



Editorial



Eco-innovations and SME's Sustainability

Prof. dr. habil. Jurgis Staniškis

Editor-in-Chief

Kaunas University of Technology, Institute of Environmental Engineering

Innovation is one of the main driving forces for the economic growth. Modern or optimized technologies, more efficient equipment, improved products and services contribute to reduction in the environmental impact and improvement of the quality of life. Development and implementation of eco-innovations increase competitiveness, profitability and environmental performance of enterprises. However, existing innovation potential in the European Union countries is not sufficiently utilised. There are many obstacles to overcome in intensification of the eco-innovation process.

Research and development activities in the European Union countries serve as a solid background for eco-innovation, but application of innovations is still scarce, particularly in small and medium sized enterprises (SMEs). Moreover, enterprises are often unprepared for rapidly changing market conditions and new environmental requirements due to a reactive approach used in their activities. While enterprises are responsible for their actions, they can not be left alone in coping with these challenges.

A number of the EU environmental directives and regulations (e.g. IPPC Directive, REACH) having a direct impact on SMEs have been introduced, but many enterprises have problems in their practical application. Therefore, there is a need for a thorough analysis of the SME needs and challenges they are facing to ensure enforcement of the directives. One of the obvious reasons why many SMEs struggle or fail to respond to the EU directives and regulations intended to enforce eco-efficient production processes is their destitution of sufficient capacity in eco-innovation development and implementation. Application of existing technological solutions developed by other enterprises or in other countries could be a partial solution to the problem. Nevertheless, the focus should be placed on development of new technical and managerial eco-innovations. This issue will become even more pressing for SMEs when new regulations will be needed in the areas where no solutions exist today.

In this context, the following specific problems could be highlighted:

- No systematic demonstration and application of existing eco-innovations aimed at sustainable production;
- Insufficient incentives for SMEs to develop and to apply eco-innovations;
- Weak links between demand and supply of technological and organizational/ managerial innovations;
- Insufficient integration of sustainability aspects in the innovation processes.

Finally, it could be stressed that development and implementation of sustainable development innovations depend mainly on the co-operation level between business and research institutions. The best result could be achieved when knowledge of research institutions and technical skills of enterprises are merged. The most significant problem is often not financing availability for innovation implementation, but lack of a thorough analysis of the existing situation in enterprises, understanding of the problem reasons and development of innovations that correspond to the principles of sustainable development.

Taking into account that management of natural resources based on eco-innovations in times of globalisation cannot be fully addressed by one country alone and needs a coordinated transnational approach, project “Sustainable Production through Innovation in Small and Medium sized Enterprises” (SPIN) has been developed by a consortium of partners from Germany, Sweden, Estonia, Denmark, Poland and Lithuania. The project SPIN, financed by the EU INTERREG programme taps on innovations throughout the Baltic Sea Region (BSR), which lead to sustainable production in SMEs (see article “Sustainable Production Through Innovation in SMEs”). These innovations help reduce economic, environmental and social costs while maintaining or even increasing production levels. Therefore, they simultaneously create private profits and public benefits.

Incremental innovations are of great importance to compliance-based enterprises. They have to do this routinely according to the management standards in response to changing market conditions and regulations as well as technological advancement. At the same time, incremental improvements alone are not likely to lead SMEs to sustainability. Unless sustainability based visions, principles and ambitious targets are adopted, major change will not be achieved, because management systems such as the ISO 14000 series tend to focus more on incremental improvements to existing systems and products. In most enterprises, however, particularly those with compliance mentality, movement toward sustainability requires new ways of thinking and operating. Although incremental improvements are important, the managers of advanced enterprises believe that development and implementation of breakthrough innovations is the ultimate key to sustainability.

Sustainability is not a project. It is a process that goes on for years and there will be no end. It should be obvious by now that organizational change towards sustainability is generally not a neat or tidy process. In fact, the leading enterprises substantially refine or redefine their visions and thus fundamentally change their teams, strategies and action plans every year or two as new information is generated and new opportunities become evident.

Many researchers have found that the enterprises making the most rapid progress toward sustainability overcome barriers through continuous learning. The more skillfully knowledge creating mechanisms are introduced, the greater likelihood is that solutions to barriers will emerge.