

# The Impact of Environmental Policies That Influence Job Market

Noor Mala Othman, Adib Farhan Zaime, Lai Chee Sern, Azman Hasan, Salina Md. Said, Anies Faziehan Zakaria, Lee Ming Foong

**Abstract:** *Environmental issues such as global warming, acid rain, air pollution, and waste disposal have been debating on various platforms. Over the last few decades, the exploitation and degradation of the environment and degradation have gone up at an alarming rate. These issues are not influencing the environment, but it is also impacted the green industries (i.e. supply chain management, manufacturing operation, and production) and educational system (i.e. teaching strategies, graduates, and skills). Government plays an important role in order to ensure the impact of the environmental issue can be controlled. One of the strategies is by improving the policies. In this paper, we aimed to explore and discover the other factors regard the environmental policies that potential influences the green industries and job opportunities. A qualitative research design was conducted by using pencil and paper interviewing approach. Six experts were selected from the company, which have been applying the green concept among their organization. From the interview session, a possible factor such as skill and training practices for layman workers is found.*

**Keywords:** *Job market; Policy; Green Technology; Education, Employability*

**Revised Manuscript Received on November 15, 2019**

\* Correspondence Author

**Noor Mala Othman\***, Department of Engineering Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [crnoormala@gmail.com](mailto:crnoormala@gmail.com)

**Adib Farhan Zaime**, Department of Engineering Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [adibfarhanzaim@gmail.com](mailto:adibfarhanzaim@gmail.com)

**Lai Chee Sern**, Department of Engineering Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [lcsern@uthm.edu.my](mailto:lcsern@uthm.edu.my)

**Azman Hasan**, Department of Engineering Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [azmanh@uthm.edu.my](mailto:azmanh@uthm.edu.my)

**Salina Md. Said**, Department of Engineering Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [lina\\_4416@uthm.edu.my](mailto:lina_4416@uthm.edu.my)

**Anies Fазiehan Zakaria**, Department of Engineering Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [aniesfaziehan12@gmail.com](mailto:aniesfaziehan12@gmail.com)

**Lee Ming Foong**, Department of Professionalism Education, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, Malaysia. Email: [mlee@uthm.edu.my](mailto:mlee@uthm.edu.my)

## I. INTRODUCTION

Over the last decade, most of the economic activities and society are increasingly getting attention toward improving awareness in the sustainable development of social, economic, and environment [1]. In developing countries, have paid a very high cost on environmental pollution and climate change, which in turn will affect the social and economies activities [2] and some of them shifting to green economy model [3]. Environmental pollution and climate change are negatively affecting the sustainability of various economic activities across the world, with Malaysia being one of them [4]. The changes in climate change and the environment will bring about, for example, changing weather pattern, more extreme drought or monsoons, and rising sea levels [5]. These consequences will cause devastating impacts on social as well as an economy if effective measures and pragmatic actions are not taken to mitigate the problems.

Besides, the activities for each industry to provide goods and services such as transportation, hospitality, and it also contribute to the process of economic development. However, on the other side, industries are one of the causes of environmental pollution [1]. According to Ministry of Industry Thailand [6], they received much negative feedback from society, community, and neighbouring people about the industrial estates, which contributed to pollution. Due to that, it gives negative impacts on communities, environments, and economies[6]. Thus, the industrial sectors need to apply eco-friendly process which able to live with the community and environment sustainability [7]. The development of new industrial policy which is taking care of environmental and industrial performances have been creating. It is known as the green industry [6]. The creation of green industry has created new jobs which called as green jobs [8].

The green industries required a worker with green skills (CEDEFOP, 2012). According to Aitchison [9] discovered that the majority of employers needs their employees to have green skills in the workplace, and it also supported by Essex and Hirst [10]. That because with green skills someone will be involved in saving energy and protecting ecosystems, have the awareness to environmental, expert in procedural knowledge on energy, waste, and resource efficiency, and responsible for environmental management [9]. However, some issues arising, such as skill shortage among employees in green industries [11]. A study by Richardson [12], found to reduce the skills shortage in the green industries are required the government intervene, and meanwhile, according to Anuar, Wan Mansor, and Din

[13], the relevant training at the institutions are needed to reduce skills shortage among the graduates.

Generally, the national policy on the environment is to protect in the context of human needs, and primarily economic growth [14] There are many policies in the world which supports the environment such as in green growth, energy, green technology, water, climate change, and so on. According to Rodrik [14], the impact of the environmental policies on job market such as to prevent climate change and addition it will create green jobs [15]. A study by Essex and Hirst [10] show most of the green industries seek to the employee with the policy skills. However, Al Buloshi and Ramadan [16] discovered the government of each country has developed the policies and programmed to deal with the issues related to environmental, but many people do not aware. Additionally, in the context of Malaysia, there are not many empirical studies about to explore there any impacts of environmental policies on the job market [4].

### II. OBJECTIVE

In this study, the main objective is aimed to explore the impacts of environmental policies that influence the job market for graduate employability. The reason is still unclear if the graduates are meeting the need of green industries within Malaysia context.

### III. RESEARCH DESIGN

In this study, the qualitative research approach was conducted.

#### A. Population

The population of this study was the experts from green industries namely; 1) environmental sector, 2) manufacturing sector, 3) construction sector. This brings to a total of six participants who were interviewed for the data collection. Due to that, the researcher able to learn or understand the central phenomenon [17].

#### B. Sampling

Purposeful sampling technique was used in the selection of six experts for the semi-structured interview. One participant was selected based on the characteristics as background qualification, job position, working experience, and knowledge in the green industry sector [18]. Besides, all the industries selected in this study were participating in International Organization for Standardization (ISO) 14000 certificate. ISO 14000 is an international standard and recognition given to an institution for their efforts in protecting the environment and managing environmental issues [19]. To be noted, as green industries, there are applying green activities on their workplace such as they are adopting the 3R concept, which is reuse, reduce and recycle. Most of them recycling paper, plastic, and steel, and they also optimiser utilise usage such as electrical and water. They are also hired Environment, Health and Safety officer for monitoring gas emission, environmental noise, and to ensure the waste disposal follow by the schedule.

#### C. Research instruments

Two instruments were used to collect the data such as:

- Document analysis- it was used to identify and clarify the background of the green industries which were participating in ISO 14000.
- Protocol interview- in this study was used the semi-structured interview. Before the semi-structured interview was conducted, the protocol interview was validated. It is to identify the unclear question in terms of terminology used, clarity of question as well as the appropriateness of question.

#### D. Data collection

The data were collected through document analysis which is the certificate of ISO 14000, and in-depth interview to probe deeper into the core issue on the impacts of environmental policies on job market related to the green industries for graduate employability. The interview session was recorded and transcribed by using a recorder, pen, and paper.

### IV. FINDING AND DISCUSSION

#### ▪ Knowledgeable in environmental policies

This study showed the green industries are knowledgeable in environmental policies which they are applying the green practice at the workplace. The reason is they need to ensure the wastes from their industries are not affected on the environment and community. This is also in line with the principles of The National Policy on The Environment goals such as; (1) stewardship of environment, (2) conservation of nature's vitality and diversity, (3) continuous improvement in the quality of the environment, and (4) role of the private sector (Ministry of Sciences, Technology, and the Environment Malaysia, 2002).

*'we need to manage water wastage emission properly which it cannot to contribute on pollution'*

(Expert 1)

*'as a producer, we always ensure that our products are eco-friendly which not risk to environmental'*

(Expert 2)

Besides, there are other policies to promote sustainability such as the National Green Technology Policy, National Renewable Energy Policy and Action Plan, and the National Policy on Climate Change. These policies are advantageous from a national standpoint which to encourage sustainable development and to protect the environment from pollution and climate change [14]

*'but now we are looking toward and practice on the new policies such as green technology which to encourage sustainable development by using environmentally friendly technologies'*

(Expert 3)

*'Malaysia there are acts, rules, regulations and orders related to the environment which to protect our environment from pollution and climate change'*

(Expert 4)

Even though the environmental policies are giving the positive impact on the environment, but it effected on raises operating costs, time, and changes the way the industry works such as need to upskill

and reskill among the workers, use eco-material and technology, and develop new standard of operation related to green practice [18]. Thus, the next finding will be discussed about the impacts of environmental policies that influence on job market.

▪ **The impacts of environmental policies that influence the job market**

Based on the data that show three of five informers stated the environmental policies influence in hiring a worker.

*'absolutely yes. Because our SOP are related to green practice at workplace such as energy and water efficiency, waste reduction and recycling and so on'*  
(Expert 2)

*'yes, will be effected on cost and time for training a new worker non-environmental background to adopt green practice'*  
(Expert 4)

*'yes, it will be affected. Because any construction companies are implementing green practice on their duty thus green skills are important'*  
(Expert 5)

*'yes effected. Because the graduates must have knowledge and skills of green technology and secondly they must have the accountability about green technology'*  
(Expert 6)

Thus, this study was supported by previous studied which the environmental policies influence on job market according to green practice [1]. Even though the green industries are needed a worker with green practice, but it cannot achieve if our education cannot produce graduates with green practice. Due to that, education is an important role to reduce the skills shortages related to green practice.

## V. CONCLUSION

In conclusion, the demand for green practice among green industries is increasing every year. That because of green practice capable reducing and managing harmful waste properly, to minimise water consumption, to optimise energy usage, and to increase the efficiency of machinery which cannot contribute to pollution and climate change. The role and directions of skill training institutions should be aligned with the need of the industries. The problem is that most of the TVET institutions only emphasised knowledge, technical and soft skills. The elements of green practice are almost nonexistence in the TVET training framework. Therefore, the existing training framework needs to be revised due to the change of skill requirements. Further studies should be engaged in other sectors such as tourism, retailing, agriculture, and so on. The expected findings are useful to determine the impact of environmental policies that influence on the job market, and also this is a next step to explore the domains and elements of green skills which needed among green industries as the requirements in hiring

a new worker.

## ACKNOWLEDGMENT

This is partially supported by Graduate of Studies Centre, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor.

## REFERENCES

1. S. Beder, "The role of technology in sustainable development.," *IEEE Technology and Society Magazine*, vol. 13, pp. 14-19, 1994.
2. P. Chinowsky, Hayles, C., Schweikert, A., Strzepek, N., Strzepek, K., & Schlosser, C. A., "Climate change: comparative impact on developing and developed countries.," *The Engineering Project Organization Journal*, vol. 1, pp. 67-80., 2011.
3. P. Descy, & Tessaring, M., "Training and Learning for Competence: Second Report on Vocational Training Research in Europe," CEDEFOP, PO Box 22427, Thessaloniki, GR-55102 Greece. 2001.
4. L. C. Sern, Zaime, A. F., & Foong, L. M., "Green Skills for Green Industry: A Review of Literature.," in *In Journal of Physics: Conference Series (Vol. 1019, No. 1, p. 012030)*., 2018.
5. M. E. Mousavi, Irish, J. L., Frey, A. E., Olivera, F., & Edge, B. L., "Global warming and hurricanes: the potential impact of hurricane intensification and sea level rise on coastal flooding," *Climatic Change*., vol. 104, pp. 575-597, 2011.
6. M. o. I. Thailand, *Green Industry Manual: The Guideline for Green Industry Promotion and Development*. . Office of the Permanent Secretary for Ministry of Industry. Bangkok, Thailand, 2013.
7. A. Ragheb, El-Shimy, H., & Ragheb, G. , "Green architecture: a concept of sustainability," *Procedia-Social and Behavioral Sciences*, pp. 778-787, 2016.
8. S. Hatfield-Dodds, Turner, G., Schandl, H., & Doss, "Growing the green collar economy: Skills and labour challenges in reducing our greenhouse emissions and national environmental footprint," 2008.
9. K. Aitchison, "Adapting Green Skills to Vocational Education and Training: Questionnaire Report," 2015.
10. R. Essex, & Hirst, C., "Low Carbon Skills Requirements for The Regeneration and Built Environment Professional Services Sector in Wales," Wales 2011.
11. A. Alliance, "Green-Collar Jobs in America's Cities. United States.," 2008.
12. S. Richardson, *What Is a Skill Shortage?* National Centre for Vocational Education Research Ltd, PO Box 8288, Stational Arcade, Adelaide, SA 5000, Australia., 2007.
13. A. R. Anuar, Mansor, W. N. J. W., & Din, B. H. , "Skills mismatch in small-sized enterprises in Malaysia.," *International Journal of Economics and Financial Issues*, vol. 6, pp. 120-124, 2016.
14. D. Rodrik, "Green industrial policy. Oxford Review of Economic Policy," vol. 30, pp. 469-491, 2014.
15. S. H. Dodds, Turner, G., Schandl, H., and Doss, T., "Growing The Green Collar Economy: Skills and Labour Challenges in Reducing Our Greenhouse Emissions and National Environmental Footprint.," Canberra 2008.
16. A. S. Al Buloshi, and Ramadan E. , "Climate Change Awareness and Perception amongst the Inhabitants of Muscat Governorate, Oman," *American Journal of Climate Change*, vol. 4, pp. 330-336, 2015.
17. J. W. Creswell, *Educational Research Planning, Conducting, and Evaluation Quantitative and Qualitative Research*. USA: Pearson Education, Inc. Boston., 2012.
18. A. H. Ladd, "A Pragmatic Approach to Retaining and Presenting Expert Witnesses: Picking All-Stars and Avoiding Busts," *ABA Section of Litigation 2012 Section Annual Conference*., 2012
19. International Organization for Standardization, ISO., *Environmental Management The ISO 14000 Family of International Standards*, 2009
20. L. Bryer. *Skills Needs Analysis for the Construction Industry*., 2005