Andrii VORFOLOMEIW*

The Implementation of Resource Efficient and Cleaner Production in Ukrainian Enterprises: Conditions, Achievements and Barriers

Ukraine inherited resource intensive industry structured in large companies. With rising prices of the main resources such as energy and some materials, these companies have not been able to maintain their competitiveness. During the period 1991-2017, the share of industry in the structure of the national GDP has decreased from 46% to 21%.

The role of increasing resource efficiency as the key task in the green transformation of the Ukrainian economy is supported by national authorities and international institutions. In 2013, the Resource Efficient and Cleaner Production (RECP) Centre was launched in the framework of the UNIDO project. Together with awareness raising and training experts, the RECP conducted assessments for 113 companies from different fields that showed a significant potential for improvement. Thus, considering 13 companies from the construction materials sector alone in 2015-2017, more than 100 options were proposed with an annual saving of about 34 000 MWh of energy, 82 000 t of water, 11 000 t of materials,12 000 t CO_2-eq. of emissions, and 5 000t of wastes. Following monitoring it was noted that the companies had only implemented some of these options.

The main barriers that exist to the successful implementation of RECP at company level include low awareness of the benefits of the RECP approach, limited access to financial resources, inadequate human capacities, and the absence of incentives from the state.

Key words: resource efficiency, industry, cleaner production

Ruben ASATRYAN**

Optical-electronic systems for environmental protection

Knowledge of the setting up and principles of operation of optical-electronic devices and systems intended for experimental researches of physical-ecological parameters of the environment, including the atmosphere and thermal radiation objects, is very important in the process of educating students and graduate students in the areas of environmental protection.

The creation of optoelectronic devices and systems with the best metrological parameters that enable the operational analysis of basic physical and environmental parameters, distant monitoring of the atmosphere and infrared environmental monitoring of the air over vast areas of forest (for the early detection of fires) and natural gas pipelines is a very important task. The major components of air pollution are gaseous compounds of carbon, nitrogen and sulphur, as well as solid and liquid aerosol formation, which are of particular concern for the normal function of humans and other biological subjects.

The present work is devoted to presenting the results of research and development work on the development and manufacturing of optical-electronic instruments for environmental purposes

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