

CURRENT STATUS OF CARBON FOOTPRINT AND LCA IN MALAYSIA



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Similajau National Park
in Sarawak.

Outlines of the presentation

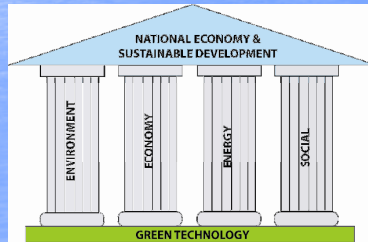
- ① Initiatives of the government of Malaysia
- ② Progress of CFP and LCA
- ③ Action plan
- ④ Future prospects

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National Green Technology Policy (NGTP)

PM of Malaysia:-

"It is my dream that one day we can live in a clean, healthy and high quality environment, where cities, townships and communities are built on the fundamentals of GREEN TECHNOLOGY....."



Policy statement:-

"Green technology shall be a driver to accelerate the national economy and promote sustainable development"

Source: Ministry of Energy, Green Technology and Water, Malaysia

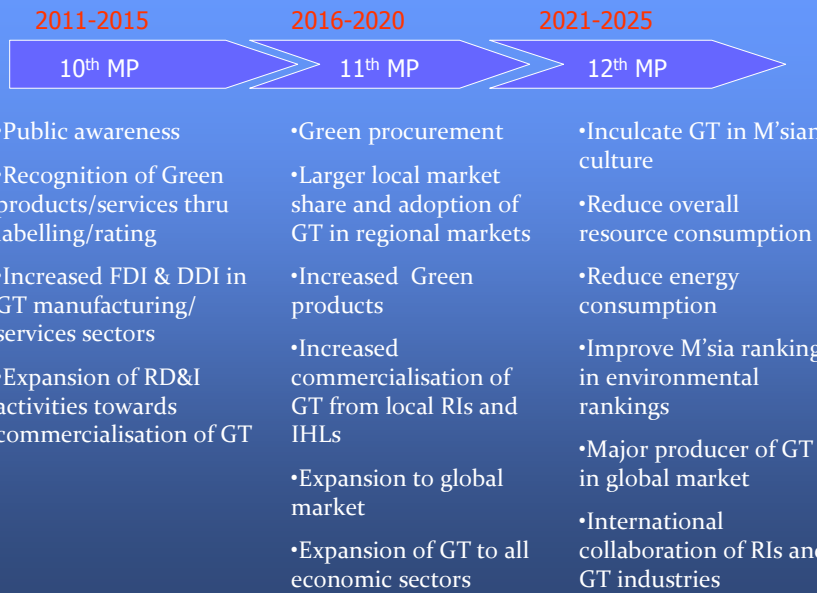
The four pillars:-

- 1 Energy- seek to attain energy independence & promote efficient utilisation;
- 2 Environment- conserve and minimise the impact on the environment;
- 3 Economy- enhance the national economic development through the use of technology; and
- 4 Social- improve the quality of life for all.

Four sectors



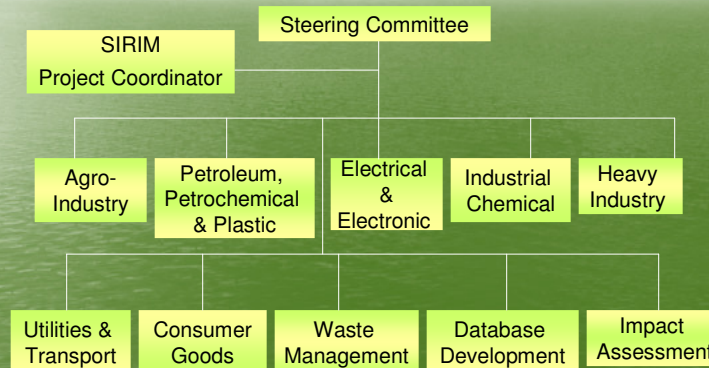
GREEN TECHNOLOGY ROADMAP



Source: Ministry of Energy, Green Technology and Water, Malaysia

Progress of LCA and CFP in Malaysia

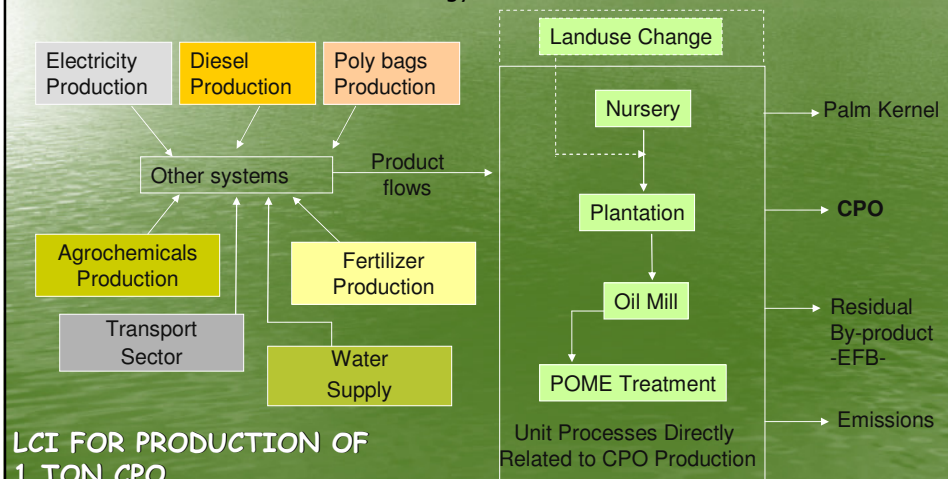
- SIRIM implemented the National LCA Project since 2006 upon receiving the mandate under Malaysia's Ninth-Five Year Plan (Ninth Malaysian Plan: 2006 – 2010).
- A National LCA Structure was established.



- Due to the limited understanding of LCA among the industries including those invited to participate in the National Project, the LCA studies were implemented primarily by SIRIM, with funding provided by Ministry of Natural Resources and Environment.

Progress of LCA and CFP in Malaysia

- Industries were hesitant to participate at the start of the project as there was no demand for LCA, CFP and eco-labels in Malaysia.
- The first sector to experience the demand for LCA data, especially the greenhouse gas profile was the palm oil industry, in particular biodiesel that had to meet the Directive of the European Parliament and of the Council on the Promotion of the Use of Energy from Renewable Resources.



Progress of LCA and CFP in Malaysia

- SIRIM LCA Team has carried out **cradle to gate** greenhouse gas profiles of forty products, not fully CFP according to ISO 14067.
- Problems encountered by SIRIM LCA Team include:
 - Lack of background data including materials, components, products imported from countries where LCA data are not available
 - IPCC formulae and default values were adopted based on assumptions that they represent the country's conditions.
 - Lack of company data due to confidentiality issues
 - Lack of local LCA experts to review studies according to the ISO requirements.

A. LCA projects under the 9th. Malaysia Plan

CATEGORY	PROJECTS (Undertaken by SIRIM LCA team)
Database & Impact Assessment	<ol style="list-style-type: none"> 1. Material Flow Analysis of Major Raw Materials and Resources for Malaysia 2. Survey of LCI Process Flows & Data Available in Established Foreign Databases and Literature
Agro Industry	<ol style="list-style-type: none"> 3. Development of LCI for the Production of Crude Palm Oil 4. Development of LCI for the Production of Natural Rubber Latex 5. LCI for biodiesel
Petroleum Petrochemical and Plastic	<ol style="list-style-type: none"> 6. Development of LCI for Polyethylene Production 7. Development of LCI for Crude Oil 8. LCI for production of Natural Gas 9. LCI for Natural gas products (methane, ethane , propane) 10. LCI for production of Diesel 11. LCI for production of Butanol 12. LCI for production of ethylene and co-products 13. LCI for production of HDPE 14. LCI for production of PVC
Electrical and Electronic	<ol style="list-style-type: none"> 15. LCI Studies on Electronic Ballast 16. Establishment of LCI for an Integrated Circuit Product 17. LCI for Printed Circuit Board

Chemical	<ol style="list-style-type: none"> 18. Survey of LCI for Urea 19. LCI for Ammonia Production 20. LCI for Sulphuric acid 21. LCI for Alum
Heavy Industry	<ol style="list-style-type: none"> 22. Development of LCI for Cement Production 23. Development of LCI for Crude Steel 24. Development of LCI for hot briquetted iron 25. Development of Hot-rolled long products 26. Development of Cold-rolled long products 27. Development of LCI for Primary Aluminium Production 28. LCI for Gold plated Sheet
Utilities and services	<ol style="list-style-type: none"> 29. Development of LCI for Electricity 30. Development of LCI for Water Supply 31. Development of LCI for Transport Sector
General Consumer Goods	<ol style="list-style-type: none"> 32. Development of LCI for Corrugated Packaging 33. LCI for Collection of Recycled Paper 34. LCI for Air conditioner 35. LCI for Batik Industry 36. LCI for vacuum cleaner 37. LCI for shower bottle 38. LCI for Trim Scuff Plate 39. LCI for plastic film products 40. LCI for plastic pellet
Waste Management	<ol style="list-style-type: none"> 41. LCI for solid mgt by RDF

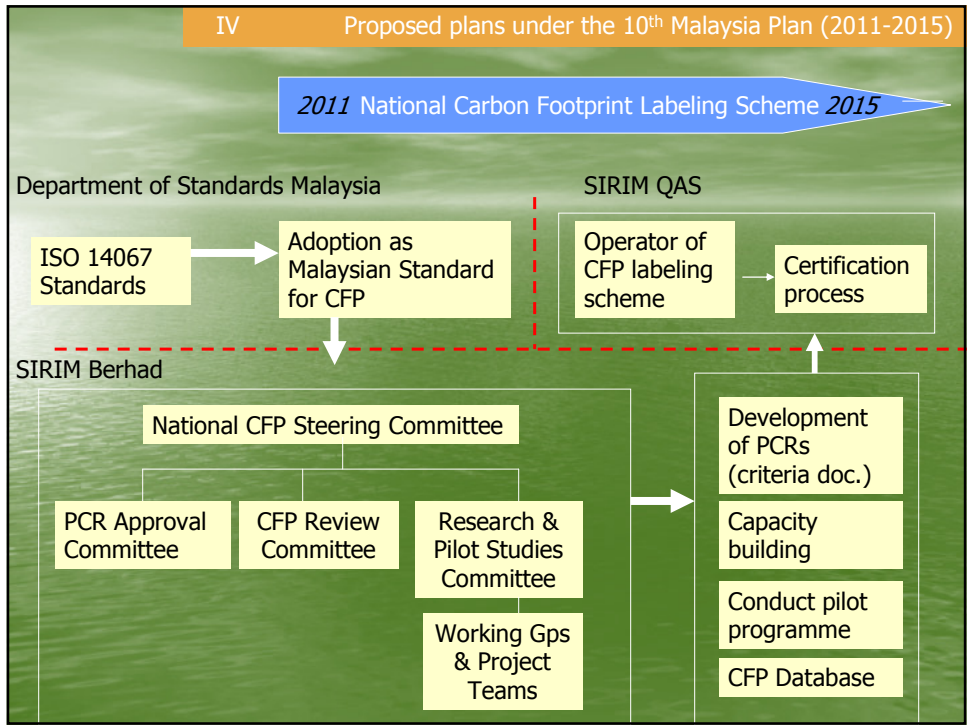
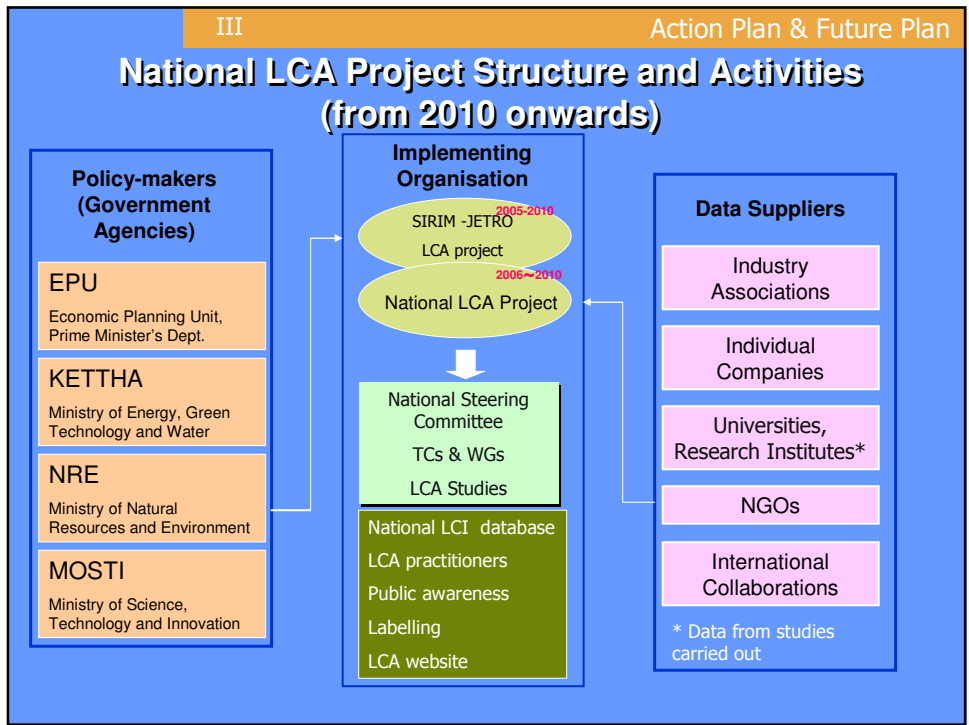
Examples of LCA studies conducted by Universities

CATEGORY	PROJECTS (Undertaken by IHLs)
Agro-industry	<ol style="list-style-type: none"> 1. LCA on fro the Production of Biodiesel from Palm Oil and Jatropha Oil 2. LCA of Crude Palm Oil Production in Malaysia
Electric & Electronics	<ol style="list-style-type: none"> 3. LCA in E&E sector in Malaysia; A case study of ballast
General Consumer Goods	<ol style="list-style-type: none"> 4. LCA on Food and Beverages of Selected Food Outlets 5. LCA in Potable Water Production 6. LCA in the water treatment process in Malaysia: An Environmental Impact Comparison between Water Source quality and Climate
Waste Management	<ol style="list-style-type: none"> 7. Assessment of Solid Waste Management in Malaysia using LCA 8. LCA on Plastic Recycling; comparison between raw and recycled plastic materials 9. LCA of Waste Management (A case study of Refuse Derived Fuel)
Transportation	<ol style="list-style-type: none"> 10. LCA for transportation sector: A Comparison of Perodua and Proton Vehicles

Action plan & Future plan

- Revisit the National LCA Structure and establish a new structure with appropriate review and approval scheme, especially in the membership of the National Steering Committee
- Decision on the CFP certification scheme with the possibility of extending from the existing SIRIM Ecolabelling Scheme
- Capacity building on preparation of PCRs as proposed for the CFP quantification
- Study the feasibility of expanding the newly constructed National LCI Database to include the CFP Database

Malaysia needs to develop LCA and CFP infrastructure and labelling scheme(s) appropriate for the country's state of industrial development, type of industrial activities and level of preparedness of the stakeholders i.e. both the public and private sectors.





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