

## Subsidies: boon or bane in promoting proper implementation of good environmental public policy

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# **Subsidies: Boon or bane in promoting proper implementation of good environmental public policy**

Loo Choo Hong, Lecturer  
School of Business and Administration  
Wawasan Open University  
Email: chloo@wou.edu.my  
Tel: 04 2180381

Deehbanjli Lakshmayya, Lecturer  
School of Business and Administration  
Wawasan Open University  
Email: deehbanjlil@wou.edu.my  
Tel: 04 2180390

Dr Tung Lai Cheng, Lecturer  
School of Business and Administration  
Wawasan Open University  
Email: lctung@wou.edu.my  
Tel: 04 2180431

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## **Abstract**

### ***Purpose***

This study is intended to stimulate reflections on effective strategies for promoting the proper implementation of good Environmental Public Policy by panel experts and laymen in Malaysia.

### ***Design/methodology/approach***

Based on the methodology of Guglyuvatty (2010) and Mariolla (2009), a study was conducted with a group of Malaysian experts from various disciplines and laymen.

### ***Findings***

Subsidies on water result in no direct incentive for the consumer to initiate environmentally beneficial practices such as saving water or harvesting rainwater. The excise duty exemption on the hybrid vehicles would not encourage motorists to change from regular petrol/diesel motored vehicles. Cooking oil recycling is not viable as the cost of cooking oil is low compared to other countries due to subsidies.

### ***Implications***

As this research looks at updating public policy with the wish-lists of Malaysians, this research could be used to guide public policy makers in developing a more effective environmental public policy.

## **Introduction**

The World Summit on Sustainable Development in Johannesburg reconfirmed that sustainable development should be a top priority for any nation's government policy. Governments spend a substantial portion of their income to subsidize resource intensive sectors such as transport, energy, water and forestry. However, many of these subsidies indirectly lead to unintended environmental effects or bring on benefits to general public (OECD, 1998, 1999; Van Beers, Van den Bergh, Moor and Oosterhuis, 2007).

Although the environmental movement can be traced back to the nineteenth century, the modern iteration of environmental concern as an issue of critical interest only effectively began about four decades ago (Snape, John & De Souza (2006). Most recently, it has appeared in the academic and scientific arenas while receiving a great deal of media exposure with regards to sustainability and renewable resources (Royne, Levy and Martinez, 2011). A random online search for Malaysian-related environmental movement recorded a discouraging number of dedicated sites promoting environmental concerned issues; among them Malaysia Environmental Sustainability Youth Movements (mesym.com) and Environmental Protection Malaysia (epsm.org.my). The question here remains - do Malaysian consumers really understand the effect of governmental subsidies on environmental issues in the country?

By interviewing fellow panel experts, this study intends to provoke individuals' reflection and review of strategies for promoting the proper implementation of good Environmental Public Policy in Malaysia as well as to encourage them to grasp the impact of government subsidies on environmental related issues.

## **Research Background**

Since Pigou's 1932 classic "The Economics of Welfare", it has been regarded that welfare in society (in which environmental policies are a subset of welfare) can be formulated using taxes and subsidies. In economic literature, studies have examined the consequences of environmental policy on investment (Arguedas and Van Soest, 2010; McGiligan *et al.*, (2010). Since the 1990s however, environmental and social responsibility has been featured in political and business agendas, where „corporate social responsibility“ (CSR) is included in most corporate catchphrases. Countries such as the US and the People's Republic of China (PRC) which have always been known for their recalcitrance regarding green and environmental issues have recently begun to lobby for strong federal action to reduce carbon emission. (The Economist, (2007).

A research study conducted by Revell, Stokes and Chen (2010) have found that small organisations tend to be ignorant of their firms' environmental impact and are difficult to reach, mobilise or engage in any improvements to do with the environment. Part of the reasons for such phenomenon are caused by lack of understanding of the business benefits of environmental reform and environmental standards typically the target for

large organisations rather than small organisations. Revell's (2007) interviews with 40 SMEs in the UK's construction and restaurant industries found that respondents did not perceive the paybacks from eco-efficiency measures to be worth the investment in time and resources. Hillary (2000) on the same account has reported that small firm organisations tend to be:

- Ignorant of the environmental impact of their enterprise
- Lacking the tools and resources to tackle environmental problems
- Sceptical about the business benefits of sustainability and
- Resistant to take voluntary action due to the perceived cost.

Toshimitsu (2010) applied an environmentally differentiated *duopoly model* to the analysis of environmental policy involving consumer subsidies based on the emission levels of the products consumers purchase. More specifically, the researcher relates the environmental and welfare effects of subsidizing consumers who purchase environmentally friendly goods in the case of a partially covered market with a Cournot duopoly. Cournot duopoly is an economic model used to describe an industry structure in which businesses compete on the amount of output they will produce, which they decide on independently of each other and at the same time. Paradoxically, the findings show that subsidy policy can lead to environmental degradation, and that the optimal policy depends on the degree of marginal social valuation of environmental damage. That is, if the marginal social valuation of environmental damage is larger than a certain value, a consumer-based environmental subsidy policy is not socially optimal. Gadenne *et. al* (2011) conducted a study on the influence of consumers' environmental beliefs and attitudes on energy saving behaviours. The results from their studies show that general environmental beliefs do influence norms regarding environmental actions and prices, but only norms on price are correlated with environmental attitudes; both intrinsic and extrinsic environmental drivers together with social norms and community influence are associated with environmental attitudes, but cost barriers may have a negative influence. It was also found that there was a strong association between environmental attitudes and energy saving behaviours but the latter was not in any way influenced by government policies or subsidies.

For this research, we adapted Gugyuvatty's (2010) research method which utilises the Delphi technique, a process for forecasting future events by means of a series of questionnaires combined with controlled-opinion feedback. This technique is a research technique whereby experts answer questionnaires in two or more rounds. A facilitator provides an anonymous summary of the experts' comments as well as the reasons they provided for their comments at the end of each round. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of the answers will decrease and the group will converge towards the "correct" answer. Gugyuvatty consulted a pre-selected group of experts using a set of questionnaires. Through the questionnaires, Gugyuvatty obtained personal responses to the issues posed from the experts to verify their views.

This study followed Mariolla's (2009) idea on research which suggested that in any public policy research, qualitative research provides the researcher with a holistic look at his research topic. Qualitative research based on interviews was used as a platform for the interviewees to share their own experiences. However it is a challenge for the researcher to use these responses to uncover patterns and relationships rather than uncover merely isolated stories. To verify the information provided by the interviewees, the researcher used triangulation, or the utilization of multiple viewpoints to provide a more accurate or complete picture of a phenomenon.

## **Methodology**

This study is inspired by the works of Mariolla (2009) and Gugyuvatty (2010). Experts from various fields were consulted on current issues pertaining to environmental public policy in Malaysia. An interview guideline was prepared and sent to the experts before the interview session. Each interview session took about 90 minutes and was conducted either face-to-face, through the telephone or via Skype, as preferred by the respondent. A total of ten (10) experts were chosen from a few professions i.e. town planners, public policy practitioners, journalists, accountants and scientists. The experts' feedback to the planned questions and additional information were noted. Remarks by previous experts were presented to the current expert being interviewed and their comments were taken down. Similar to Mariolla (2009)'s study, qualitative research based on interviews was used as a platform for the interviewees to share their own experiences. By using the Delphi method, the responses are systematically summarised to provide a more accurate or complete picture of the topic to be researched.

The questions that were posed to the experts were as follows:

1. The Penang Chief Minister mentioned that Penang citizens use too much water and to curb this wastefulness, a Water Conservation Surcharge of RM0.24 for consumption above 35,000 litres per month will be introduced. Currently the water authorities subsidise 20 sen per 1000 litres sold to the household. Do you agree with the move? Why or why not?
2. In the 2010 and 2011 Budget proposals, the government gives incentives in the form of lower duties for those who purchase hybrid cars. Discuss the success of this move when this policy is carried out simultaneously with the petrol subsidy.
3. In Australia, the government gives incentives to encourage cooking oil recycling. With the current subsidy of cooking oil from palm oil sources, consider the proposal of encouraging the recycling of cooking oil on a national scale.
4. The low cost of recyclable items such as glass and the lack of recyclers have resulted in item such as glass being disposed at landfills or into the drains. What do you think of this?
5. Currently the Federal Government invests in transportation providers such as RapidKL and Rapid Penang to provide modern transportation service to the public. As the Government is subsidizing the cost of public transport, is it time

- that the government disallow any tax deductions to businesses when dealing with transportation allowances by employees who are not using public transport as in the practice in the United Kingdom?
6. Currently the financing of trees grown by local governments comes from the assessment collected from the public. In Hangzhou, citizens agree to pass a special fee to protect the parks in the city. Do you agree if a special tree growing fee is charged to encourage the growing of more trees in public parks? Why or why not?

The experts were chosen from Malaysians who in various disciplines throughout the country. The profiles of the Experts are as follows:

- Editor with a Government-linked financial publication
- CEO to a telecommunications incubator
- Senior Researcher in the plantation industry
- Manager in the Information Technology sector
- Town planner
- Banker
- Management Accountant
- Real Estate Practitioner
- Public Policy Officer dealing with matters pertaining to tourism
- Public Policy Manager dealing with matters pertaining to conservation

## **Findings and Discussion**

The researchers discovered the following:

### ***Water policy***

All the respondents think that any attempt to increase the price of water would result in the reduction of the usage of water. However the respondents don't feel that this problem can be rectified as water prices charged to domestic customers in the country are subsidized. In the current practice in Penang, the industrial consumer pays a tariff which is higher than the domestic tariff. The domestic tariff is 20 sen below the cost of production.

One expert mentioned that any attempt to increase the price of water will not hit the consumer much as the current minimum tariff of RM5 per customer is too low. Water bills do not form a significant portion of the household's expenditure. Likewise, any increase to the electricity tariff is insignificant as electricity represents a significant portion of household expenditure.

One expert agreed that the practice of cross subsidizing the domestic consumer can continue but the water authorities must provide for maintenance before giving out the subsidy. Another expert suggested that the water authorities introduce two sets of piping

into the customer” s premises. One set of piping would be for Grade A drinking water while the poorer quality set will be used for washing and toilet use.

Another expert mentioned that households may not be interested in installing water caption units and there are no tax incentives for house owners to install the units (like solar units and the feed-in-tariff incentive) and underlined that the price of water in Malaysia is very low. We can conclude here that the subsidized pricing of water results in no incentive for the consumer to embark on environmentally beneficial practices of saving water or to embark in water catchment projects to harvest rainwater.

One respondent mentioned that their company installed a water catchment unit as part of the CSR project. The company does not hope to get any tax benefits or even any saving in water costs.

Expert	Water Conservation Surcharge
1	Any taxes or contribution of funds on water bills may not be effective as the quantum to the user is very little.
2	The water tariff is a reasonable move.
3	No comment
4	No comment
5	Penang water policy is still in roundtable stage and has not been approved by the state. Water Demand management will be done through a roundtable with FMM, Consultants (South Queensland), PBA, PDC. Manufacturers are consulted as they are big users of wat
6	Yes
7	Agree. It is the training the habit that will stop water wastage. The quantum will not matter as water is cheap
8	Raise the water tariff till it hurts then people will stop wasting. This tariff may not work in kampungs as water comes from a communal tap.Come up with 2 tier supply of water. Charge grade A water which drinkable higher and 2nd tier water cheaper. In Ind
9	In order to curb this wastefulness, a water tariff will be imposed. Agree!
10	Yes. Penang people use too much water and water has to be imported from Kedah. Tariffs add as a deterrent to deter people from using water willingly.Penang water is the cheapest in the federation – with only 20% from local sources. Cross subsidies of wate

Table 1: Responses from the experts pertaining to Water Conservation Surcharge

### ***Hybrid and other environmentally sustainable forms of transportation***

Almost all the experts agree the current excise duty exemption on the hybrid and electrical motorcar will not encourage motorists to change from regular petrol/diesel motored vehicles to hybrid and electrical vehicles. The current tax subsidy on petrol and diesel render it uneconomical to change to hybrid and electrical vehicles. In addition, the lack of infrastructure for the sustenance of the hybrid or electrical vehicles makes it unpopular. The experts suggest that the government address the issues of enough mechanics and spare parts to sustain the vehicles. To make it worst, there are no charging stations in Malaysia for electrical car owners to charge their cars. In Hong Kong, the

government provides a car charging station at an interval distance of every 4km within the city.

Hybrid cars and electrical cars are popular in countries where the cost of petrol is high such as Singapore (US\$7.61 per gallon – 2011) and the United Kingdom (US\$8.54 per gallon – 2011). (Malaysia = US\$ 2.42 per gallon - 2011) (Kshitij Consultancy Services (2011). The relatively low price of fuel (caused by fuel subsidies) in the opinion of the experts makes it uneconomical for vehicle owners to switch to a more environmentally sustainable alternative.

Experts	Incentives on Hybrid cars
1	The adoption of the hybrid car may not be successful. Lower prices are just a small consideration. Lack of infrastructure like power Dockers for charging electric cars must be considered like in Hong Kong was slow docking bays slowly come out every 2 km.
2	The hybrid initiative may not be successful. The take up is very few. Issues concerning spare parts and supporting repairers are issues more important there merely the price of the car. The hybrid might only be successful for countries where the price fue
3	No comment
4	No comment
5	Hybrid cars may not work with cheap petrol and no proper service centres.
6	Yes. I will buy those cars. Incentives – not possible cost too high. Let existing companies with technology do those cars.
7	More incentives to make cars cheaper needed. His personal cars run on NGV. However the infrastructure to buy NGV is not there. Government should pay cash incentives for the public to install NGV units. Currently NGV is only sold at Petronas.
8	Hybrids are OK but difficult for electric cars. Give grants to encourage R&D. Electrical Volkswagen can go 180km before recharge. Hybrids not so popular as the affordable range of cars in RM50/60K. Hybrids are still expensive.
9	The hybrid is still too expensive and is looking forward to the Proton Hybrid.
10	NO NO NO. I hate driving!

Table 2: Responses from the experts pertaining to Tax incentives on hybrid and electric cars

### *Cooking oil subsidy*



Almost all respondents agree that cooking oil recycling is not economically viable in this country as the cost of cooking oil is low. One expert mentioned that in the PRC, the relatively high cost of cooking oil encouraged the public to collect and recycle used cooking oil. We are not suggesting that cooking oil recycling in Malaysia will be for the unsanitary practice of reusing cooking oil but for the reprocessing of cooking oil for the making of soaps and cosmetics. One expert mentioned the relatively cheap price of vegetable oil in this country makes it not economically viable to collect used cooking oil for the making of soaps and cosmetics. In addition, there is no public mechanism to dispose of cooking oil. Any initiatives to recycle cooking oil would be a private initiative. McDonald's™ Malaysia collect used cooking oil from their restaurants to be used for the making of soaps as part of their CSR initiative.

Expert	Cooking oil recycling
1	Cooking oil recycling may not work unless there is a mechanism to capture the oils.
2	Maybe a tricky move. There must be a method for recapturing the oil.
3	Cooking oil could be recycled but how is it economical? Collection is an issue. Palm oil is the most highly taxed commodity with corporate tax, CESS fund (Tax for CPO), cooking oil subsidy and a state tax for Sabah.
4	No comment
5	There is a pilot study to collect hawker cooking oil and turning into new cooking oil. However this may not be effective as cooking oil is cheap. There are studies to turn fruit enzymes into green soap.
6	No infrastructure – [unless there is a] mechanism
7	No comment
8	May not work for cooking oil. In China people recycle cooking oil as cooking oil as fresh oil is too expensive.
9	Cooking oil recycling is done as a trial project by the Eco sector of one body.
10	No comment

Table 3: Responses from the experts pertaining to cooking oil recycling

### ***Glass recycling***

Glass recycling relates to the need for local authorities to provide garbage disposal facilities that requires the users to separate the garbage into three categories i.e. glass, paper and metal. One expert pointed out although the local authorities in Penang provide selected property owner three bins to separate their garbage, all the glass that has been collected are thrown into the landfill in Pulau Burung as there are no glass recyclers near to Penang. The nearest facility to recycle glass is in Klang Valley or Johor. The relatively cheap price of glass compared to the cost of haulage and processing has made the recycling of glass not economically viable.

Expert	Glass recycling
1	There is no separation of the garbage. Respondents stress on education. No fiscal measure can help this. Separation of garbage are more effective in affluent neighbours such TTDI, Petaling jaya and Bandar Utama.
2	It is reasonable to assume the public is clever enough to divide their garbage into the 3 categories [glass, paper, metal]. Currently the public actually divides their garbage into dry or wet garbage with the wet having necessity to be disposed quickly.
3	No comment
4	No comment
5	Recycling glass is not cost effective as glass is cheap and the only facility to recycle glass is in Johor. So the glass is easier to be dumped at the landfill.
6	Pounded garbage is not recyclable
7	Some level of education is needed to implement [glass recycling] But the cleaners still mix the garbage up.
8	There is glass recycling facilities for the Klang Valley.
9	[Glass recycling] may work in urban areas only.
10	In 1995 there was trial run separate garbage. It was stopped. There must be follow up of policies – don" t come introduce and suddenly pull. Law must go through a work structure.

Table 4: Responses from the experts pertaining to glass recycling

***Allowing only the cost of public transport on employee travel as a tax deductible expense***

This initiative by the British tax authorities met with scepticism by all of our experts except one. It would be practical to encourage the usage of public transport by employees through a tax deduction only if the public transportation in this country is reliable. The lack of integration between the various forms of transport makes it totally inconvenient for commuters to use public transportation. In addition, the subsidy on fuel makes it relatively inexpensive to drive rather than waste time waiting for and experiencing the inconveniences of public transport.

The single expert that agreed public transport expense works as a form of incentive to encourage the usage of public transport mentioned that there is a lot "nay-saying" by Malaysians about the state of public transport in the country. The naysayers do not want to try any form of public transport thus passing judgement without merit. The expert mentioned a Malay proverb "*tak tahu maka tak cinta*" (Can" t love what you don" t know). The sceptics should actually try to use public transport for a week or two before passing judgement that any initiatives to encourage the usage of public transport would fail.

Expert	Employee Travel
1	Deductibility of employee travel and non deductibility of non public transport travel will not work unless in Malaysia there is a proper integrated system of transportation exists. At the current level this is unenforceable.
2	Not workable. There must be a need to tackle the public infrastructure. However this incentive could be given to groups of companies in an area who collectively try to pool resources to transport their employees. Any incentives to individual companies may
3	No comment
4	No comment
5	May not be effective as the car prices are cheap via easy payment and highly subsidised petrol. Public transport is bad. There is a need for a comprehensive public transport system. Road planning is done by developers not the town planners per say.
6	No- need to give employee direct
7	Before this can happen, there is a need for proper (efficient) public transport is needed.
8	People need to start somewhere to begin to appreciate public transport.
9	This will not work as public transport is not efficient. Car is a necessity. There is no integrated transport in Malaysia.
10	Tax initiatives will not work as there no good public transport system in Malaysia.

Table 5: Responses from the experts pertaining to employee travel

### ***Tree growing fees***

All the experts disagree that special tree growing fees can be charged by park owners to encourage tree growing at public parks. The experts all agree that public parks are public property and the management of the parks must be financed or subsidised with the assessment fee collected by local governments. They were not aware that few parks in Selangor charge a minimum entrance fee of RM1 to the visitors to those parks. One expert mentioned that public parks are normally patronised by the lower income and a tree growing fee will be a deterrent for the public to visit a park.

Expert	Tree Growing Fee
1	Paying for park entry will not work at all. There are complaints from house buyers that developers build on areas designated for fields and parks. Enforcement should be there instead.
2	Very bad idea. Accounting is required.
3	No comment
4	No comment
5	Actually it is already there. The developer pays a “landscape requirement” before they start a project and it is a one time deal.
6	Yes. Long term benefit
7	Good idea however it should be nominal to place the level of awareness for people to save guard the environment.
8	Park services are provided by local governments from the assessment.Charge money for special events in the park.
9	1. In Selangor, the parks charge a nominal RM1 to enter the park.
10	This is a bad idea. It is the lower income public that go to parks. Public spaces are for everyone. Instead encourage private initiatives to grow trees.

Table 6: Responses from the experts pertaining to tree growing fees

## Conclusion

In this paper, we empirically analyzed the experts’ opinion subsidies in direct relation to environmental concerns with a focus only on electricity and water consumption, recycling waste, public transportation, motor vehicles, cooking oil and public parks.

This study simulates Revell’s (2007) analysis which conclude that paybacks from eco-efficiency measures by industry are NOT worth the investment in time and resources while incorporating Gugyuvatty’s (2011) methods, at the same time keeping in mind Toshimitsu’s findings. This study concurs with the findings of Toshimitsu (2010) that subsidy policy can lead to environmental degradation. Mariolla’s idea was used to guide the holistic approach of this kind of qualitative study.

Based on the findings of this study, it was found that in Malaysia there are currently moves and initiative in favour of Environmental Public Policy. These however, seem to thwarted by too many misdirected subsidies which seem to negate the initial good intentions of any and all current and future efforts of using fiscal means to enforce good environmental practices.

Hence, in all confidence, the answer to the research question put forth in the title of this paper is that subsidies, based on this study are a bane in promoting proper implementation of good environmental public policy.

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