

Editorial

# Energy Transition and Climate Change in Decision-Making Processes

Georgios Tsantopoulos  and Evangelia Karasmanaki \* 

Department of Forestry and Management of the Environment and Natural Resources, Democritus University of Thrace, Pantazidou 193, 68200 Orestiada, Greece; tsantopo@fmenr.duth.gr

\* Correspondence: evagkara2@fmenr.duth.gr

Humans have been using fossil fuels for centuries, and the development of fossil fuel technology reshaped society in lasting ways. From an economic perspective, countries with significant quantities of fossil fuel deposits are regarded as privileged. They have been able not only to avoid expensive fuel imports but also to develop cost-effective electricity sectors, which, in turn, brought economic development to rural areas lacking other avenues for economic development [1].

The problem, however, is that the combustion of fossil fuels in the energy, residential, and transport sectors is a major source of carbon dioxide emissions which trigger climate change, the most dangerous environmental problem that threatens the survival of all living beings on the planet [2,3]. As concerns about the environmental impact of fossil fuels are growing, the idea of producing clean, inexhaustible, and sustainable energy from alternative energy sources such as wind and sun is gaining attention around the world. Renewable energies generate comparably lower emissions, and even when estimating the emission rates of a renewable facility at all stages (construction, installation, operation, decommission), the emissions of renewables in comparison to fossil fuels are still notably lower. Moreover, the deployment of renewables can contribute to the diversification of energy supply, establish locally-produced power, help countries decrease their dependence on expensive fuel imports, create new job positions, etc.

The risk of climate change and the potential of renewable energy to mitigate emissions are reflected in the policy agenda. Over the past years, strong policies aiming at lowering the emissions of the fossil fuel-fired electricity system have been established. Indicatively, tight regulations are forcing businesses across sectors to reduce their environmental impact while many countries provide incentives to encourage investments in renewable energy sources [4].

That being said, the technology of renewable energy sources is not as developed as that of fossil fuels, with the latter having the momentum of two centuries of development. This means that it is much easier and more affordable to establish new fossil fuel projects rather than renewable ones [5]. Beside this obstacle, the deployment of renewable energy requires public support and acceptance because the public can influence actions aimed at realizing this transition. To avoid conflicts and bolster the efforts to deploy renewables, public attitudes towards climate change, energy transition, and energy must be examined [6,7].

The aim of this Special Issue is to publish research and review papers that will offer insights new into various aspects of the new energy landscape. Such insights may help policymakers reach decisions that will facilitate the shift to a low-carbon economy. The Special Issue includes papers focusing on various topics, including the effectiveness of energy policies, the technological performance of renewable systems, informatics tools and software, as well as public attitudes towards energy topics.

The Special Issue includes the following reviewed works:



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- Efthimios Zervas, Leonidas Vatikiotis, Zoe Gareiou, Stella Manika, Ruth Herrero-Martin: ‘Assessment of the Greek National Plan of Energy and Climate Change—Critical Remarks’
- Cyril Anak John, Lian See Tan, Jully Tan, Peck Loo Kiew, Azmi Mohd Shariff, and Hairul Nazirah Abdul Halim: ‘Selection of Renewable Energy in Rural Area Via Life Cycle Assessment-Analytical Hierarchy Process (LCA-AHP): A Case Study of Tatau, Sarawak’
- Ali Rafiei Sefiddashti, Reza Shirmohammadi, and Fontina Petrakopoulou: ‘Efficiency Enhancement of Gas Turbine Systems with Air Injection Driven by Natural Gas Turboexpanders’
- Hyung-Seok Jeong, Ju-Hee Kim, and Seung-Hoon Yoo: ‘South Korean Public Acceptance of the Fuel Transition from Coal to Natural Gas in Power Generation’
- John Moodie, Carlos Tapia, Linnea Löfving, Nora Sánchez Gassen, and Elin Cedergren: ‘Towards a Territorially Just Climate Transition—Assessing the Swedish EU Territorial Just Transition Plan Development Process’
- Konstantinos Ioannou and Dimitrios Myronidis: ‘Automatic Detection of Photovoltaic Farms Using Satellite Imagery and Convolutional Neural Networks’
- Christina Diakaki and Evangelos Grigoroudis: ‘Improving Energy Efficiency in Buildings Using an Interactive Mathematical Programming Approach’
- Dmitry A. Ruban, Natalia N. Yashalova, and Vladimir A. Ermolaev: ‘Is Environment a Strategic Priority of the Leading Energy Companies? Evidence from Mission Statements’
- Piotr Bugajski, Agnieszka Operacz, Dariusz Młyński, Andrzej Wałęga, and Karolina Kurek: ‘Optimizing Treatment of Cesspool Wastewater at an Activated Sludge Plant’
- Yongrok Choi, Hyoungsuk Lee, and Jahira Debbarma: ‘Are Global Companies Better in Environmental Efficiency in India? Based on Metafrontier Malmquist CO<sub>2</sub> Performance’
- Ulf Liebe and Gesche M. Dobers: ‘Measurement of Fairness Perceptions in Energy Transition Research: A Factorial Survey Approach’
- Dmitry A. Ruban, Natalia N. Yashalova, Olga A. Cherednichenko, and Natalya A. Dovgot’ko: ‘Climate Change, Agriculture, and Energy Transition: What Do the Thirty Most-Cited Articles Tell Us?’
- Veronika Andrea, Stilianos Tampakis, Paraskevi Karanikola, and Maria Georgopoulou: ‘The Citizens’ Views on Adaptation to Bioclimatic Housing Design: Case Study from Greece’
- Christiana Koliouka and Zacharoula Andreopoulou: ‘A Multicriteria Approach for Assessing the Impact of ICT on EU Sustainable Regional Policy’
- Katja Witte: ‘Social Acceptance of Carbon Capture and Storage (CCS) from Industrial Applications’
- Nazanin Nasrollahi, Amir Ghosouri, Jamal Khodakarami, and Mohammad Taleghani: ‘Heat-Mitigation Strategies to Improve Pedestrian Thermal Comfort in Urban Environments: A Review’.

Finally, we are grateful to many people for helping us complete this Special Issue successfully. It would be no exaggeration to say that nothing would have been possible without their contribution. First, we would like to thank all authors who responded to our invitation and submitted their works to our Special Issue. We would like to thank Julie Suo, our Special Issue’s Managing Editor, for her continuous support, attentiveness, and kindness. Her role in the successful completion of this Special Issue has been critical. The support and conscientiousness of the Editorial Board of *Sustainability* must also be acknowledged. We would like to thank the academic editors responsible for each submission as well as the reviewers who have generously dedicated a part of their valuable time to reviewing papers for our Special Issue. The success of the journal relies on their meticulousness and competence. Having served as Guest Editors of *Sustainability*, we are certain that *Sustainability* will continue to publish high-quality research and review

papers that provide state-of-the-art knowledge about topics related to the environment, energy, and decision-making. We would also like to express the hope that this Special Issue will make a notable contribution to energy transition and will be used by policymakers in decision-making processes.

**Conflicts of Interest:** The authors declare no conflict of interest.

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