

IMPACT SHEET • SWITCH-ASIA PROJECT
**SUSTAINABLE PRODUCTION (SP) OF THE BIOMASS
INDUSTRIES IN MALAYSIA: OPTIMISING ECONOMIC
POTENTIAL AND MOVING TOWARDS HIGHER VALUE CHAIN**

Elevating the Malaysian Biomass SMEs Value Chain Through Sustainable Production Practices



**The project facilitated savings of EUR 29 000 per month
by one SME switching from fuel oil to woodchips**



The Challenge

Malaysia produces a minimum of 168 million tonnes of biomass annually from oil palm, timber, rice, fish processing and other agricultural industries. The promotion of biomass products will spur the green technology sector and help mitigate global climate change. Already, small and medium-sized enterprises (SMEs) are turning this biomass into various value-added products, such as bio-chemicals, bio-fuels, bio-feedstock (raw materials) and bio-resources. However, SMEs still face challenges in the biomass business. They lack access to green financing facilities and do not comply with environmental standards. Raw material is not always available for larger-scale biomass commercialisation projects and proven affordable industrial-scale conversion technologies are not accessible or available for SMEs.

Objective

The project, *Sustainable Production (SP) of the Biomass Industries in Malaysia: Optimising Economic Potential and Moving towards Higher Value Chain (Biomass SP)*, aimed to develop the biomass industry based on the principles of sustainable consumption and production (SCP) by enhancing the supply chain and uptake of biomass utilisation projects by Malaysian SMEs and other biomass stakeholders.

The project aimed to:

- Facilitate Malaysian family-owned SMEs to implement sustainable production models in the biomass industry;
- Improve biomass supply chains in Malaysia by promoting collaboration between industry, research institutions and universities;
- Reduce industrial emissions by improving the production process of biomass commercialisation projects;
- Create an enabling environment for improving policy cohesiveness for developing sustainable production in the biomass industry



Activities / Strategy



The *Biomass-SP* project ensured that biomass industries in Malaysia were developed sustainably and in collaboration with all relevant stakeholders: industry, the research community, policy-makers, financial institutions and NGOs. It promoted greater market access and green supply chain opportunities, and spurred Malaysia's green technology sector.



Capacity Building and Coaching

At the heart of the project was the EU-Malaysian Biomass Entrepreneurs' Nurturing Programme (EUM-BENP). The EUM-BENP provides comprehensive technical assistance in business and environmental performance improvement to selected SMEs. The project created a multiplier effect by preparing 48 biomass SMEs to take up SP practices, and by disseminating best practice to all stakeholders.



Outreach and Dissemination

With strong media coverage and countrywide road show seminars, the project reached its target groups. It promoted itself at various industrial events (conferences, exhibitions, seminars) and established contacts with SMEs. By creating partnerships via a business partnering conference and a web portal, the project facilitated the potential for collaboration between local (Asian) and EU companies working on biomass-related products, services and/or technologies.



Plans for Policy-makers

Finally, the project developed policy interventions, such as the Biomass Action Plan for Malaysia (BAPM) that included recommendations for the Malaysian Government. The project was invited to participate in, and provide inputs to, national policy stakeholders' consultation sessions, e.g. National Biomass Strategies, Green Technology Roadmap, Renewable Energy Sector Competitiveness Initiative and the Bio-economy Initiative Malaysia.

Scaling-up Strategy



Creation of Industry-wide Network

To build up local ownership and capacity within the target group, the project established the Malaysia Biomass Industries Confederation (MBIC). MBIC serves as the industry information network and plays a facilitatory role between SMEs, industry and policymakers. The confederation acts as a service provider and can, after the implementation phase of the project, take up the function of the project, after the project funding ends. It will address SME needs on a case-by-case basis (advice on financing, business partnerships, commercialisation of research and development, investors/ carbon credit buyers, etc.).



Enabling Growth by Linking to Financial Institutions

The project engaged FIs and development FIs. By presenting available funding options, such as soft loans or credit guarantee schemes the project linked SMEs and FIs. Biomass-SP also provided SMEs with an overview of various funding opportunities offered by the Malaysian Government and commercial banks and showed how to access them, in line with the 10th Malaysia Plan.



Commercialising Biomass Business through a Multi-stakeholder Consultative Approach

Biomass-SP engaged in a multi-stakeholder consultative approach by gathering inputs, challenges, concerns, recommendations and expectations from all levels of the supply chain, especially from the Malaysian biomass SMEs. The project took an initiative to extend the promotion of SP practice and expand its outreach by giving presentations at various industry and governmental platforms.



TARGET GROUPS

- Malaysian family-owned SMEs in the palm oil and timber industries including:
 - manufacturers using wood, rice, palm and other biomass raw materials
 - manufacturers of eco-friendly products
 - suppliers of biomass technology
 - licensors and licensees
- Environmental professionals and project partners
- Research institutions and universities
- Financial institutions (FIs)
- Relevant government agencies involved in developing the biomass industries



The project promoted the use of Malaysian biomass among SMEs and other stakeholders in line with sustainable production practice. SMEs in the EUMBENP were exposed to environmental improvement in tandem with creating business profit through eco-branding. The Malaysia Biomass Industries Confederation was established by the project to help promote and guide Malaysian biomass SMEs in greener business practice and thereby contribute to the global climate change mitigation agenda.



Ms. LEE, Jia Jing
Project Manager, (Bio-mass-SP) MIGHT



Results



8,800 Biomass Stakeholders Reached

The project created a strong brand in Malaysia, reaching at least 8 800 biomass stakeholders.

More than 1 000 stakeholders attended the countrywide Awareness Roadshow Seminars. The project also participated in over 50 regional, international and national conferences.



SMEs Benefitted from Capacity Building Programmes (CBPs) & Coaching Services

The project introduced the EU-Malaysia Biomass Entrepreneurs Nurturing Programme (EUM-BENP) to Malaysian biomass SMEs; 128 applications were received and 48 selected. A series of twelve CBPs were conducted, focusing on topics such as grant / soft loan application opportunities, commercialisation of indigenous technologies, carbon footprinting, Life Cycle Assessment (LCA), best practice of sustainable production from the EU, economic benchmarking of biomass services and biomass products, and pelleting/ briquetting technologies and market opportunities. 11 SMEs certified with ISO 14001 Environmental Management System (EMS), one successfully registered with Verified Carbon Standard (VCS), one certified with Eco-label and another completed an LCA with the project's technical assistance.



One-stop Web Portal

The *Biomass-SP* website serves as a focal point promoting the use of biomass based on the principle of SCP in Malaysia. The website features information on the project concept, objectives and information related to upcoming project activities, as well as information and news on the Malaysian biomass industry.



Links to FIs and Consultation on Green Financing and Business Matchmaking

The project exposed SMEs to areas such as biomass business financing options and grant & soft loan application opportunities, biomass technologies and R&D for uptake, and business collaboration with the EU / Asian & Malaysian companies through business matchmaking facilities. The project also linked the knowledge generated and expertise from research institutes and universities to SMEs to ensure low-cost and easy access to knowhow. The project collaborated with the Association of Banks in Malaysia (ABM) to enhance bankers' knowledge of green projects and their business cases, with related briefing sessions.



Malaysia Biomass Industries Confederation (MBIC)

The biomass SMEs have successfully established the first national biomass industry network in Malaysia – the Malaysia Biomass Industries Confederation – which develops working relationships with biomass stakeholders and boasts 66 members.











Biomass Industry Action Plan 2020

After three rounds of multi-stakeholder consultative forums and direct interaction with biomass stakeholders from different levels of the supply chain, the project identified a three-pronged strategy across the entire value chain of the biomass industry. The strategy was laid out in detail in the Malaysian Biomass Industry Action Plan 2020: Driving SMEs Towards Sustainable Future, and were:

- i) Unlocking Biomass Feedstock for Downstream Utilisation;
- ii) Optimised Utilisation of Biomass for Sustainable and High Value Production;
- iii) Positioning Malaysia as Regional Biomass Hub.

Impact in Numbers

<p>Economic Impact</p> 	<ul style="list-style-type: none"> • New value creation from project activities and assistance of EUR 0.22 - 0.66 million from commercialisation projects implemented by the SMEs. • 11 new green biomass businesses by the EUM-BENP SMEs; matchmaking between SMEs and research bodies for the purpose of commercialisation after the 1st and 2nd CBP generated a new collaboration in biochar production. • Savings of about EUR 29,000/month by one SME switching from fuel oil to woodchips. 	<p>Target group Engagement</p> 	<ul style="list-style-type: none"> • Participated in more than 50 local, regional and international relevant events. • Engaged more than 8 800 biomass stakeholders from all levels of the supply chain. • Generated more than 75 news items in local major daily newspapers and international magazines. • Generated more than 20 news items in electronic media and online news. • Stakeholders engaged included locals, Asian and European biomass stakeholders, i.e. SMEs, RIUs, Ministries / Government Agencies, and large corporations, among others through Awareness Roadshow Seminars, Capacity Building Programmes (CBPs), and international conferences. • The significant change in the industry is the biomass boom in Malaysia with the constant promotion of higher value products, which can be developed from biomass residues.
<p>Environmental Impact</p> 	<ul style="list-style-type: none"> • 11 SMEs certified with ISO 14001 Environmental Management System (EMS) • 1 SME successfully registered with Verified Carbon Standard (VCS) • 1 SME certified with Eco-label • 1 SME completed an LCA with the project's technical assistance 	<p>Policy Development</p> 	<ul style="list-style-type: none"> • Participated in 7 policy stakeholder consultative fora organised by the Ministries and Government Agencies in policy formulation. • Engaged with more than 10 Ministries / Government Agencies. • Developed the Malaysian Biomass Industry Action Plan 2020: Driving SMEs Towards Sustainable Future.
<p>Social Impact</p> 	<ul style="list-style-type: none"> • With the creation of 11 new businesses, more employment was created in the local communities. • Improved working conditions in the companies where employees are well trained in ISO 14001 EMS compliance. • Health hazards at workplace better managed and the surrounding communities are protected from water, air and noise pollution. 	<p>Europe-Asia cooperation</p> 	<ul style="list-style-type: none"> • Facilitated three EU-Asia collaborations with signed Memoranda of Understanding (MoU). CHE Metal Works Sdn. Bhd. signed three MoU in 2012, two MoU with European companies during the visit to the 19th European Biomass Conference in Berlin, and one MoU with Torftech UK Ltd. in Kuala Lumpur. The MoU were signed for technology collaboration and licensing of technology for biomass conversion. Following this collaboration, CHE also secured a joint venture with Torftech Ltd (UK) to build up to twenty 10 MW rice-husk power plants in Vietnam. • Potential for one EU-Asia project valued at €440 million in Vietnam. • Facilitated partnership for 1 EU project between Malaysian company and DTI.
<p>Climate Benefits</p> 	<ul style="list-style-type: none"> • A total greenhouse gas reduction of 3 006 304 tonnes CO₂-eq / year, inclusive of a potential 2 800 000 tonnes CO₂-eq / year. • One registered Verified Carbon Standard (VCS) project of 153 000 tonnes CO₂-eq over ten years. • TMMEs now observe and some implement GHG reduction in their business operations. • As exemplary model, one SME has switched to woodchips as a substitute for fuel oil, consuming 2 100 tonnes of woodchips per month that reduces carbon emission of 16 000 tonnes CO₂-eq /year. 	<p>Green Finance</p> 	<ul style="list-style-type: none"> • Two SMEs obtained safe loans from commercial banks. • Two SMEs were assisted in obtaining government grants. • One SME was assisted to enter the Kuala Lumpur Stock Exchange (Bursa Malaysia). • A checklist was developed to guide SMEs applying for loans from banks or Government agencies. • Some SME referrals were made to banks for green loans.



Legend

- Eligible countries where SWITCH-Asia projects are implemented
- Eligible Asian countries for the SWITCH-Asia programme
- Non-eligible Asian countries for the SWITCH-Asia Programme

Project implementation area

- City
- Region
- Country

The boundaries shown on this map do not imply on the part of the European Union any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

OBJECTIVES

The *Biomass-SP* project aimed to develop the biomass industry based on the principles of sustainable consumption and production (SCP) by enhancing the supply chain and uptake of biomass utilisation projects by Malaysian SMEs and other biomass stakeholders.

DURATION



PROJECT TOTAL BUDGET

EUR 2 248 688.37
(EU contribution: 80%)

PROJECT CONTACT

Ms. Lee Jia Jing
No. 20, Jalan Diplomatik, Presint Diplomatik
62050 Putrajaya, Malaysia

Telephone: +603 -88 84 -88 82
Email: leejj@biomass-sp.net

<http://biomass-sp.net>

PARTNERS



Malaysian Industry-Government Group for High Technology (MiGHT)



European Biomass Industry Association (EUBIA), Belgium



DANISH TECHNOLOGICAL INSTITUTE

Danish Technological Institute (DTI), Denmark



Association of Environmental Consultants and Companies of Malaysia (AECCOM), Malaysia