

**REPORT FROM
EARTH'S WEEK CONFERENCE
„ENERGY FROM WASTE”**

The Conference took place as planned on 16th April 2013 in Coal Mining Museum in Zabrze. 152 persons were invited for the conference from the nearby cities, municipalities and city halls. XX Earth's week was opened by:

Mr. Marian Czochara – Chairman of the City Council

Mrs. Katarzyna Dzióba – Deputy Mayor of Zabrze

Mr. Marek Dmitriew – Director of Coal Mining Museum in Zabrze.

Deputy Mayor underlined the importance of “Earth's week” celebration. She highlighted that it has been 20th time when Zabrze organizes conferences, workshops and competitions for all city residents.

Mr. Jan Jurkiewicz presented topics of former “Earth's week” events. The conference moderator was Mr. Ryszard Bęben.

Within the cooperation framework between Lund and Zabrze Professors Mikael Backman and Lars Hansson along with a group of students from environmental protection department in Lund worked on the issues related to biogas plant in Zabrze with particular interest in waste availability from the nearby municipalities as well as their type, quality and quantity.

Professor Backman underlined the importance Swedish-Polish Sustainable Energy Platform on Polish and Swedish market in shaping the development of renewable energy sources. He also presented short history of the Platform and the rules of its financing. He mentioned that the forerunner of establishing the Platform was on Polish side the Prime Minister of Polish Government Mr. Waldemar Pawlak and Swedish Prime Minister Mrs. Moud Olofsson.

Professor Backman presented also Swedish biogas plant model and the use of waste as the biogas substrates. Moreover he underlined the importance of transition from fossil fuels to renewable energy sources in Sweden as well as sustainable waste management. He also mentioned that similar conferences like in Zabrze took place in previous years in:

Warsaw – 2007 – Polish-Swedish conference on Bioenergy

Lund – Energy for Environmental Efficiency

Warsaw – 2011 – Energy from Waste – biogas production

Professor Backman discussed the best practices and sustainable energy systems in Swedish municipalities and the potential of forest industry for renewable energy. He also mentioned about the importance of sustainable planning in waste management and the potential of the entire biogas production system. Professor Backman informed that so far there have been 15 study visits and 15 seminars. Professor Backman was given the Cross of Merit from Polish President for his achievements in the development of renewable energy in Poland.

Another speaker at the conference was Mrs. Magdalena Rogulska, who informed that every year 12 million tones of municipal waste is produced including 50% of biodegradable waste, which can be used for the biogas production. This utilization of biodegradable fraction requires not only technical and technological solutions but most of all the change in society awareness regarding the right waste segregation. Sweden is a good example of good practice in the scope of energy production from waste. Municipal waste from Sweden are treated as a valuable energy resource used for energy, heat and fuel generation. Waste segregation is not only concern for local governments and companies but most of all for local communities. The

basic assumption of Swedish model for waste management is looking at waste as raw material and energy source. In Sweden biomethane is used as a fuel for municipal vehicles. In Lund, Borås, Linköping and Västerås all buses and garbage trucks are powered with biogas. Mrs. Rogulska underlined that in Poland there is a large potential of biogas market based on segregated municipal waste, but there are still many barriers for further development of this sector including:

Still elaborated so called energy tri pack (Law on Renewable Energy Sources, Energy Law, Gas Law) – uncertain support level in the future.

Long administration procedures (up to 3 years)

In many cases there is no public acceptance for developing pilot projects.

Mr. Jakub Zielonka from Neostar Green Energy discussed the first report from substrate inventory for biogas plant in Zabrze with the focus of substrate availability. The first report partly embraces:

- Companies
- Farms
- Schools
- Households

Waste inventory:

- Agriculture products (manure, slurry)
- Waste from slaughterhouse
- Waste from food industry
- Food waste (restaurants, schools, expired food)

He also informed about the quantity of available wastes:

- Pig slurry 90 000 tonnes/annum
- Chicken manure 12 000 tonnes/annum
- Waste from slaughterhouse 10 000 tonnes/year
- Food waste 250 tonnes/year

Another presentation regarded “Biogas plant in Zabrze” – Ryszard Bęben and Zdzisław Iwański – the CEO of MOSiR in Zabrze presented the company. The CEO discussed business facilities and financing of sport facilities. He also shortly mentioned the system of gathering landfill gas and its transition into electricity. Mr. Iwański presented also further investments which will be located within the landfill. He also mentioned about newly built municipal landfill and the necessary documents for its operation. Mr. Iwański underlined financial means acquired from BSAP Fund which will be used in setting up biogas plant. Ryszard Bęben – Project Manager presented information on the future biogas plant in Zabrze. He informed about biogas plant location and favorable climate conditions for the environment and local community. Next he discussed the principles of biogas plant and production of electricity and heat in cogeneration. Mr. Bęben also mentioned upgrading biogas which can then be used in households and vehicles and can be also used as bio fertilizer. He also presented legal status of digestate. Mr. Bęben pointed out that it is important to properly prepare substrate for the digester later he also discussed biogas plant documentation project which is financed from BSAP Fund. He also presented the detailed schedule of project execution with tasks budget lines, amounts and the principles of financing.

During coffee break conference participants could see the exhibition prepared by the Museum.

One of the key aspects of the project is environmental education for all residents of Zabrze. Environmental education in accordance with the agreement is run by:

1. Department of Education
2. Center for Environmental Education located in Botanical Garden in Zabrze
3. Department of Ecology
4. Department of Municipal Infrastructure

5. Municipal Center for Sport and Recreation in Zabrze Ltd.

The aim of education is to prepare residents to waste segregation including kitchen waste for future biogas plant. Mrs. Czesława Węciewicz – Mayor’s Advisor presented “Environmental education in the city of Zabrze – Environmental education program, through education to sustainable development for the city of Zabrze for 2013 – 2020”. She underlined that education is necessary to promote change in behavior in order to obtain sustainable development. Due to the social and environmental surrounding the city concentrated in this program on 3 directions:

1. Developing environmental awareness of Zabrze’s residents
2. Constant and cross-sectorial cooperation and social dialogue
3. Rational use and the development of facilities used for environmental education.

Mrs. Czesława Węciewicz informed that educational actions embrace not only environmental knowledge and waste management but they also relate to its practical use in everyday life. It is necessary to build positive habits regarding waste segregation which is in line with the new law on cleanness in municipalities.

This program will be run in all educational institutions and will embrace 7 educational levels. Another speaker was Professor Anna Patrzalek, Edyta Sierka Ph.D and Katarzyna Nowińska Ph.D. This presentation was about “Wild plant communities in non-agriculture areas as an energy potential” Professor mentioned about two plants Golden Rod and Calamagrostis Epigejos which should be tested in order to establish the time when they can produce biogas. These plants grow on coal heaps and different regenerated areas. So far they have been tested for dry biomass and the results show the high energy value.

„ Waste incineration and the air quality in Silesia voivodeship” it was a presentation by Wojciech Główkowski – Deputy Director of Environmental Protection Department in the Marshall Office, Silesia Voivodeship. He informed that the waste fee which is paid by the residents consist of:

- Marshall’s fee
- Operation costs
- Transportation and collection costs

Based on the data from Central Statistical Office the amount of produced municipal waste estimated with indicators described in National Waste Management Plan is higher than the data from Central Statistical Office. Based on these indicators in 2010 in Silesia voivodeship 1,65 million Mg of municipal waste was produced based on Central Statistical Office it was 1,56 million Mg.

Mr. Główkowski also informed that starting from 2013 it is forbidden to landfill calorific waste fraction:

- Burning heat above 6MJ/kg
- General content of organic coal (TOC) above 5% of dry mass,
- Roasting loss (LOI) above 8% of dry mass.

In panel discussion with speakers participation the following issues were discussed:

- 1/ segregation at source according to the new law,
- 2/ selective collection of organic waste
- 3/ selective collection of different equipment
- 4/ delivering containers for the selective waste collection
- 5/ Mr. Wojciech Główkowski and Mr. Bronisław Wyżgolik supported the idea of Mrs. Anna Patrzalek and her team to use the weeds which grow in reclaimed areas. Mrs. Krystyna Kurowska thanked MOSiR for the conference and education provided to Zabrze residents in the scope of biogas and new law on waste management. At that point the conference was closed.