

Behavioural Determinants of Energy Transition Towards Renewable Energy Sources in Pakistan: Structural Equation Modelling Approach

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Abstract

There is an ongoing global transition to renewable energy (RE); but the share of RE in the energy mix can be low compared to conventional fossil fuels, even when RE sources are abundant. Countries have faced challenges in adopting renewable energy technologies. Various studies have investigated the potential obstacles to energy transition towards renewable energy in different parts of the world. Such studies, particularly with quantitative approaches, lack in developing countries. This study uses Pakistan as a case study to explore the constraints imposed by public perception and behaviour on development and adoption of RE technologies at the household level. The Theory of Planned Behaviour is used to provide a theoretical framework and is extended to measure public willingness to adopt RE technologies. We used a sample of 700 students/study participants to create a Structural Equation Model. Self-identity, intention and price appeared as significant drivers in changing perceptions towards a transition to renewable energy. The results suggested that renewable energy policy should combine monetary incentives with increased public awareness to achieve acceptance at the household level for a smooth energy transition in Pakistan.

Biography:

Dr Kafait Ullah is currently working as an Assistant Professor in Energy Economics, Policy and Governance at US-Pakistan Centre for Advanced Studies in Energy (USPCAS-E), National University of Science and Technology (NUST). He acquired his MS in Development Economics from University of Life Science, Norway and PhD in Energy Economics and Policy from University of Twente, the Netherlands. His major areas of interests include energy sector liberalization, institutional economics of public sector utilities, energy poverty, diffusion of energy innovations, integrated energy planning and economics of renewable energy resources. In NUST, Dr Kafait is involved in teaching and supervising the MS and PhD students. He has published various articles in international peer reviewed journals. He has also worked on different research projects relating to the energy sector in liaison with international organizations such as the World Bank and USAID.

References

1. Islamabad Policy Research Institute (IPRI) and the Hanns Seidel Foundation, H.I., Solutions for Energy Crisis in Pakistan. 2014. <https://ipripak.org/solutions-for-energy-crisis-in-pakistan/>.
2. M. Sarim, Pakistan's energy mix, The Express Tribune, Pakistan, 2 Jan 2019, <https://tribune.com.pk/story/1879268/6-pakistans-energy-mix/>.
3. A. Ghafoor, T. Rehman, A. Munir, M. Ahmad and M. Iqbal, Current status and overview of renewable energy potential in Pakistan for continuous energy sustainability, Renewable and Sustainable Energy Reviews, 60 (2016) pp. 1332-1342. DOI, 10.1016/J.RSER.2016.03.020
4. National Transmission and Despatch Co (NTDC) Pakistan, Power System Statistics(2017-18), 2018.
5. W. Raza, H. Saula, S. Islam, M. Ayub, M. Saleem and N. Raza, Renewable energy resources current status and barriers in their adaptation for Pakistan, J Bioprocess and Chem Eng, 3(2015), pp. 1-9.
6. MA Cacciatore, DA Scheufele, AR Binder, et al., Public attitudes toward biofuels: Effects of knowledge, political partisanship, and media use, Politics and the Life Sciences, 31(1-2) (2012), pp. 36-51.

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