeration together with Gdańsk (450 tys.) and some smaller cities. Today Gdynia is an important centre of maritime economy (port, shipyards), international trade, science and academic education, culture, tourism. The city authorities are committed to pursuing the priorities set out in the Gdynia Development Strategy designed to meet the strategic goal, which is to achieve sustainable, socially acceptable and environmentally sound development to help the city meet European standards. Gdynia is a member the Covenant of Mayors since 2011 and the member The Green Digital Charter since 08 October 2013.



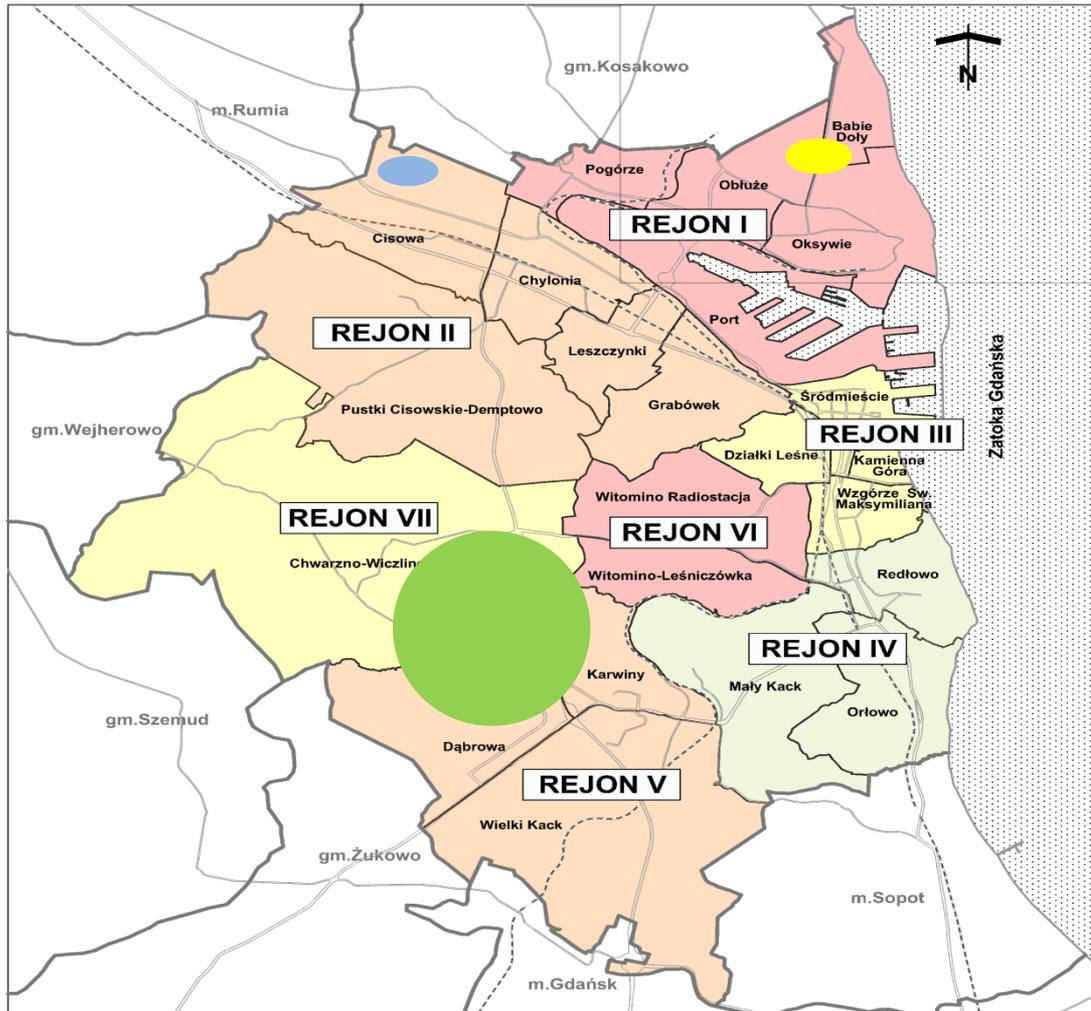
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“Assumptions for the Plan of Supply heat, electric energy and gas fuels for the City of Gdynia”



Possible localisations for green powers plants:

Legends:



PV power plant



Wind power plant



biomass or biogas heat and power plants



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Waste Utilization Facility EkoDolina LTD

Waste Utilization Facility EkoDolina LTD. recover 4,533 mln m³ landfill gas and burning it in the biogas power Plant (2,5 MWe) and produced 6 375 MWh. Electricity is sending to the country energy system and west part of the city of Gdynia has got green energy.



Waste Utilization Facility EkoDolina LTD

	2011	2012	2014 * (*prediction)
1. Municipal Waste [Mg]	114 430	115 272	100 000
2. Building Waste [Mg]	37 151	36 074	36 000
3. Green waste [Mg]	5 737	6 457	6 500
4. Bulky waste [Mg]	2 156	2 285	2 200
5. Separately collectes waste [Mg]	4 715	5 655	15 000
6. Other waste [Mg]	17 000	21 779	16 000

Sewage Treatment Dębogórze

Sewage Treatment Dębogórze gets **55 000 m³** of sewage/day = 20 750 000 m³/year and it is producing **295 m³ biogas** – per hour/ 7075 m³ per day.

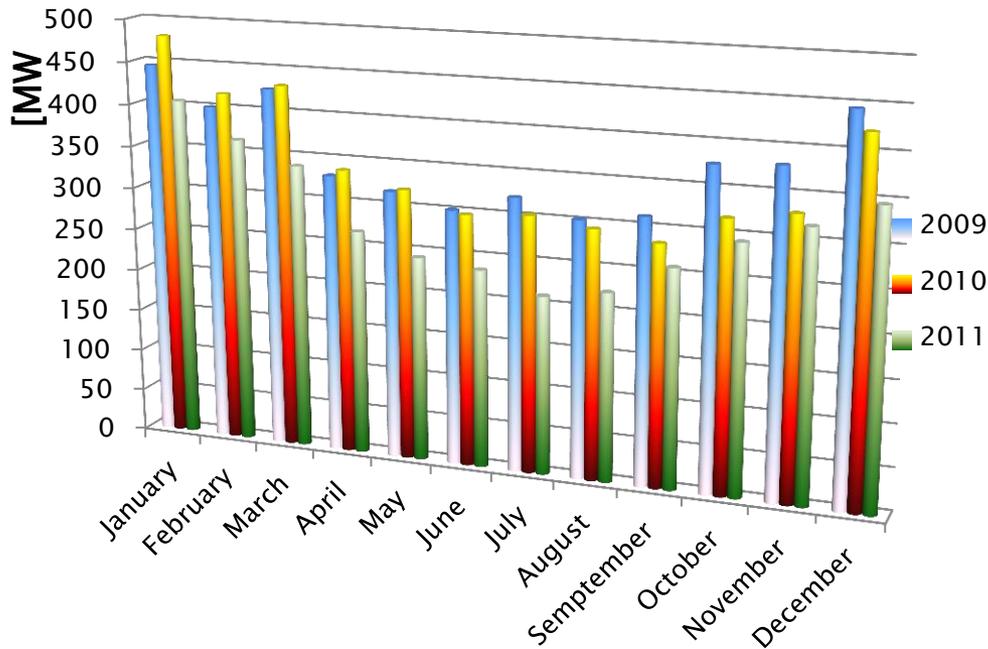
The biogas is burnig in the heating plant and the heat is using technological process.



Public Transport in the City of Gdynia



Energy consumption [MWh/month] in the 2009, 2010, 2011



In 2012 we saved 20% energy in all trolleybuses



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Public Transport in the City of Gdynia



City of Gdynia has got 16 CNG buses which constitute **8%** of public transport in Gdynia in 2013. CNG buses are more quiet than ON buses and they had got better ecological parameters.

Thanks to using the CNG buses, we save **809 MG CO2** per year.



Promoting renewable energy sources

1st Gdynia Energy Day, organized within the 10th Baltic Festival of Science, took place on 27th May 2012 between 10 am and 6 pm at Kosciuszko Square in Gdynia.

Visitors to the event were given questionnaires on energy saving, from which they could learn how to reduce energy consumption without additional expenses. 500 questionnaires were filled in during the day.

2nd Gdynia Energy Day, organized within the 11th Baltic Festival of Science, took place on 26th May 2013 between 10 am and 6 pm at Kosciuszko Square in Gdynia.

Visitors could learn how they could kill energy vampires in their households.



Promoting renewable energy sources

Model House in Gdynia

15.05 – 05.09.2012



Additionally, the residents participating in the Energy Day had an opportunity to familiarize themselves with the possibilities of gaining a grant for the installation of solar collectors either from the Regional Fund for Environmental Protection (up to 45% of costs) or from the Gdynia City Hall (up to 25%). In the Model House inhabitants and tourists could see how: wind power, PV panels, solar collectors, heat pump and recuperation system works in Gdynia geographical advantages.



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Our Successes in energy efficiency

1st place in competition “The Most Energy Efficient Polish Municipality” in the “Municipality of above 100 000 inhabitants” category in 2012.

Distinction in the competition organized by Polish edition of „Newsweek” „City of opportunities, sustainable city” in 2011 and 2013.



Our Successes in energy efficiency

Signed Green Digital Charter

City leaders from Gdynia (Poland), Riga (Latvia) and Sunderland (UK) signed in Brussels on Tuesday **08 October 2013** the Green Digital Charter which commits cities to reducing emissions through ICT and to promoting progress in tackling climate change through the innovative use of digital technologies in cities.

The number of cities that have signed the Green Digital Charter goes up to 40.



Our plans

Waste Utilization Facility EkoDolina LTD. is considering the expansion of the existing production line for a new biogas instalation which would utilize the organic fraction.

As a result the new biogas could be burned in a biogas power plant or used as a transport fuel in public transport in Gdynia.

The decision will be taken after economic analysis.



Our plans in using Biomass / Biomethan

The city of Gdynia has got 16 CNG Buses, they could also use bio-methane.

We would like to buy 13 CNG Buses in 2014 and 10 hybrid CNG/ON Buses.

We would like to have 50% of all buses using bio-methane in 2030.



Thank you for your attention



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