Clean Techn Environ Policy
DOI 10.1007/s10098-015-0920-2

ORIGINAL PAPER

# Social acceptance of solar energy in Malaysia: users' perspective

**K. H. Solangi · R. Saidur · M. R. Luhur · M. M. Aman · A. Badarudin · S. N. Kazi · T. N. W. Lwin · N. A. Rahim · M. R. Islam**

Received: 3 July 2014 / Accepted: 9 February 2015


**Abstract** The increase in energy demand has caused considerable attention to be directed toward sustainable energy resources. The importance of electricity generation through solar energy has been intensively highlighted globally, but Malaysia has yet to exert efforts to develop this energy resource. This study explores the social acceptance and level of human interest in solar energy. In addition, this work identifies the difficulties in the consumption of solar energy and the expectations for solar energy development in Malaysia. Survey results show that 80 % of the respondents are highly interested in solar energy. However, the majority of the respondents have reported that some hindrances, such as expensive solar panels and lack of correct information about solar energy utilization, make fuel-generated electricity a preferable choice. Meanwhile, almost 80 % of the respondents believe that government incentives could best enhance solar energy usage nationwide. To implement new solar energy policies successfully in Malaysia, the government should support the establishment of solar power plants, as well as provide complete information and funding for independent research. Furthermore, more than 70 % of respondents perceive the government to be the main organization that should lead the development of this energy sector. Therefore, this research provides some useful references for policy makers to continue promoting the use of solar energy in Malaysia.

**Keywords** Solar energy · Sustainable energy · Generation · Electricity · Promotion · Policy

**Electronic supplementary material** The online version of this article (doi:10.1007/s10098-015-0920-2) contains supplementary material, which is available to authorized users.

K. H. Solangi (✉) · R. Saidur · A. Badarudin · S. N. Kazi · M. R. Islam
Department of Mechanical Engineering, Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia
e-mail: solangi@quest.edu.pk

M. R. Luhur
Quaid e Awam University of Engineering Science and Technology, Nawabshah, Sindh, Pakistan

M. M. Aman
Department of Electrical Engineering, Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia

T. N. W. Lwin
Faculty of Economics and Administration, University of Malaya, 50603 Kuala Lumpur, Malaysia

N. A. Rahim
UM Power Energy Dedicated Advanced Centre (UMPEDAC), Level 4, Wisma R&D, University of Malaya, 59990 Kuala Lumpur, Malaysia

## Introduction

Balancing supply and demand relative to energy consumption has become a global issue. Energy is essential for economic and social development, as well as for improving the quality of life of human beings. Concerns about the increase in oil prices and the depletion of fossil fuel resources have recently arisen. Consequently, renewable energy (RE) sources have gained attention as alternatives to fossil fuels (Ashnani et al. 2014; Moosavian et al. 2013; Yee et al. 2009). Most studies have emphasized the application of two renewable resources, namely, solar energy and wind (Majeed et al. 2010). Among various sustainable sources used for solar energy technologies, photovoltaic (PV) technology appears to be relatively attractive for

Published online: 17 February 2015