

# Life+ the project by IMBiGS ranks among the best



“The Institute of Mechanized Construction and Rock Mining (IMBiGS) will build the world’s first mobile container-based power generator, fueled by biomass in the form of straw dust suspension” – says Stefan Góralczyk, PhD, Director of the Institute.

The demonstration line will be financed by LIFE+ (the financial instrument supporting environmental and nature conservation projects throughout the EU). Submitted along with more than 1,000 applications from 27 member states, the project by IMBiGS was ranked 11th among those approved by the European Commission for funding.

Energy generation from micronized biomass is a modern, ecological and economical technology for the production of electricity to heat water and indoor spaces. The biomass used as fuel can be either green or dry, such as straw, a cheap agricultural product that is overabundant in many Polish regions and often ends up as an unused waste in wheat farms.

Biomass is first processed by a set of devices placed in mobile containers, and then burned in a turbine unit. The micronization of wet waste biomass is an innovative solution on a world scale. This process does not require any catalysts nor does it leave any by-products. Energy dust is the most modern form of fuel to power the highly efficient dust-gas burners; it meets the energy market’s expectations in every point. In carrying out this project, the Institute of Mechanized Construction and Rock Mining works with industrial and scientific partners. Not without significance is the fact that the estimated cost of producing 1 kWh of micronized biomass-based energy is lower than if generated from coal. Just compare: the cost of biomass dust needed to generate 1 GJ is about PLN 36, the cost of gas – PLN 57, LPG – PLN 72, oil – PLN 77.

The use of biomass to produce electricity and heat is not just a waste recovery, but also benefits for the

environment, since burning biomass does not cause CO<sub>2</sub> emissions. Therefore, the biomass-fueled container power generator can be a perfect solution both for industrial plants and small municipalities. IMBiGS will proceed to the construction of a demonstration line later this year. This is thanks to the financial support worth EUR 3.2 billion granted by the European Commission and the National Fund for Environmental Protection and Water Management.

LIFE+ is the EU’s unique financial instrument devoted exclusively to the environmental protection. Its focus is on the co-funding of innovative projects, which is why they should have a demonstrative or innovative character. Applications for funding, which are collected once a year, are transferred directly to Brussels for evaluation. The LIFE+ contact point in Poland is the National Fund for Environmental Protection and Water Management, which offers trainings and consultations, as well as provides assistance in preparing applications.

The Institute of Mechanized Construction and Rock Mining has already benefited from funding under LIFE+. It is a project involving construction of a prototype demonstration line for the production of lightweight aggregates from plastics. Developed by IMBiGS’s engineers, a thermal technology of converting sewage sludge into artificial lightweight aggregates is an innovative solution on a world scale, as the final product is 100% made from recycled waste. Lightweight aggregates can be used in the building industry, namely in concrete constructions, in agriculture as a bedding for crops, in the environmental sector, i.e. for water conditioning and sewage treatment, as well as an insulating and drainage material, and to make “green” roofs. ::



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