



Short Communication

The role of CSR in promoting companies' energy-saving actions in two Asian cities

Shiro Hori^{a,*}, Mami Shinozaki^b, Daisuke Nogata^c, Toshiyuki Fujita^d^a Research and Education Center for Carbon Resources, Kyushu University, 1-6, Kasuga-koen, Kasuga, Fukuoka-prefecture 816-8580, Japan^b Research Institute for East Asia Environments, Kyushu University, 744 Motoooka, Nishi-ku, Fukuoka, Fukuoka-prefecture 819-0395, Japan^c Faculty of Business Administration, Nagoya Keizai University, 61-1 Uchikubo, Inuyama, Aichi-prefecture 484-8504, Japan^d Department of Economic Engineering, Faculty of Economics, Kyushu University, 6-19-1 Hakozaki, Higashi-ku, Fukuoka, Fukuoka-prefecture 812-8581, Japan

H I G H L I G H T S

- In Asian cities, energy saving has become a crucial issue in sustainable development.
- CSR can serve as an important incentive to take voluntary energy saving actions.
- The survey revealed a positive relation between CSR and energy saving.
- The policies enhancing their CSR activities in society can serve as effective incentives.

A R T I C L E I N F O

Article history:

Received 27 October 2013

Received in revised form

18 January 2014

Accepted 21 January 2014

Available online 12 March 2014

Keywords:

Energy saving

CSR

Voluntary action

A B S T R A C T

In Asian developing countries, energy saving has become a crucial issue in sustainable development. However, in countries that possess weak government regulations and market mechanisms, industries are expected to save energy voluntarily. Therefore, corporate social responsibility (CSR) can serve as an important incentive to encourage companies to take voluntary actions.

In this paper, we analyze CSR recognition and energy-saving actions taken by companies located in two Asian cities. The results of a questionnaire survey revealed that a positive relation exists between CSR recognition and energy saving. In developing countries, CSR develops based on concerns expressed by local cultures and communities. This indicates that the positive relationships that exist between CSR and energy-saving actions reflect the social norms of these communities. The results suggest that policies that encourage companies to enhance their CSR activities in society can serve as effective incentives to encourage energy-saving actions.

© 2014 Published by Elsevier Ltd.

1. Introduction

Energy consumption in Asian developing countries has increased over the past few decades. In particular, energy consumption has increased rapidly in the industry sector. Controlling increases in energy consumption in the industry sector and energy-saving actions are crucial issues for Asian countries and the global economy. In developing countries, governmental energy-saving policies are not easily implemented because of limited governmental capacities and legal systems. Previous studies of developing countries revealed that voluntary and informative measures are more practical and cost-effective than command and control

measures (Lee and Yik, 2004; Eichhorst and Bongardt, 2009; Iwaro and Mwashia, 2010). Therefore, to promote energy saving in the industry sector, voluntary measures are expected to be introduced and established. However, even if this is achieved, the following questions must be asked: How will companies take action? What types of incentives will encourage companies to take action? In the absence of legal systems or economic incentives, one possible trigger for companies' voluntary action is corporate social responsibility (CSR). In this study, we consider the role of CSR in the promotion of energy saving in developing countries, and policies that provide effective incentives for companies to encourage their voluntary energy saving actions.

2. Energy saving and CSR

CSR involves actions that extend beyond mere compliance or the fulfillment of responsibilities beyond actions dictated by markets or

* Corresponding author. Tel./fax: +81 44 092 9272.

E-mail addresses: horishiro@tenor.ocn.ne.jp (S. Hori),shinozaki@rieae.kyushu-u.ac.jp (M. Shinozaki),nogata@nagoya-ku.ac.jp (D. Nogata), tfujita@econ.kyushu-u.ac.jp (T. Fujita).

laws (Kitzmueller and Shimshack, 2012). Thus, CSR can be described as companies' social responsibility to engage in voluntary actions as members of the societies to which they belong. CSR could be considered the ways that companies respond to both local and global social expectations. Thus, CSR's style varies from society to society (Post et al., 2002).

CSR has become widely popular in developed countries because of industries' profound effects on the environment, as well as other social issues. Recently, the importance of CSR has also been recognized in developing countries as well (Post et al., 2002). Additional studies have described similar situations in which companies engaged in voluntary social actions in response to their countries' cultural and social situations and needs (Duarte, 2010; Katrinli and Gunay, 2011). They showed how companies engaged in voluntary actions related to environmental issues based on these social expectations. Chapple and Moon (2007) stated that "CSR does vary considerably among Asian countries but that this variation is explained by factors in the respective national business system."

CSR in Thailand has been initiated with the aim of promoting the indigenous socio-cultural and environmental needs of Thai society. In particular, based on the idea of the "sufficiency economy" initiated by His Majesty King Bhumiphol Adulyadej, wider environmental sustainability underpins the premises of CSR (Kuasirkun, 2009). In Vietnam, the country's Business Links initiative, initiated by the government and chamber of commerce in 1999, has become a powerful influence. Thanks to their efforts, awareness of CSR has increased in all member companies. Further, both Thailand and Vietnam have similar cultural backgrounds (e.g., Buddhism) but different political systems.

In any case, the role of social responsibility in the promotion of companies' attempts to save energy has not been adequately investigated or statistically assessed in developing countries. Therefore, this paper will analyze the effects of CSR on the energy-saving behaviors of companies in developing countries. It will also consider governmental roles in the promotion of energy saving from a CSR perspective.

3. Survey focused on CSR and energy saving in developing Asian countries

We examined the behavior of companies located in Bangkok, Thailand and Ho Chi Minh City, Vietnam. Each city has a population of around several million. The two cities have achieved different levels of economic development. According to 2009 data, the GDP per capita in Bangkok was \$9616 and the GDP per capita in Ho Chi Minh City was \$2615 (National Statistical Office, 2011; Ho Chi Minh Statistical Office, 2009). Previous studies have found a positive correlation between economic development and CSR development (Welford, 2005; Baughn et al., 2007). In this study, by comparing data for these two cities, we examine the differences in how CSR influences energy-saving behaviors in different development types of cities.

3.1. Survey method

The survey was conducted with 111 manufacturers in Bangkok and 87 manufacturers in Ho Chi Minh City in 2010.¹ The survey was administered by mail and cooperation was provided by Thammasat University and Ho Chi Minh University of Technology.

The survey questionnaire inquired about the following factors: (1) companies' sales output and energy consumption and sources (electricity, gas, coal, oil); (2) equipment that utilized energy

Table 1

Question related to energy-saving activities.

Category	Energy saving activities
1	Turn off the transformer when not in use Turn off electricity equipment when not use Adjusting the temperature of the air-conditioner
2	Set the temperature of an air conditioner Controlling the excess air of boiler Reducing the temperature of compressor Changing suitable electricity tariff
3	Reducing the pressure of compressor Unusually periodic maintenance of the equipment Replacing burning oil with burning emulsion fuel
4	Decreasing heat losses in the boiler vessel Recovery the heat losses from the compressor Usually check the operation with enough capacity
5	Changing lighting system Installing atomization system for boiler Insulation the steam pipeline for boiler Installing a centralized compensating capacitor Replacing some old equipment by new technology

(lights, air-conditioners, boilers, pumps, compressors); (3) companies' actual energy-saving actions; (4) companies' environmental consciousness; (5) companies' CSR (recognition, actions, receipt of guidance, publication of reports); and (6) biomass use.

Sales volume is categorized by using the annual sales of each company.

With respect to energy-saving actions, an energy-saving service score was used to represent the implementation of energy saving² (yes=1; no=0). In addition, in Ho Chi Minh City, an energy-saving ranking score was achieved by calculating the sum of eighteen different energy-saving activities categorized on five levels (see Table 1).

CSR scores were ranked from 0 to 4 based on the accumulated total of the four scores: each score was counted as yes (we do=1) or no (we don't=0) (see the four questions listed in Table 2).

Before the questionnaire survey, we conducted interviews with personnel from several companies in order to confirm their perceptions of CSR. Based on their responses, we listed the questions about CSR and energy saving that many companies have implemented.

3.2. Energy consumption

Electricity is the major energy source for many companies (Fig. 1). Its primary use is to provide power for lighting, followed by air conditioning, compressors, pumps, and blower (Fig. 2). Coal, gas, and oil are used to supply boilers. Therefore, companies that do not use boilers consume limited amounts of coal, gas, or oil. This pattern of energy consumption is common to both two cities. Lighting and air conditioning are categorized as utilities. Compressors, pumps, and blowers are used in manufacturing processes. Initial steps in energy saving can readily be performed with utilities. However, reduction in the energy consumption of manufacturing equipment and machinery would require stronger efforts. This type of reduction should be considered an important energy-saving target.

3.3. CSR

Survey data were collected from 111 companies in Bangkok and 50 companies in Ho Chi Minh City. Out of those companies, 89% of

¹ The surveyed companies were recommended by the Ministry of Industry in Bangkok and the Energy Conservation Center at Ho Chi Minh City. This ensured that the companies selected were companies more conscious of energy savings in comparison with standard-level companies.

² In this case, energy-saving service means that companies evaluate their energy consumption that accompanies effective energy-saving actions. Here, energy service is included as an energy audit activity.

Download English Version:

<https://daneshyari.com/en/article/992890>

Download Persian Version:

<https://daneshyari.com/article/992890>

[Daneshyari.com](https://daneshyari.com)