

From the Guest editors

Southeast Europe in the process of implementation of new European energy and environment strategy

Under the pressure of security of energy supply and climate change European Union has started to implement a new energy-climate package of measures, reaching for obligatory targets of 20% renewable energy in gross consumption, 10% renewable fuels in transport, 20% decrease of greenhouse gases emissions and 20% increase of energy efficiency by 2020. It is only a stepping stone on the way to decarbonise the energy systems in the long run. Starting from 2018 newly build and refurbished buildings will have to be energy neutral, meaning they would have to become very efficient in order to produce its own energy from renewable resources. The plan is to fully decarbonise power generation by 2050. EU has also started to regulate CO₂ emissions per km driven for new vehicles, which will eventually force electrification of the transport. In order to keep global warming under 2 °C, developed countries will have to decrease GHG emissions by 80-90% by 2050. For Europe that will also mean significantly improving security of energy supply, regional development and increased employment in European Union in new sectors, having positive macroeconomic and socioeconomic effects which will balance the increased energy cost in the short run.

South Eastern Europe, half already in EU, plus two candidate countries, and three countries that applied to join, is participating in the process. Member and candidate countries have already prepared renewable energy national action plans, while the others will soon follow, and some have started to invest led by Greece. Buildings Directive is already implemented in Member states and Croatia, and Macedonia is gearing up. The new policy in transport is already having a spillover effect on non-Member countries. The countries of the Western Balkans will have to join the Emission Trading System as soon as they become members.

The Dubrovnik Conference on Sustainable Development of Energy, Water, and Environment Systems, its 5th session with record 400 papers and 320 participants from 55 countries, held in 2009 was dedicated to the improvement and dissemination of knowledge on methods, policies and technologies for increasing the sustainability of development, taking into account its economic, environmental and social pillars, as well as methods for assessing and measuring sustainability of development, regarding energy, transport, water and environment systems and their many combinations. Sustainability being also a perfect field for interdisciplinary and multi-cultural evaluation of complex systems, the Dubrovnik Conference has during the first decade of the 21st century become a significant venue for researchers in those areas to meet, and discuss, share, and disseminate new ideas.

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”
The Report of the U.N. Brundtland Commission,
Our Common Future, 1987

This special issue of papers presented at the Dubrovnik Conference will try to help energy and environment researchers and experts in the region to improve the insight into the problems and solution of the coming times.

Guest editors of this Special issue

Neven Duić

Professor, University of Zagreb, Croatia

Zvonimir Guzović

Professor, University of Zagreb, Croatia

Daniel R. Schneider

Professor, University of Zagreb, Croatia