

## **Preferences towards Energy Sustainability: Different Effects of Gender on Knowledge and Importance**

S. Managi\* and I.A.J. Imbulana Arachchi

<sup>1</sup>*Department of Urban and Environmental Engineering, Faculty of Engineering,  
Kyushu University, 744 Motoooka, Nishi-ku, Fukuoka, 819-0395, Japan  
\*managi@doc.kyushu-u.ac.jp*

A widely recognized reason for climate change was the emission of carbon dioxide (CO<sub>2</sub>). Therefore, there is an increasing interest in investigating the sustainable energy sources to mitigate CO<sub>2</sub> emissions and promote energy sustainability. We contribute to the existing literature by studying energy where peoples' knowledge of energy sustainability and concern on the importance of energy sustainability. This study aims at investigating the linkage between self-reported knowledge and concerns of energy sustainability and the by identifying role of gender with concepts of holistic associations and cause-effect logic which rely on the role of gender. To examine these linkages, we developed a hypothesis: that males are more knowledgeable about energy sustainability, while females are more concerned about its importance. This hypothesis relies on existing literatures of different disciplines, namely, such as environment, energy, neuroscience, business administration, medicine and psychology. For that purpose, this study uses both binary and ordered logistic regression models for analysis. We utilize a large-scale survey of 100,956 respondents across 37 countries, showing the contrasts in individual and both binary and ordered logistic regression models to analyze the marginal effect of gender with some other control variables. The model specifications depend on the categorical dependent variables and use two estimation models to test the robustness of the results. The results reveal that the marginal effect of males have more knowledge about energy sustainability is higher than females in terms of knowledge about energy sustainability, while the marginal effect of females is higher than males on concerns regarding the importance of energy sustainability, within-country and across countries. Furthermore, compared to low-income and middle-income countries, high-income countries show a substantial difference with regard to the above-mentioned effects of gender. Therefore, it can be concluded that when it comes to energy sustainability, males are more knowledgeable about it while females are more concerned about it. This is consistent with the evidence provided by some empirical studies which show that males are stronger in cause-effect logic and females are stronger in holistic associations. Thus, it would be beneficial if both concepts are involved in the decision-making process concerning energy sustainability and energy conservation practices. These facts highlight the need for further research to uncover how to integrate both the concepts among gender groups to make better decisions about sustainable energy.

**Keywords:** Energy sustainability, Gender difference, Knowledge, Importance, Holistic associations, Cause-effect logic

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