

FROM THE EDITORIAL BOARD

Although it is viewed that eco-technological advancements can help decouple economic growth from environmental impacts, development and implementation of eco-innovative solutions still requires strong promotion and diffusion at European as well as national level. In 2004, the European Commission established the Environmental Technologies Action Plan – ETAP, which plays a special role in the realization of the Lisbon Strategy as it addresses the three dimensions of the strategy: growth, jobs and the environment. ETAP proposes a variety of actions to promote eco-innovation and take-up of environmental technologies. These actions are grouped in three priority lines: promote research and development, mobilize funds, help to drive demand, and improve market conditions. The first action line clearly shows that it is also the role of the scientists to make the Europe's technology developments greener. This can be achieved when researchers and industry partners collaborate to create and implement solutions which meet the needs of businesses while simultaneously safeguard the sustainable development. The area for action is vast, the European Commission, in its *Report on Environmental technology for sustainable development (COM (2002) 122 final)* takes a broad definition of environmental technologies to include all technologies the use of which is less environmentally harmful than relevant alternatives.

Chapter 34 of the *Agenda 21* of the United Nations Commission on Sustainable Development defines environmentally sound technologies as technologies which protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual wastes in a more acceptable manner than the technologies for which they were substitutes. In the context of pollution the environmentally sound technologies are processes, products and technologies that generate low or no waste, for the prevention of pollution. They also cover end of the pipe technologies for treatment of pollution after it has been generated. Environmentally sound technologies are not just individual technologies, but total systems which include know-how, procedures, goods and services, equipment as well as organizational and managerial procedures.

The concept of environmental technologies is a merger of different areas of expertise, therefore in order to have a good understanding on how to maintain the growth of European as well as national economies without causing a burden to the environment, integrated approaches in research are needed as only they allow to gain knowledge and assess the responses of the environment to the pressure of the rapidly developing economy. Climate change, water pollution and its scarcity, energy security, degradation of soils, rational use of natural resources and recovery of materials – all these challenges create

a space for eco-innovation but also demand adequate research capacities. With the primary goal to make the research capacities dispersed across the Member States to be complementary and mutually supporting especially to address the global challenges including environmental issues, the European Research Area (ERA) has been proposed as an instrument of the Lisbon Strategy. Within ERA scientists successfully started integrating their efforts and building research networks centred on specific topics to better use, exchange, value and advance the knowledge.

ENVITECH-Net – the International Scientific Thematic Network on Environmental Technologies has been created as a response to the need for working jointly on eco-innovations in a multinational community. From its beginnings, i.e. since 2005, activities of nearly 60 ENVITECH-Net Member Organisations have been focused on the key research areas that represent the leading trends in environmental technology development indicated in the *Communication from the Commission on Developing an action plan for environmental technology (COM (2003) 131 final)* which comprise: climate change, sustainable production and consumption, water and soil protection, cross-cutting enabling technologies.

All papers included in this volume present the efforts undertaken by the scientific organizations cooperating in ENVITECH-Net. They represent various scientific areas: mining sector and agriculture, air, water and soil protection, waste management. In each area essential environmental improvements are possible and needed. They should be translated into a better environmental performance of the technologies. Therefore the research into eco-innovative products and services alongside with new ways of a better application of know-how provide a unique opportunity but also a challenge for scientists to integrate the outputs of their studies into solutions which are both economically and environmentally attractive.

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