Forum on Identification of Key Products as Pioneers of the Carbon Footprint Labelling Scheme in Malaysia

Jointly organised by:
SIRIM Environmental Technology Research Centre & Malaysian Green Building Confederation
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CARBON FOOTPRINT LABELLING BASED ON INTERNATIONAL PRACTICES & STANDARDS

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Carbon footprint labeling

- Environmental labeling can provide the product information "in terms of its overall environmental character, a specific environmental aspect, or any number of aspects" (ISO 14020:2000)
- Consumers and purchasers can choose product accordingly based on their environmental consideration. And carbon footprint labeling can disclose the information about the product's total GHG emission throughout its whole life cycle

- Carbon footprint label based on Type I environmental labelling – shall follow the requirements of ISO 14024 (Environmental labels and declarations - Type I environmental labeling)

- Carbon footprint claim -shall follow the requirements of ISO 14021 Environmental labels and declarations - Self-declared environmental claims (Type II environmental labeling)

- Carbon footprint declaration - shall follow the requirements of ISO 14025 (Environmental labels and declarations - Type III environmental declaration)
What are the benefit of Carbon Footprint?

- Decision making on supply chain
- Cost saving
- Carbon Credit
- Reduce GHG emission
- Leadership in environmental responsibility
- Meet customer demand
Application and Uses of Product Carbon Footprint

'url:Help prioritize GHG reduction efforts along the entire supply chain

'url:Compare footprints of “similar ” products delivered by different supply chains to inform consumer choice and sourcing

'url:Compare the footprint of similar products with different attributes

'url:Basis for designating products as “Carbon Neutral” through offsetting what emissions cannot be reduced

'url:Help consumers reduce their “personal” carbon footprint. e.g. % of daily allowance

'url:Help demonstrate corporate commitment to climate change mitigation
  - To customers (Product differentiation, Green marketing)
  - To (institutional) investors
  - To lawmakers (threatening to introduce harsh regulatory measures)
SWITCH-Asia Promotion of Sustainable Consumption and Production - Environmental Declaration Scheme for Construction and Building Materials -

**Development of PCF**

- The first carbon label scheme was launched by Carbon Trust of UK in 2006.
- Since then number of countries have launched their PCF’s schemes
- The following figures are the most recognized carbon labels (Type I) currently existing:

  - **UK**—Carbon Trust
  - **Japan**—Carbon Footprint
  - **Korea**—CooL (CO2 Low) Label
  - **U.S**—Carbonfund
  - **Switzerland**—Climatop
  - **Thailand**—CFP Label
  - **Canada**—CarbonCounted
  - **Australia**—Greenhouse Friendly Label
  - **Germany**—Product Carbon Footprint
Product Carbon Foot printing (PCF) Standards

• PAS 2050, UK, 2011
• World Resources Institute (WRI) - GHG Product Standard (2011)
• International Standards Organization (ISO) - ISO 14067 (Draft)
PAS 2050:11

PAS 2050:2011 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services

The Guide to PAS 2050:2011 How to carbon footprint your products, identify hotspots and reduce emissions in your supply chain
New Family of PAS 2050:11

PAS 2050-1:2012 - Supplementary requirements for the cradle-to-gate stages of greenhouse gas assessments of horticultural products

PAS 2050-2:2012 - Assessment of life cycle greenhouse gas emissions - Supplementary requirements for the application of PAS 2050:2011 to seafood and other aquatic food products
SWITCH-Asia Promotion of Sustainable Consumption and Production - Environmental Declaration Scheme for Construction and Building Materials -

Corporate Accounting and Reporting Standards (Corporate Standard)

Project Accounting Protocol and Guidelines

Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Product Life Cycle Accounting and Reporting Standard
World Resources Institute : Elements of an Entity-Level Calculation Tool

Source: WRI, Greenhouse Gas Protocol
FRENCH ENVIRONMENTAL LABELLING SCHEME

OVERVIEW

- The French government is currently in the process of implementing its legislated policy for environmental labeling of products.

- The methodology used for the environmental label is called **BP X30-323**
FRENCH ENVIRONMENTAL LABELLING SCHEME

Objectives of BP X30-323 methodology:

- Assess the environmental performance data of products to enable the comparison between products from the same category. E.g.: shoes, or shampoo

- Standardize the labeling of products in a scientific and cost-effective manner

- Make a GHG emission footprint mandatory as one of the criteria in the assessment of products
The ‘French Experiment’ allows companies to design and introduce their own labels, all of which show carbon as the key metric, with up to 2 other environmental impacts also being shown. Two such labels are shown above.
BLUE ANGEL, GERMANY

- A certification label for ‘environmentally friendly’ products in Germany
- First issued in 1978, the oldest eco-labeling scheme
- The label certifies environmental performance of product against a variety of different environmental criteria (e.g. water use)

The Blue Angel Climate Label indicates that it has lower emissions than the mainstream of comparable products (i.e. top 20%)
CLIMATOP, SWITZERLAND

- A Swiss non-profit association created in 2008
- Issues a carbon label for products and services that are judged to be the most climate friendly (i.e. ‘low carbon’) within their product group

The climatop label indicates that the product has a lower carbon footprint than other similar products
Japanese Carbon Footprint of Products (CFP)

- The Carbon Footprint of products pilot was launched in Japan in April 2009.
- Voluntary scheme to assess the carbon footprint and communicate them to consumers.
- The scheme focuses on development of PCRs to ensure consistency and comparability within product categories.
- A database of GHG emission factors was developed for use on the CFP project.
- Currently 70 approved PCRs on the Japanese scheme website.
- The label represents a kitchen scales.
- Mandatory to show the amount of CO2 on the label.

Japan Carbon Footprint
KOREA CARBON LABELING

OVERVIEW

Features

- Korea Carbon footprint labeling is a voluntary program and is operated market based program under government support.
- It only considers GHG emissions among environmental issues, this certificate is available in 3 years.
- It consists of two steps certificate;
  - Carbon Emissions Certificate and
  - Low-Carbon Product Certificate.
- Target product: encompass all products and service - excluding: agricultural, fishery, livestock products, medical products, and exported products.
KOREA CARBON LABELING

Step 1
Carbon Emissions Certificate
Be issued when the life cycle GHG emissions for a product for which a carbon footprint label request was filed have been quantified

Step 2
Low-Carbon Product Certificate
Be issued when a carbon footprint product delivers its GHG reduction target
KOREA CARBON LABELING

CERTIFICATE MARK

I. Carbon Emissions Certificate

Producers and purchasers are acting in response in climate change

Product’s carbon footprint

The mark signifier's CO2

II. Low-Carbon Product Certificate

Product concerned is a low-carbon product

Product’s carbon footprint

Means that a GHG reduction is made from the baseline
THAILAND CARBON LABELING

OVERVIEW

- **TGO (Thailand Greenhouse Gas Management Organization)** as the Designated National Authority for CDM (Clean Development Mechanism) office in Thailand

- Have actively involve in activities to promote and support GHG emissions reduction that have been developed by the TGO and collaborative organizations

- Together with **MTEC (National Metal and Materials Technology Center)**, launched the “**Carbon Footprint of Products**” project in Thailand in 2009
  - Objective; To promote the use of a carbon footprint on Thai products; which in turn could increase the competitiveness of Thai industries for meeting the global trend market and to provides GHG emission of products to consumers
THAILAND CARBON LABELING

CRITERIA OF CFP LOGO

- Each product that applies for the carbon footprint logo is charged 14,500THB as a registration, administrative cost, with an additional fee of 500THB for the application form.

- The certified product shall be eligible to use the CFP logo for 2 years.

- Both the guidelines and criteria for CFP label are available for a free download from the TGO website (www.tgo.or.th) since February 2010.
SWITCH-Asia Promotion of Sustainable Consumption and Production - Environmental Declaration Scheme for Construction and Building Materials -

THAILAND CARBON LABELING

CURRENT SITUATION (Sep. 2012)

- Product certified; 632 products/632 companies
- Product Category Rules; 91 PCR

CFP certified products;

![Images of certified products](image1)

![Images of other certified products](image2)
THAILAND CARBON LABELING

RESPONSES FROM THE MARKET

- Currently good, especially from exporting companies and companies in their supply chain (B2B)

- Very low in demand-side due to lack of understanding from most Thai consumers (B2C)
UAC ENVIRONMENTAL PRODUCT DECLARATION
( TYPE III ENVIRONMENTAL LABEL)

PROGRAM HOLDER

Institut Bauern und Umwelt e.V.

DECLARATION HOLDER

UAC BERHAD (5149-H)
(A Member of Boustead Group)

DECLARED BUILDING PRODUCT

FIBRE CEMENT BUILDING MATERIAL PRODUCTS BY UAC

Source: uac.com.my
# LCA results

<table>
<thead>
<tr>
<th>UAC Fibre Cement Products</th>
<th>Manufacturing</th>
<th>Use Phase Transportation</th>
<th>Total</th>
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<tbody>
<tr>
<td>Primary energy, non renewable [MJ]</td>
<td>9385.6</td>
<td>727.5</td>
<td>10113.1</td>
</tr>
<tr>
<td>Primary energy, renewable [MJ]</td>
<td>2668.1</td>
<td>0.69</td>
<td>2668.8</td>
</tr>
<tr>
<td>Secondary fuels [MJ]</td>
<td>70.1</td>
<td>0</td>
<td>70.1</td>
</tr>
<tr>
<td>Global Warming Potential (GWP 100) [kg CO2-equ.]</td>
<td>833.8</td>
<td>56.4</td>
<td>890.2</td>
</tr>
<tr>
<td>Acidification Potential (AP) [kg SO2-equ.]</td>
<td>3.94</td>
<td>1.43</td>
<td>5.37</td>
</tr>
<tr>
<td>Eutrophication Potential (EP) [kg PO4-equ.]</td>
<td>0.445</td>
<td>0.14</td>
<td>0.585</td>
</tr>
<tr>
<td>Ozone Depletion Potential (ODP) [kg R11-equ.]</td>
<td>8.95E-06</td>
<td>5.84E-08</td>
<td>9.01E-06</td>
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<tr>
<td>Photochemical Ozone Creation Potential (POCP) [kg C2H4-equ.]</td>
<td>0.281</td>
<td>0.08</td>
<td>0.361</td>
</tr>
</tbody>
</table>

Created by: PE INTERNATIONAL, Leinfelden-Echterdingen

Source: uac.com.my
Examples of CFP Labelling -Consumer Products-
- TESCO (UK) SUPPLY CHAIN -

PRODUCT CARBON FOOTPRINT

Source: www.tescoplce.com
LESONS FROM FOOT PRINTING PRODUCTS IN TESCO (UK) SUPPLY CHAIN

TESCO

STRATEGIC CARBON REDUCTION TARGET

Tesco is committed to leading on the issue of global climate change, and has set itself three strategic carbon reduction targets;

☐ to become a zero-carbon business by 2050

☐ to reduce the emissions of the products they sell by 30% by 2020

☐ to help their customers to reduce their carbon footprint by 50% by 2020

Source: www.tescoplce.com
LESIONS FROM FOOT PRINTING PRODUCTS IN TESCO (UK) SUPPLY CHAIN

WHAT IS TESCO DOING TO REDUCE CARBON EMISSIONS?

- Actively working to reduce carbon emissions in their stores, distribution network and supply chain
- They believe it is the right thing to do for a responsible business seeking sustainable profits

Source: www.tescoplce.com
LESSONS FROM FOOT PRINTING PRODUCTS
- TESCO (UK) SUPPLY CHAIN -

- HELPING UK CUSTOMERS TO MAKE GREENER CHOICES

Source: ERM (Paul-Antoine Bontinck, Consultant)
LESSONS FROM FOOT PRINTING PRODUCTS IN TESCO SUPPLY CHAIN

WHAT IS TESCO DOING TO REDUCE CARBON EMISSIONS?

- Have invested to make significant use of railway transport across the UK instead of lorries, saving 15 million kg of CO$_2$e each year.

- Have converted the fridges in 100 stores to work on natural refrigerants (rather than fluorocarbons) so that any leakages have a much lower impact on global warming.

Source: www.tescoplcl.com
THE SUSTAINABILITY CONSORTIUM (TSC)

- A collaboration of large organizations (retailer and product brand owners) and universities, started and initial funding by Walmart in 2009

- **Aim**: development of an environmental and social impact measurement, reduction and reporting system across the supply chain to make sustainability consistent, scientific and cost-effective

- The scheme does not use a label as Walmart believe that companies, not consumers should take responsibility for developing lower-carbon products.
Labelling in the Construction Sector of UK (as reported by Carbon Trust)
OVERVIEW OF THE CONSTRUCTION SECTOR

- Comprised mainly of SME’s
  - In UK, 95% of companies have < 8 employees

- Is a low margin sector, labour intensive, heavily regulated industry depending to:
  - Material, labour
  - Transport
  - Waste & regulatory compliance costs
  - Skills availability

- Prices of product and building material increase at a rate well above general inflation (~40% since 2005) due to the increasing:
  - energy costs along the supply chain
  - scarcity of certain key raw materials
Over 60% of impact of construction products is associated with cement, concrete and plaster products (UK data)
Relative Impacts of Construction Products

- The environmental impact of construction materials determined by:
  1. The amount of the product used
  2. The impact per kg or unit of the product

- For example:
  - Concrete has relatively low CO₂ emissions factor per kg, but the large quantity used in construction industry means that it accounts for about 4% of global CO₂ emissions.
  - Although uPVC is used in low quantities than concrete, its embodied carbon emissions are typically 30 times higher
  - The impact of metals used is very significant due to the combination of large quantities being used and relatively high embodied emissions

- Therefore, a full life cycle is necessary for materials such as metals
Selecting Product Types for GHG Reductions

- To select the most appropriate products to footprint and create PCR’s is depending on a variety of factors.

- Among the factors (e.g.: Construction sector):
  - A matrix of the breakdown of company types in Malaysia
    - By sector: What do they make?
    - By size: Their turnover, number of employees, number of manufacturing sites
  - What type (sector/size) of companies and geographies are SME companies buying from and selling to?
  - How much of each construction material is produced and manufactured in Malaysia each year, and how much of this is manufactured by SME companies?
Thank You for the Kind Attention

www.sirim.my