CHALLENGES OF GREENING OF INDUSTRY IN JOHOR, MALAYSIA: THE CASE OF PASIR GUDANG INDUSTRIAL PARK

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ABSTRACT

With the current 426 industries in Pasir Gudang , Johor, Malaysia, green industry is viewed as an alternative to promote sustainable pattern of resource production and consumption, which focuses on the following green characteristics: energy efficient, low-carbon and low waste, non-polluting and safe. Therefore, it is crucial to ensure products/resources are responsibly managed throughout their lifecycle. The green industry concept covers the greening of industries, under which all related industries should continuously improve their resource productivity and environmental performance. Compared to other successful industrial cities around the globe, especially Japan, industries in Pasir Gudang have been observed to pay less attention to the importance of, and compliance with, greening of industry. In response to this, overall implementation of greening of industry in Malaysia's industrial sector needs to be emphasised in a manner that is as comprehensive as possible, especially when they are related to sustainability. To look into this, administered and online surveys have been conducted on 202 industry representatives in Pasir Gudang. T-test and chi square analysis of the survey data based on three hypotheses testing revealed the following findings: (i) greening of industry was significantly associated with types of industry (H1 accepted); (ii) greening of industry was influenced by different factors (H1 accepted); and (iii) different industries had different opinions on how greening of industry would benefit them (H1 accepted). This study is hoped to help stakeholders and the local authority of Pasir Gudang identify the needs of industrial players with respect to the implementation of green industry.

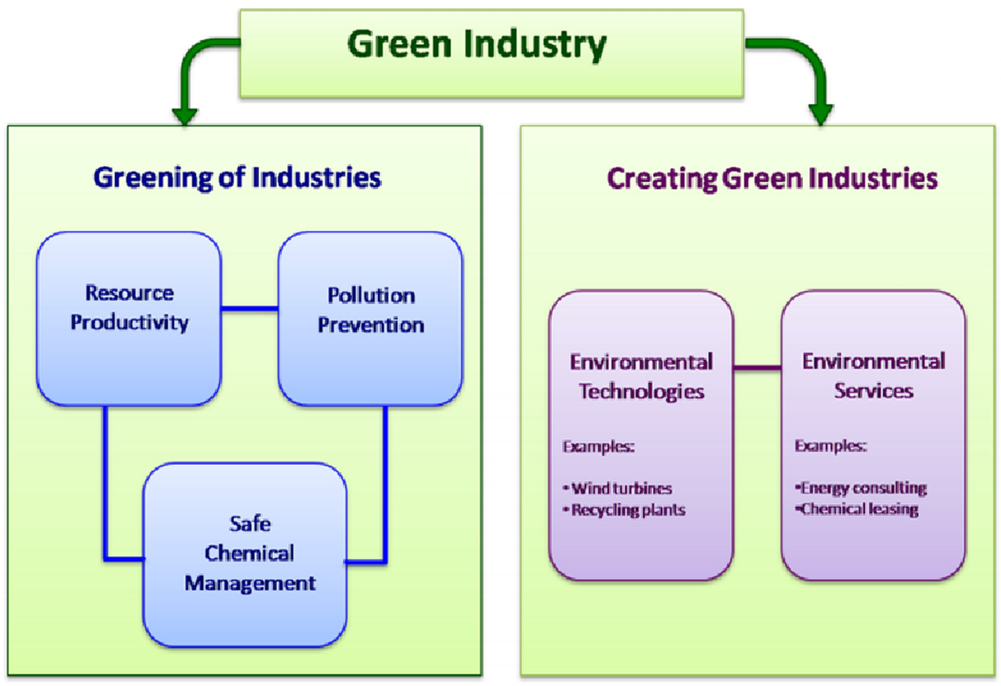
INTRODUCTION

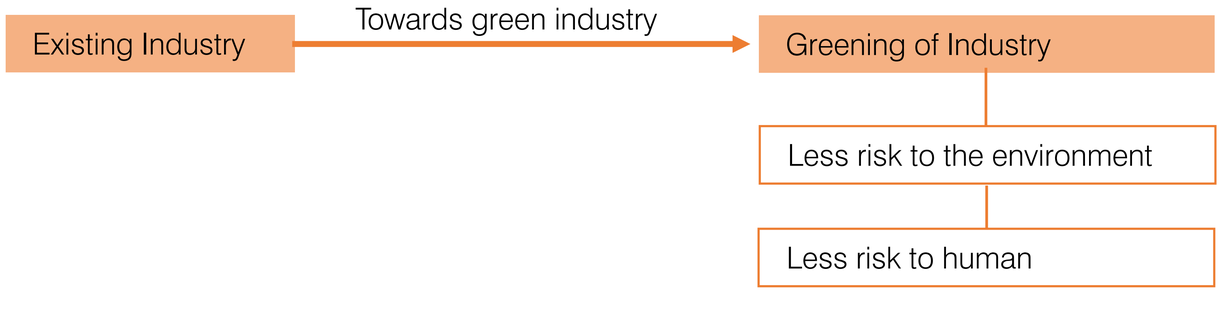
There are about 400 factories in Pasir Gudang with various kinds of manufacturing activities and mostly come under the medium to heavy industry categories. However this situation cannot be considered as the barrier for the development of Malaysia generally and Iskandar Malaysia especially. Malaysia as a developing country need to boost its own industrial sector to overcome poverty, deliver services and goods, increase employment rate, and improve standards of living.

To avoid environmental degradation and resource depletion, green industry promotes sustainability patterns of consumption and production which will focus resource and energy efficient, low-carbon, environmental friendly, and which produce products that are responsibly managed throughout their lifecycle.

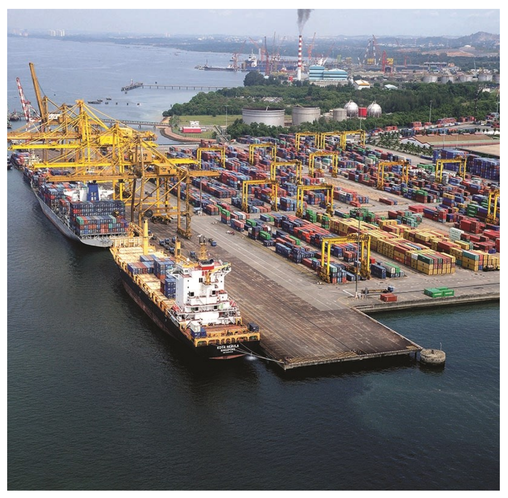
"Green Industry is industrial production and development that does not come at the expense of the health of natural systems or lead to adverse human health outcomes"(UNIDO Green Industry Initiative, 2011).

"Development and production of industrial which carried out without affecting the quality of the environment or human health". (Department of Environment Malaysia, 2012)





PROBLEM STATEMENT



- Pasir Gudang Industrial CIty is far more behind the other successful industrial city around the globe
- Many industries in Pasir Gudang still not comply with the importance of greening their industry
- The concept 'green industry' itself is still not being accepted by the industries.
- The industry sector is the Iskandar Malaysia (IM) highest emitter sector contributing to more than 30 percent of the total carbon emissions in the region in 2005

STUDY AREA AND METHODOLOGY

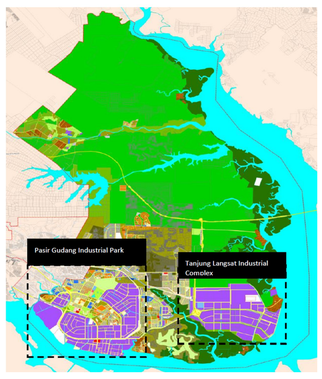
Types of sampling methods that is used in this research is stratified sampling where the categories are non-probability sampling. To determine the sample size the details are:

Confidence level : 95%

Confidence interval : 5

Population : 337

Sample size needed : 158



Type of industries	Percentage%	Numbers/total industries	Number of respondents
Chemicals	23	98	46
E&E	18	77	36
Food	15	64	30
Fabricated products	13	55	26
Logistic and services	10	43	20

RESULTS AND DISCUSSIONS

Hypothesis 1 : H1 Accepted

Implementation of greening of industry was significantly associated with types of industry

- **Chemicals:** 30% repondents answered they are already towards going green industry
- **E&E** : 12.2%
- **Food** : 21%
- **Fabricated products**: 3.1%
- **Logistic**: 1%

Hypothesis 2 : H1 Accepted

Greening of industry was influenced by different factors

Most discussed factors are:

- Technology transfer,
- Financial and increasing operational cost
- Skilled workforce and Rules and regulations

Hypothesis 3 : H1 Accepted

Different types of industry gave significant reasons on how greening of industry will benefit them

- **Chemicals:** reputation for the firm and enhance competitiveness
- **E&E** : Technology readiness
- **Food** : Responsibilty of protecting the environment and incentives
- **Fabricated products**: Incentives
- **Logistic**: Infrastructure

CONCLUSION

- This study is hoped to help stakeholders and the local authority of Pasir Gudang identify the needs of industrial players with respect to the implementation of green industry.
- The implementation of the greening of industry needs to be implemented thoroughly in the future.

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