Mirosław WIATKOWSKI, Czesława ROSIK-DULEWSKA

PRESENT STATUS AND THE POSSIBILITIES OF HYDROPOWER INDUSTRY DEVELOPMENT IN THE OPOLE VOIVODESHIP

Key words: hydropower plants, Opole voivodeship, renewable energy sources, river, sustainable development

Summary

The directive of the European Parliament and the Council of Europe from 23rd April 2009 on promoting the use of renewable energy sources (RES) determines the way by which Poland should reach the 15% share of that energy in the whole energy produced in 2020. Analysis of present power of RES technologies in Poland shows that the hydropower constitutes the largest part of combined power. The paper presents analysis of the present state of hydropower plants and their potential development in the Opole voivodeship. The authors characterised small hydropower plants (SHP), described their location, power and type, showed the potential of hydropower in the voivodeship, present division of hydropower energy and the importance of small hydropower plants for the environment and local economy. Main attention was paid to the difficulties in hydropower development in the Opole voivodeship.

In the Opole voivodeship there are 43 hydropower, mostly through-flow plants producing about 29 MW (about 135 GWh·year⁻¹), including 12 plants producing above 1 MW and 31 plants below 1 MW of power. The most effective utilization of energetic potential appears to be in the Nysa county on the Nysa Kłodzka River. Twelve hydropower plants are planned to be build, among others: on the Odra, Nysa Kłodzka and Osobłoga rivers, which would increase electric energy production by about 4.4 MW (about 20 GWh·year⁻¹). The paper shows some possibilities of building hydropower plants in the Opole voivodeship on some water courses. However, proper estimation of electric power would need hydrological measurements and appropriate engineering calculations. In author’s opinion the main factors affecting hydropower industry are: long administration procedures of collecting building and water-law permissions, costs of starting up the hydropower plant and a lack of legal regulations.