

## EDITORIAL



## Climate Change Challenges and Opportunities from the Perspective of Science

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Climate change is a reality and climate scepticism is going out of fashion! The relevance of climate change and the need to take actions are acknowledged by the dominant majority of nations and, most importantly, the young generation is aware of climate change and threats to their future. The political initiative of the European Union – the European Green Deal – is indicating a major challenge with respect to restructuring of energy systems and the way of production as well as lifestyle and consumption patterns. The EU initiatives in climate policy at the same time indicate that societies and politicians are not always ready to meet the needs of revising many aspects of everyday problems. Recent climate change challenges and the European Green Deal are directly addressing scientists, and new knowledge is required in natural sciences, social sciences and technologies. The first point could be the climate change problems from the perspective of society. It is by far not a secret that society in general accepts the fact that climate is changing; however, the motivation to accept the changes in consumption patterns, for example, reduce the use of cars, or change the behaviours, is met with reluctance. It is not surprising as the major source of information on climate change and the need to mitigate it is mass media. Climate change, mitigation, and adaptation questions are not integrated in the education system, starting from kindergartens, schools, universities, and ending up with life-long learning. In this sense, especially significant are responsibilities of universities with respect to teacher training, preparation of study and teaching materials, development of new approaches and tools, regular updating of the study content, and at the same time informing society. A very different perspective

of the climate change problem is related to management and policy. Climate change involves different actors, and active participation of social sciences is essential to develop optimal solutions that society is facing.

However, major work to reach climate neutrality and reduce the GHG emissions is to be performed by representatives of natural sciences and engineering. This is a field where “Environmental Research, Engineering and Management” can contribute by disseminating research results. To achieve climate neutrality and low carbon development aims, a major breakthrough is needed. New ideas how to produce energy in more environmentally friendly way are urgent. Another direction of activities is circular economy, which means not only processing waste, but rather creating a new production approach internally integrating material recovery and afteruse. All these tasks cover not only basic changes of the production processes, but also a new level of the process design, material selection and knowledge how the production process should be organised. Low carbon development is especially challenging for countries where fossil fuel resources are imported, and Green Deal is, in fact, a possibility to establish a new position in research, development and implementation of new technologies in order to achieve energy and, thus, political independence, which is a political task for many EU countries.

Thus, the climate change problem and low carbon development are directions of activities, requiring major input from scientists in all branches of science. “Environmental Research, Engineering and Management” can definitely contribute to solving management, basic research and technology development tasks.