

Research on Consumer Product Carbon Label Press Release

About 60% of respondents have insufficient knowledge about product carbon footprint

5th June 2018

Lowering Carbon Emission to Mitigate Climate Change

Hong Kong has recorded the highest number of “very hot days” in this May. Lowering carbon emission to mitigate climate change appears to be extremely urgent. Worldwide, countries have set targets to lower greenhouse gas emission and carbon emission. Hong Kong has also committed to reduce its carbon intensity by 50% by 2020, using 2005 as the base. However, the policies and promotions regarding carbon reduction in Hong Kong are falling behind the America, some European and Asian countries. Consumers’ awareness and perceptions of product life cycle and product carbon footprint are lagging behind the British, Korean, Japanese and Taiwanese. It is important to examine the extent of understanding of carbon reduction from consumers in Hong Kong and how much they are willing to commit to low carbon emission consumptions.

Hang Seng Management College has received a research grant in 2016 to carry out a project titled “Consumer carbon label: Development of supply chain product carbon footprint and consumer carbon index for beverage merchandise”. One of the research activities is to launch a large-scale consumer survey with Green Council to explore consumer perceptions of product carbon footprint and carbon label. The questionnaire consists of 79 questions and altogether 1,000 respondents have responded to the survey. The study aims to explore consumers’ awareness, readiness and behavioral intention towards carbon reduction. The level of social influence was also measured. A Consumer Carbon Index (CCI) was compiled based on the above dimensions. Results show that about 60% of respondents have insufficient knowledge about product carbon emission. The majority of respondents believe that their responsibilities towards climate change are lower than manufacturers and the Government. About 80% of respondents were willing to pay an additional 5% or more for patronizing beverages with carbon labels and about 85% of respondents were willing to pay an additional 5% or more for patronizing beverages with lower carbon emission. Fewer respondents were willing to pay an additional 10% or more for these green products.



Figure 1 Product life cycle

Research Key Findings: Consumers are supportive towards carbon reduction measures but the awareness is rather low

1. Knowledge and Awareness

About 60% of respondents have low awareness of product life cycle assessment and product carbon footprint. Their knowledge on product carbon emissions is even more limited. It implies that consumers may be less likely to commit to low carbon emission consumptions and environmental friendly lifestyles.

2. Responsibility for Climate Change

Most respondents believe that manufacturers and the Government have the greatest responsibilities for climate change, while consumers and retailers comparatively have lower responsibilities. This echoes with results regarding carbon emissions at various stages in the product life cycle. Most respondents believe that post consumption disposal contributes the most to carbon emission, followed by manufacturing, delivery and packaging, while they thought retail and consumption stages have the lowest carbon emissions. Nevertheless, our carbon mapping exercise shows that retail and packaging are in fact the two stages with the highest carbon emission.

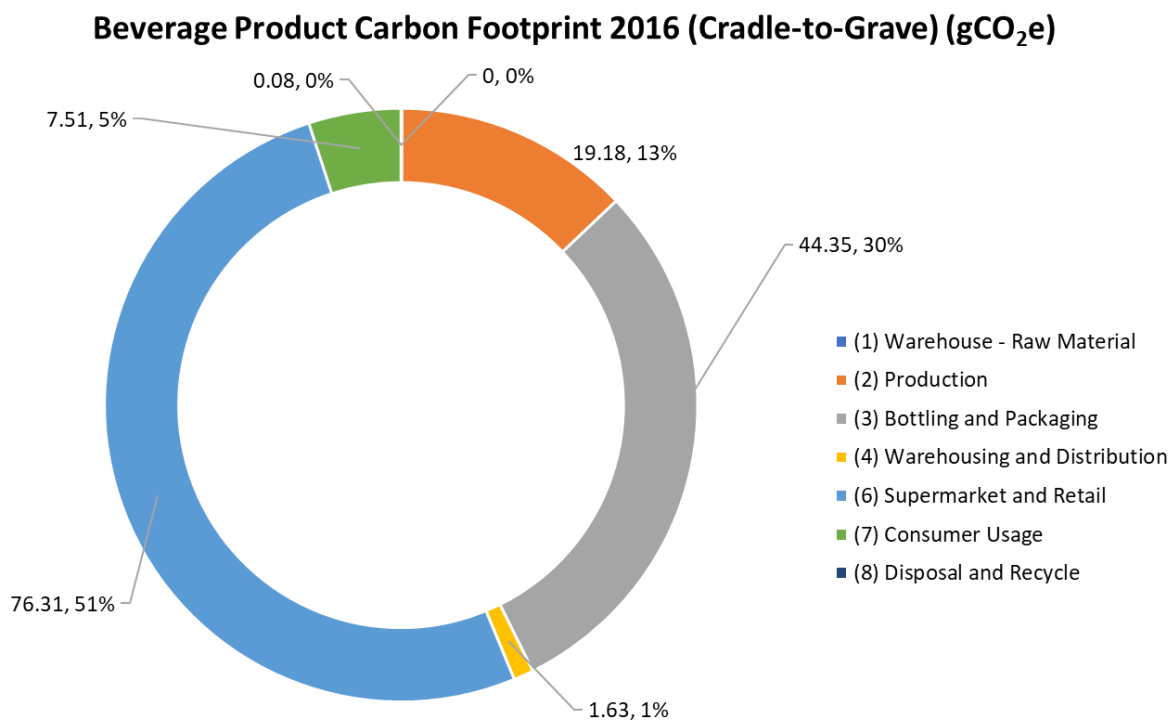


Figure 2 Results of the carbon mapping exercise

3. Product Carbon Label

Results show that one out of five consumers were unwilling to pay extra money for beverages with carbon label. Half of the respondents were willing to pay an additional 5% for beverages with carbon label while about 20% respondents reported that they were willing to pay an additional 10%. Consumers' support towards this carbon reduction measure was found to significantly correlate with their education levels. Consumers with higher education level were generally more willing to pay additional amount for carbon labelled beverages. The findings again suggest the importance of promoting and educating about carbon reduction and carbon label.

Dr Eugene WONG Yin Cheung, principal investigator of the research project, "The supply chain and product life cycle of beverage merchandise have significant impact to the environment and society. Research shows that packaging and retailing are the two stages in the product life cycle that contribute the most to carbon emission. In the past decade, different suggestions regarding carbon reduction have been made by different parties. The Government should strengthen the promotion and education of carbon reduction and provide some incentive policies to the industry in order to make Hong Kong a sustainable green city."

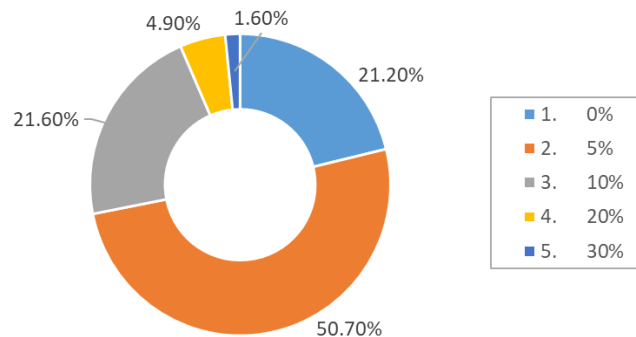


Figure 3 The additional amount that consumers are willing to pay for purchasing beverages with carbon label (%)

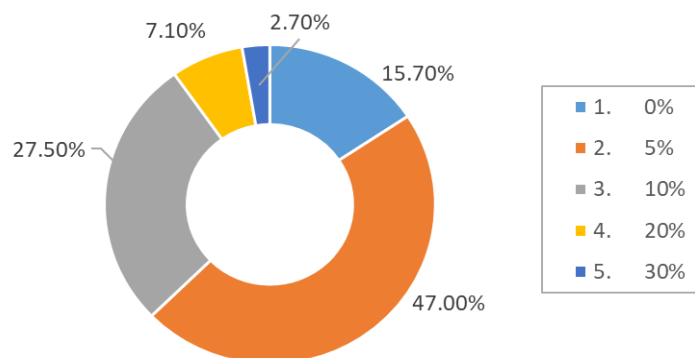


Figure 4 The additional amount that consumers are willing to pay for purchasing beverages with 50% of carbon emission (%)

4. Consumer Carbon Index (CCI)

The CCI comprises of three sub-indices include Consumer Readiness, Social Influence, and Consumer Behavioural Intention. The overall index is 57.3, with the three sub-indexes as 46.86, 52.72, and 72.32 respectively. In general, consumers show low awareness towards product life cycle and carbon footprint, and they have little knowledge about the carbon emission level of different products. However, most consumers realised the importance of eco-friendly consumptions and were also willing to pay a limited amount for environmental attributes (i.e., purchasing beverage products with carbon label or with lower carbon emission).

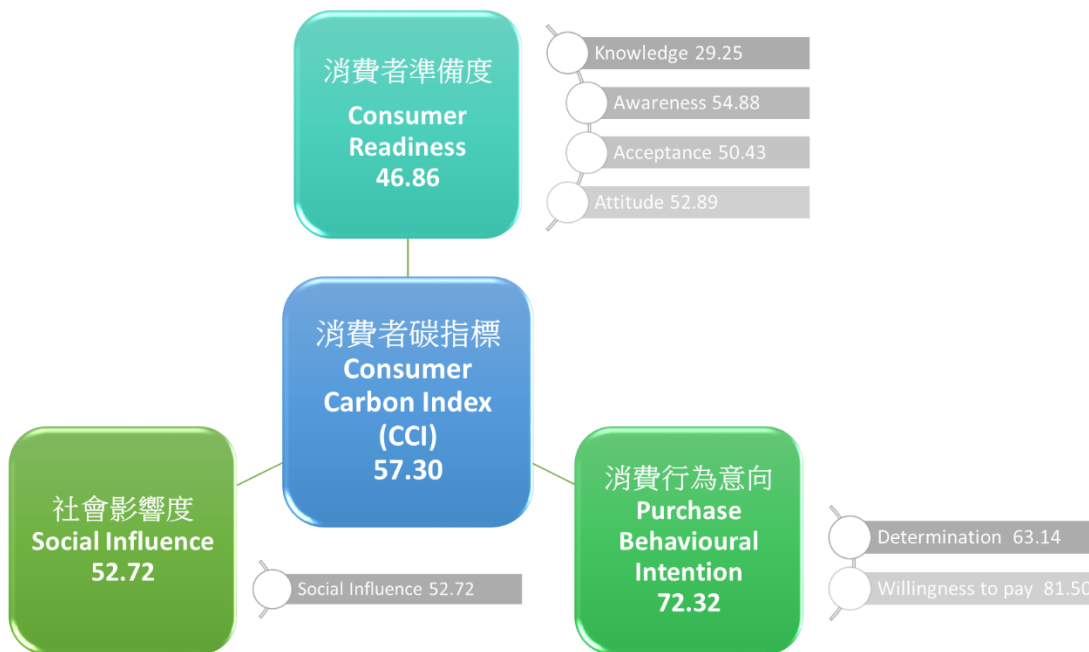


Figure 5 Consumer Carbon Index Scale

Dr. Fanny Fong Yee CHAN, co-investigator of the research project, “From the analysis of the consumer carbon index, we could clearly see that consumers are lack of product carbon knowledge, but they have shown support to product carbon reduction measures and have expressed willingness to pay additional amount for purchasing beverages with carbon label/lower carbon emission. It suggests that we may need to strengthen consumers’ understanding and knowledge about product carbon footprint and carbon label.”

Four Key Recommendations

1. Promotion, Policies and Legislation

Results show that consumers' knowledge of product carbon emissions is rather low, and their understanding about product life cycle, carbon footprint, and carbon labelling is also not very high. The Government may consider strengthening the promotion and education of carbon reduction and to introduce relevant policies and measures in the future. Priorities may be given to the regulation of carbon emissions and product carbon footprint.

2. Diversified Education and Promotion Programmes

Diversified and multifaceted programmes to promote carbon footprint, carbon labelling, and product life cycle should be introduced. They may include the following important elements: basic knowledge, social values and norms, and environmental literacy and sustainable consumptions. This could help to cultivate more environmental friendly behaviours and life styles.

3. Simple Design of Product Carbon Label

Research results indicate that consumers in Hong Kong do not like the existing carbon label designs adopted by countries such as South Korea, the United States, Japan, Taiwan and the United Kingdom. They found a simple and easy-to-understand carbon label design to be more acceptable and efficient. If product carbon label is to be implemented, it is suggested that a simple colour scheme reflecting the three levels of carbon emissions may be sufficient (e.g., using different colours to represent low, medium and high carbon emissions).

4. Expanding Beverage Container Recovery and Recycling

Our carbon mapping exercise shows that the carbon emission during the packaging stage is very high. Consumers also realised that post consumption disposal contributes highly to carbon emission. It is suggested that manufacturers should consider adopting low carbon-emission materials to package their beverages. The Government may consider speeding up the process of expanding the scope of beverage container recovery (i.e., to include other packaging materials such as plastic bottles and paper packaging, in addition to glass bottles).

Ms Linda Ho, the Chief Executive Officer of Green Council, "The carbon label is intended to examine the amount of greenhouse gas emissions generated in the product life cycle, so as to identify opportunities for emission reductions, and empower consumers to change their behaviours through the disclosed information. Even though the Hong Kong Government has encouraged local emission reduction measures, consumers' awareness of carbon footprint is still not high. At this stage, the Government should increase the promotion of carbon reduction education. With sufficient knowledge and understanding on climate change among citizens, the Green Council is ready to promote carbon label in Hong Kong."

This work was supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (UGC/FDS14/B16/16).

About Hang Seng Management College

Hang Seng Management College (HSMC) was restructured from the former Hang Seng School of Commerce and established in 2010 as a non-profit-making private university-level institution with five Schools (Business, Communication, Decision Sciences, Humanities & Social Science, and Translation), about 5,000 full-time students and 185 full-time faculty members. Adopting the unique “Liberal + Professional” education model, HSMC is residential-type which puts quality teaching and students’ all-round development as its highest priorities. Aspiring to be a leading liberal-arts-oriented private university in the region, HSMC features top-quality faculty members, award-winning green campus facilities, innovative degree programmes, impactful research on sustainability, and excellent student support services, with the aim of nurturing young talents with critical thinking, innovative minds, human caring, ethical values and social responsibilities. Official website: <https://www.hsmc.edu.hk/en/>

About Green Council

The Green Council is a non-profit organisation and certification body established in 2000, with the aim to promote and assist the Hong Kong business community to integrate the concept of environmental protection into production processes and management systems, leading to a greener Hong Kong. With the motto of “Conservation begins with Education”, the Green Council is fully committed to provide continued education and trainings on sustainable procurement, environmental management, waste management, energy conservation, etc. Meanwhile, the Green Council is dedicated to organise various green projects such as the Hong Kong Green Label Scheme, Hong Kong Green Purchasing Charter, Hong Kong Green Awards, International Coastal Cleanup Hong Kong, Hong Kong Green Day, Green Run, Green Carnival, etc. Official website: <http://www.greencouncil.org>

Bios of Speakers

Ir. Dr. Eugene Yin Cheung WONG is an Assistant Professor in the Department of Supply Chain and Information Management at School of Decision Sciences, Hang Seng Management College. Ir Dr Wong has substantial managerial and consulting experience in logistics transportation, manufacturing and engineering industry as well as teaching and research experience in the academia. He is also the Director of Virtual Reality Centre and Associate Director of BBA in Supply Chain Management programme (Air Transport). His research interests include maritime and air transport logistics, green logistics and decarbonisation, quality management and artificial intelligence.

Dr. Fanny Fong Yee CHAN is an Assistant Professor in Marketing at School of Business, Hang Seng Management College, Hong Kong. Dr Chan has been working in the education sector for several years with profound experiences in teaching, research and administration. She has broad research interests and has received several research grants from the HKSAR Government and institutions to work on projects in marketing communications, consumer psychology, culture and sustainable consumption. Her work has been published in international journals and as book chapters.

Ms Linda W. P. Ho has been the Chief Executive Officer of the non-profit organization, Green Council since 2000. Ms Ho is committed to lead the Green Council in planning, coordinating and organizing a number of projects and initiatives to enhance the environmental management of the industrial and commercial sectors and the general public. She has also established an internationally recognized “Hong Kong Green Label Scheme”. In addition, she founded the “Hong Kong Green Purchasing Charter” to promote the selection and use of environmentally friendly products and services through publishing environmental procurement guidelines, organizing workshops and sharing sessions.

Press Enquiries:

Dr Eugene Wong | Tel: +852 3963 5355 | Email: eugenewong@hsmc.edu.hk