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<tr>
<td>XB Symbol: MAL/12/01/MAL</td>
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<tr>
<td>Project title: Green Jobs Malaysia Project</td>
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<td>Country: Malaysia</td>
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<tr>
<td>P&amp;B Outcome: Outcome 1 (more women and men have access to productive employment, decent work and income opportunities)</td>
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<td>DWCP Outcome: MYS 177</td>
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<td>Technical field: EMP/ENT</td>
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<td>Administrative unit: ILO Regional Office for Asia and the Pacific</td>
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<td>ILO Responsible Official: Ms. Sachiko Yamamoto, Regional Director, ROAP Email: <a href="mailto:yamamoto@ilo.org">yamamoto@ilo.org</a>, Tel.: +66 2 288 2295</td>
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<tr>
<td>Technical Backstopping Unit: ROAP</td>
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<tr>
<td>Collaborating ILO Units: ILO departments &amp; Units: EMP/INVEST HQs, DWT Bangkok SKILLS</td>
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EXECUTIVE SUMMARY

The project will take a tripartite approach to provide ILO constituents and national stakeholders, including the Ministry of Energy, Green Technology and Water (KeTTHA) in Malaysia, with a clearer understanding of the prevalence of green jobs across the economy and sectors, promote an exchange of information and social dialogue on green jobs policies and identify possible entry points for further green job creation. The study will assess the economy-employment and economy-environment linkages at the national level and map existing green jobs in the Malaysian labour market. Through the building and use of a Green Dynamic Social Accounting Matrix (DYSAM) via expansions and extension, the employment and environmental impacts of environment driven policies in Malaysia will be simulated. Several modelling scenarios will be conducted with a view to generating new socio-economic data at the national level on employment (green jobs), income distribution, and CO\textsuperscript{2} emissions.

The purpose of this study is to provide an estimate of the number of green jobs, the level of economic activity that is dependent on the environment in Malaysia and the employment impact of environment related policies. It supports wider efforts by governments, employers and trade unions to promote sustainable development in a resource scarce and climate-challenged world. A steering committee will be established with representatives from ILO, relevant ministries including the Ministry of Energy, Green Technology and Water (KeTTHA), the social partners (MEF, MTUC), international consultants and academia to guide and monitor the implementation of the project. The results of the study will show statistically the links between environmental policies and the economy and the impacts on employment. It will also involve the evaluation of the socio-economic impacts of environment driven policies with a view to preparing the ground for green skills anticipation in key sectors of the Malaysian economy.

A practical pilot on skills development will be conducted through the application and implementation of the 11 occupational skills standards in selected sectors and enterprises. The results of the pilot will allow for revising and finalizing these occupational standards for future training on green skills and developing the testing and certification mechanisms. These standards will be published and disseminated as the first official set of green skills national occupational standards for Malaysia.

1. BACKGROUND AND JUSTIFICATION

- Problem Analysis

In an era of climate change, resource scarcity and environmental degradation the promotion of green jobs has become synonymous with the wider development agenda driving efforts towards a greener and fairer development path. Green jobs are defined as direct employment in economic sectors and activities, which reduces their negative environmental impact, ultimately resulting in levels that are sustainable. Specifically these are ‘decent’ jobs that help to reduce consumption of energy and raw materials, de-carbonize the economy, protect and restore ecosystem services, flood protection and biodiversity and minimize the production of waste and pollution.

It is critical that Asia-Pacific countries adapt to the effects of climate change. The region’s great vulnerability to climate change and climate variability is dictated by its unique physical and socioeconomic attributes, including high population density in particular in coastal and low-lying areas, relatively low income levels for a large part of the population, especially for women concentrated in the informal economy, and the prominence of agriculture and fishing in providing livelihoods for the rural poor. These countries require well developed and gender sensitive climate related green jobs policies and programs that will bring significant social and employment benefits at the local level for both women and men.

Measures to respond to climate change will require the active engagement of tens of millions of employers and workers in both developed and developing countries. The ILO seeks to draw attention to the social dimensions of these changes and promote coherent policies that support both sustainable growth and enhance green jobs opportunities by improving working conditions and promoting sustainable enterprises.
Many sectors of the economy will need to find new sustainable ways of doing things which will have repercussions on livelihoods, incomes and employment. Some energy intensive sectors are already facing the challenge of shifting production patterns, requiring investments in environmentally sustainable processes and technologies, increased market pressure and evolving social relations. At the same time, new economic sectors will also emerge or grow as the demand for low carbon products and services increases. The transition to a greener economy will trigger shifts in the labour markets and create demand for new skills and re-skilling programs, and social protection and financial schemes in particular for the most exposed workers and businesses.

During the run up to the climate change negotiations held in Copenhagen in 2009 the Malaysian Prime Minister Najib Tun Razak pledged a 40% reduction in Malaysia’s GHG emissions intensity by 2020. This was followed by the unveiling of the Malaysian New Economic Model (NEM) on 30 March, 2010 following a series of meetings convened by the National Economic Advisory Council (NEAC) in 2009 on high income, inclusiveness and sustainability. This updated version of the NEM defined a number of Strategic Reform Initiatives (SRIs) to propel the country forward towards Vision 2020 goals and recommended that the government set a green economy policy platform for development in-line with the commitments made at Cop 15 in 2009. The GHG emissions intensity target was further endorsed by the National Policy on Climate Change of 2009 designed to mainstream and improve the management of natural resources, integrate responses to the impacts of climate change into national policies, plans and programs and to strengthen institutional capabilities to deal effectively with the challenges. Climate change considerations are now integrated into development planning strategies by utilising a number of tools including Sustainable Development Indicators, Strategic Environmental Assessments and the Economic Evaluation of Ecological Services.

The National Green Technology Policy of 2010 was developed by the Cabinet Committee on Green Technology with the Ministry of Energy, Green Technology and Water (KeTTHA) to support the development of new green industries and green jobs. The policy promotes the development of new green technologies in four main sectors; energy, buildings, water and waste management. The objectives of the Green Technology policy are; to minimise growth of energy consumption while enhancing economic development, to facilitate the growth of green technology industries and enhance their contribution to the national economy; to increase national capability and capacity for innovation in green technology development and enhance Malaysia’s competitiveness in green technology in the global arena; to ensure sustainable development and conserve the environment for future generations and to enhance public education and awareness of green technology and encourage its widespread use. In May 2011, the Green Jobs Action Plan Workshop was organised in Kuala Lumpur to enhance social dialogue on green jobs in Malaysia. Participants from employers’ (MEF) and workers’ (MTUC) groups as well as the government and academia were invited to discuss green jobs and possible ways forward in Malaysia. The workshop set the stage for further discussions and collaboration between the ILO and tripartite partners in Malaysia on the promotion of green jobs.

The Green Jobs Malaysia Project will directly contribute to the national programs and initiatives relating to employment, climate change and the environment as set out in paragraph 21(3) of the Global Jobs Pact. The project will also work towards achieving Malaysia’s Millennium Development Goals under target 1 for poverty alleviation through the creation of decent work and target 7 on environmental sustainability. Through enhanced capacity of ILO constituents, the project will assist Malaysian policy makers to shift to a low-carbon, environmentally friendly and climate resilient economy that helps accelerate the jobs recovery, reduce social gaps, support development goals and realize decent work. At the end of the project, it is expected that the Malaysian government and related stakeholders will have become supportive of the need to address green jobs policies which take into account gender and youth considerations in the national policy framework.

- **ILO Capacity and lessons learned;**

The government of Malaysia has approached the ILO to assist with the development of a green jobs action plan and related labour market analysis. This project builds on recent country initiatives together with the ILO in developing green jobs mapping studies in Bangladesh (I-O model, 2009), Mauritius (I-O model, 2011/12), Brazil (static SAM, 2010), Mozambique (Green DYSAM, 2011) and with the Government of Indonesia in the development and utilization of an up-to date dynamic Social Accounting Matrix (DYSAM).
(2009) with the inclusion of green sub-sectors and related employment and CO2 emission satellite account (Green DySAM). The lessons learned from these previous studies have helped develop and refine the methodology used to assess the economy-employment and economy-environment linkages at the national level and map existing green jobs in the labour market.

- Target Groups and Partners

The direct beneficiaries of the project are the government officials of the Ministry of Human Resources (MoHR), and the Ministry of Energy, Green Technology and Water (KeTTHA) of Malaysia, Economic Planning Unit (EPU) and the social partners (MEF and MTUC) as well as academics.

2. STRATEGY AND LOGICAL FRAMEWORK

2.1 Description of the Project Strategy

The project will assist the Malaysian Ministry of Human Resources, Ministry of Energy, Green Technology and Water and social partners (MEF, MTUC) to prepare the labour market for a just transition towards a gender sensitive greener economy and promote job-rich environmentally friendly economic sectors with a trained labour force.

The strategies of this project are:

1. Develop the analytical capacity of the Government to monitor, evaluate and simulate the environmental and socio-economic impacts including employment impacts, of low-carbon initiatives, through the design of a diagnostic tool based on national data;

2. Guide the Malaysian government and engage social partners (MEF, MTUC) through tripartite social dialogue to develop green policies. By identifying and evaluating strategies for green job creation through increased access to reliable sources of data and information on green jobs and training and by the simulation of climate smart policies (by using a newly developed diagnostic tool).

3. Develop the occupational green skills standard and capacity of the government to test and certify specialized vocational training for green jobs in specific sectors

ILO Standards

The project on Green jobs will be implemented within the framework of the 8 core International Labour Standards of the ILO [Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87); Right to Organise and Collective Bargaining Convention, 1949 (No. 98); Forced Labour Convention, 1930 (No. 29); Abolition of Forced Labour Convention, 1957 (No. 105); Minimum Age Convention, 1973 (No. 138); Worst Forms of Child Labour Convention, 1999 (No. 182); Equal Remuneration Convention, 1951 (No. 100); Discrimination (Employment and Occupation) Convention, 1958 (No. 111)]. The project will specifically contribute to the promotion of the C 155 Occupational Safety and Health Convention (1981), C 187 Promotional Framework for Occupational Safety and Health Convention (2006) [this supports the envisaged ratification of C 187 by the government], as well as C 142 on Human Resource Development.

On Gender

The report of the scoping study will include gender desegregation and analysis, and a discussion session on related gender issues in the foundation training and capacity building programme will be included.
The roles of employers and workers ‘organizations:

The roles of the social partners are clearly defined in the Development objectives. The representatives of workers (MTUC) and employers (MEF) will be appointed as members of the Steering Committee and participate in the process of stakeholders’ consultation, the foundation training workshop as well as capacity building on DySAM.

2.2 The Logical Framework

2.2.1 Development Objective

The objective is to raise the capacity of the government and social partners (MEF, MTUC) in Malaysia to have a clearer understanding of the prevalence of green jobs across the economy and in sectors and identify entry points for further green job creation, but also to identify supply side gaps (e.g. skills development, migration). It will help them to better understand the impacts on the labour market of climate smart policies and the potential for gender responsive green jobs creation. Via modelling scenarios they will be able to provide possible policy alternatives and devise programmes for the promotion of green employment opportunities and conduct national discussions on the mainstreaming of green jobs into development, social and employment policies.

• Link to DWCP

Malaysia does not have Decent Work Country Program as such. The project is consistent with the ILO Country Programme of Malaysia for the period 2012-2013 under the Country Priority 1: Employment Promotion and linked to specific outcome MYS 177 for the increased employment opportunity for women and men in Malaysia through Green Technology. Also, the project is based on the principles of the 2008 Declaration on Social Justice for a Fair Globalization by focusing on growing employment, sustainable enterprises, skills development and transitions from one job to another. In line with the Declaration and the ILO Strategy for 2010-1015. The project will address the four elements of decent work by pursuing enhanced policy coherence for sustainable development.

• Programme and Budget

The project is related to Outcome 1: Employment Promotion: More women and men have access to productive employment, decent work and income opportunities.

• Link to National Development Frameworks

This study will support the Malaysian New Economic Model (NEM) which sets a green economy policy platform for development in-line with commitments made at Cop 15 in 2009 to reduce Malaysia’s GHG intensity 40% by 2020. The results of the study will be used by the Ministry of Human Resources and KeTTHA to develop a roadmap on green jobs and new programmes for green skills. In addition, the project will also support the National Green Technology Policy of 2010 under KeTTHA and the National Policy on Climate Change of 2009 under the Ministry of Natural Resources and Environment.

2.2.2 Immediate Objectives

The specific objectives of the study are:

1. Increased information of the environmental and socio-economic impact on employment.

2. Enhanced constituents’ capacity on green jobs and on how to use the analytical tool for green job analysis.
3. Occupational standards on green skills are analysed and developed.

2.2.3 Outputs and activities

The project will be divided into 4 phases:

- Phase 1: Data gathering, scoping and mapping of green jobs (in consistence with a SAM).
- Phase 2: Construction of a Dynamic Social Accounting Matrix (DySAM).
- Phase 3: Capacity development programme (including simulation exercises and related study).
- Phase 4: Pilot green skills standard development programme in key sectors.

Phase 1: Data gathering, scoping and mapping of green jobs (in consistence with a SAM).

Output 1 – A Scoping study is conducted to collect preliminary data on green jobs

A report will be written by an expert team coordinated by the ILO and will include:

- Details of what statistical and other relevant information is believed to be available, such as data on key national policies, programmes and relevant initiatives;
- A project plan that sets out:
  a) A research plan covering desk research, consultations, analysis and reporting;
  b) A plan for stakeholder engagement during the study process;
  c) Governance arrangements, including the role of national government, social partners and steering committee put in place;
  d) A research and resource plan which defines the inputs per person and per task required to deliver the mapping study in the country;
- A study timetable;
- Details of the study team.

Activity 1.1 – Set up a Steering Committee

The Steering Committee will be composed of representatives from the ILO, relevant ministries of the Government of Malaysia (including MHR, KeTTHA, Ministry of Women, Family and Community Development), international consultants, experts from a national university and social partners (MEF, MTUC). This multi-stakeholder committee will meet several times during the Study to agree scope and purpose, to consider the early stage analysis and endorse the proposed environmental and decent work screening assumptions, parameters for DySAM modelling scenarios and to consider the draft final report. The committee will convene throughout the course of the study using videoconferencing facilities.

Activity 1.2 – Preliminary Scoping study

- A preliminary scoping study will be conducted and data will be collected on the following: Data gathering and processing via iterative consultations to build a consistent database for the DySAM (SAM and SNA, budget, BoP times series);
- A reasonably up-to-date labour force survey or alternative set of comprehensive employment data with a reasonable level of sectoral details;
- Information on the progress made in the country in improving the environmental performance and define/determine entries to the SAM/DySAM;
- Information on public welfare-for-work and similar programmes that provide employment in activities that improve resilience against climate change, improve water and soil management, etc.;
- Availability of recent SAMs, input-output and times series data tables;
- Information on short and long term education and skills development programmes made available through schools, universities, technical/vocational institutions, enterprises and other training providers.
Output 2 – A full report on the mapping of green jobs is developed

A full report will be written by the research team which will contain the profile of the economic and employment structure of the national economy including a review of data on the total scale and structure of employment in Malaysia. The write-up will provide an overview of the following:

- Total jobs/livelihoods maintained in the economy;
- Profiles of the different economic sectors (e.g. GDP and employment share, GDP growth rate);
- A short description of the role and importance of primary sectors (i.e. agriculture, energy etc) relative to industrial and service sectors;
- A profile of informal activity in the total economy, by sector;
- Education and skills development profile of the economy;
- Analysis of gender distribution and possible green job opportunities for people with disabilities.
- Relevant documents including national labour force surveys, national employment statistics and reports discussing the development of the national economy and future trends and outlooks.
- Identification of environment-related employment. Identify parts of the economy directly or indirectly related to the environment and prepare sector profiles that explain the structure of these sectors and what sustains the activities concerned and highlight the importance of these activities to the economy.

Activity 2.1- Analysis of core environment-related employment and scale

The objectives of this activity are to:

- Generate an estimate of the number of ‘core’ environment-related jobs in the economy, i.e. jobs sustained by activities that meet threshold levels of environmental sustainability as defined by compliance with standards and other performance indicators agreed in the study process;
- Then, to the extent possible with available data, identify those jobs which fulfil agreed conditions for decent work and which contribute to gender equality and which therefore constitute ‘green jobs’ under the ILO/UNEP definition by screening on economic and social parameters;
- Provide qualitative information that will help the reader interpret estimates of both core environment-related employment and green employment and, in particular, any uncertainties;
- Where decent work conditions are not met, highlight the changes required to turn those core-environment related jobs into green jobs.

A Steering Committee meeting will be held part-way through this activity to consider:

1. The draft sector profiles;
2. The screening criteria developed for definition of core environment-related employment and decent work;
3. The economic activities that have been identified as supporting core environment-related employment and (where decent work conditions are met) green jobs.

Activity 2.2 - Identify the economic activities that support ‘core’ environment-related employment

The research team will consider the criteria by which, within the selected sectors, economic activities can be considered as sufficiently environmentally sustainable to qualify for inclusion in the ‘core environmental’ group and identify within the selected sectors, economic activities that meet those criteria.

The research will draw upon:

- Desk research/data gathering - This step will involve some further desk research and data gathering to identify economic activities supporting a relatively higher level of environmental
performance, where preparation of the sector profiles has opened up leads which have not been fully followed through. Data will be disaggregated to identify the gender distribution. This will involve a review of associated policies, programmes and national/international investments that have been made, are planned or under consideration in each of the selected sectors.

- Stakeholder interviews - Members of the steering committee will be used as a source of advice for the specification of the environmental screening criteria and development of the list of activities

**Activity 2.3 - Estimate ‘core’ environment-related employment**

In this sub-task the criteria developed above are applied and the best available information is used to develop estimates of core environment-related employment. As set out in the ILO Practitioners’ Guide for mapping Green Jobs, the analysis will provide not only the best available quantitative assessment but also qualitative information about drivers and directions of change, as far as is supported by evidence.

**Activity 2.4- Screen ‘core’ environment-related jobs using decent work criteria to develop estimates of green jobs**

This sub-task involves obtaining data and analysis that will enable screening of employment data against decent work criteria, and information relating to the informal economy in the country. Studies on the informal economy in Malaysia will provide estimates of the level of informal employment within particular sectors (e.g. manufacturing, agriculture).

**Activity 2.5 - Stakeholder consultations**

The ILO will provide a preliminary foundation training on green jobs for stakeholders (MEF, MTUC, state run enterprises, SMEs, etc.) to raise the capacity of all constituents and several government agencies to discuss and analyse issues related to green jobs. The training will also include a session on gender and clean technologies. Two web pages on green jobs for the Employers organization and Trade Unions will also be developed to raise awareness and facilitate access to existing sources of information. Once completed, researchers will undertake sample surveys and telephone interviews with stakeholders within each of the environment-related sectors. The main aim of the stakeholder interviews is to fill in data gaps related to the DySAM. New sectors have to be opened up in the DySAM, so additional information is needed in different cells, sub-matrices and blocks of the DySAM, e.g. intermediary inputs needed for new green sectors, distribution between capital and labour, etc. A further aim is to provide further details on core environment-related activities and establish the key environmental performance indicators associated with each core environment-related activity, to make an estimation of core environmental employment.

The consultations will also aim to:

- Obtain further estimates for green jobs not available from the initial literature review and sector profiles;
- Verify the factors selected for defining the boundary (or boundaries) for green jobs using the screening tool;
- Understand the economic impact on final markets and supply chains for green jobs (indirect and multiplier effects of ‘green’ jobs).

Sector profiles will be presented as tables or short summaries that describe the scale and structure of each of the priority sectors. The profiles will provide data and analysis on:

- National environmental, economic and social challenges in the context of green growth;
- Links between economic growth and environmental improvements;
- Balance between national and international policy programmes that support the development of environment-related jobs;
- Environment-related economic activities by linkage type;
- An analysis of the structure of these activities by sector and initial estimates of environment-related employment; and
- Key sources and contacts for further consultation.
Phase 2: Construction of a Dynamic Social Accounting Matrix (DySAM).

Output 3 – A draft report (40 pages) on the DySAM activities and results is developed.

Activity 3.1- Development of a Dynamic Social Accounting Matrix (DySAM) with CO² Satellite account

ILO ROAP will contract two international consultants (2 Senior Economists) to develop the DySAM and provide inputs into the capacity development programme for future DySAM developers in Malaysia.

Activity 3.2– Adjusting and creating a DySAM;

The first step is to adjust the existing SAM to actual needs, then up-date it to the most recent year and then, map the 'env-eco' related jobs and output onto an updated and expanded SAM (derived using an existing DySAM if it exists). The second step is the further disaggregation of 'selected' environment-economic activities from the 'parent sector' and the identification of new environmentally friendly sectors.

This task will be done through the expansion of an existing SAM updated. Available data from various sources will be collected and integrated into an expanded SAM. At a second stage, a DySAM will be created. The consultants will liaise with ILO and national partners during this phase for the collection of necessary information.

Activity 3.3- Estimating Environmental Activity

The selected environmental-economic activities will be the basis for estimating the corresponding full time equivalent (fte) employment and/or output for the activities concerned with the environment. These employment and output estimates can then be mapped into the updated and expanded SAM. Then the multiplier effects of the activities of interest will be calculated.

Activity 3.4- Disaggregate environmentally friendly sectors to expand the updated SAM

To properly estimate the direct, indirect, and induced effects of an environmental sector on the rest of the economy, it is necessary to include (expand) those sectors explicitly in the DySAM framework. In all cases, this will mean splitting the 'selected' environmental activity out from the rest of the 'parent sector' within which it is classified. ‘Selected’ sectors should not have the same structures as their ‘parent’ sector.

This task will be the most demanding in terms of time and budget. It is proposed to disaggregate ‘selected’ activities from a maximum of 6 ‘parent’ sectors.

Activity 3.5- Estimating the economic and employment multipliers

Multipliers will be calculated by utilizing the DySAM. Wider total impacts (direct, indirect and induced effects) that environment-related activities (policies, investments, etc.) could have on the whole economy (so called multiplier effects) will also be estimated. The multiplier effects which are based on these economic linkages capture the economic value generated by the direct use and management of the environment as it affects the rest of the economy, i.e. the total (direct and indirect) intra-account transfer, induced effects. The simulations will provide some insight into which of the environmental-economic activities are the most important in terms of economic growth, job creation, as well as the types of jobs depending on the level of disaggregation.

Activity 3.6- DySAM extension: Creation of a CO² satellite account

The expanded DySAM will be extended by creating a Co² emission satellite account with real figures on Co² emissions according to different accounts (e.g. activities, institutions, rest of world) of the DySAM. This
satellite account will contribute to better understanding the effects on a low carbon development strategy generated as a result of economic activity, e.g. via specific sectors and impacts also on employment. It will help identify the best policy mix for the implementation of strategy aimed at the reduction of greenhouse gases while mitigating its negative socio-economic impacts on some sectors or target groups. By using DySAM the study can quantify the total (direct, indirect) intra-account and induced impacts on the economy, and on employment of the identified Co²-energy links, also by target groups (gender, age groups, skill level, etc.).

An operational DySAM will be developed covering the most appropriate period (depending on availability of data) that includes matching information on employment and carbon emissions by economic sector. A detailed mapping/design of the evaluation tool will be provided, including an explanation of how the model is tailored for analysis of the green economy / green jobs concepts at disaggregate levels, including by gender, age groups, indigenous households, among others, in Malaysia.

Output 4 – A final DySAM Report on possible policy scenarios is submitted.

Activity - Utilizing the evaluation tool (DySAM) for conducting a socio-economic analysis of environment related measures

This activity will show the links between environmental policies and the economy and how selected examples of exogenous shocks or policy intervention can impact the economy, labour market and CO² emissions. This Green DySAM with characteristics as previously mentioned will be used to simulate the impact of exogenous shocks/changes (e.g. natural disasters, environmental policies, etc), by tracing impacts through supply chains and income effects. The multipliers can be used to calculate the total, intra-account and induced impacts of environment-economic activities in terms of output, incomes, employment, trade balance and GDP, among others. The tool will be used to simulate the impacts of policy intervention related to the selected enviro-eco activity on various socio-economic variables and on specific groups of the population (income groups, workers by employment status, gender, age groups, geographical location, etc.).

Some possible parameters for policy scenarios will be discussed by the steering committee and will be tested in the context of a shift towards a green economy, including modelling scenarios for increased investments for environmentally sustainable measures and green technologies and decreased support for traditional, polluting sectors and households.

The selection of the policy scenarios will be discussed by the team under the guidance of the Steering Committee during the midterm review.

Possible scenarios to be reviewed in the context of this study could include:
- Increased/decrease expenditure on capital formation in environment-related activities;
- Increased/decrease investment expenditures in the renewable energy sector (by technology);
- Increased/decrease investment expenditures in sustainable commercial forestry;
- Increased/decrease investments expenditures in urban mass transport and transit;

Phase 3 :Capacity development programme (including simulation exercises and related study).

Output 5: Training materials on DySAM use are developed

Activity – Develop a capacity building programme for DySAM use

This activity will work towards building the capacity of government institutions, national research institutions, social partners (MEF, MTUC) and academia to use and further refine the methodology of the DySAM to ensure its maintenance over the medium-term. Employers’ and workers’ representatives were consulted during the design phase of the project to increase social dialogue on issues related to green jobs. All tripartite partners will be invited to attend the capacity building programme. The aim is to build long-term national capacity to assess through analytical means the employment and income generation/distribution
impacts of environment related policies with a view to addressing both the challenge of low and high-income employment creation and complying with climate mitigation commitments taken on the international scene. The capacity development programme will be developed by the DySAM consultants.

The main objective of this activity is to increase the capacity of participants to use a DySAM, cooperate on green job policy development and to support the use of evidence-based policies for a just transition to a green economy in Malaysia. A smaller group of national experts will be trained to up-date, maintain and modify the DySAM analytical tool. The users will be able to analyse the environmental and socio-economic impacts of climate mitigation measures for all sectors of the economy and collect the preliminary information and data that is required to develop a green skills development strategy in key segments or by cluster of green technologies.

The proposed capacity development programme should include:
- Training materials on how to use a DySAM for policy simulation and analysis.
- Numerical policy options on how Malaysia can transition to an environmentally sustainable development path;
- Review options for Government at national and local levels to utilize the DySAM.

Output 6 – A national workshop summary report is submitted.

Activity- National Workshop organized with stakeholders and constituents on the results of green skills mapping study and DySAM strategy and modelling scenarios.

A final national workshop will be organised to present the results of the green jobs mapping study and DySAM modelling scenarios to ILO constituents and for the tripartite partners to discuss possible policy options for green jobs and implications for Malaysia’s overall development agenda.

Phase 4: Pilot green skills standard development programme in key sectors

Output 7 – Green skills national occupational standards for Malaysia are developed.

Activity- Pilot skills development programme in key sectors

This activity will build on the results of the DySAM analysis. The objective of this activity is to pilot test the application and implementation of national occupational standards on green skills which were developed by Department of Skills Development, Ministry of Human Resources (MHR)) in selected key sectors; energy, transportation, waste and water management and building. The MHR will collaborate with KeTTHA to develop the programme and will invite tripartite partners (employers and trade unions) in Malaysia to contribute.

This activity will include:

- Identification of a sub-group in the steering committee which will be responsible for the pilot test, application and approval of the testing of 20 national occupational skills standards;
- Development of a database as a baseline for the demand of skills in green technology areas. The database can be developed from the combination of information from the scoping study, environment-related employment, DySAM and occupational analysis from MoHR. A further analysis of the occupational standards will be made to determine how they match with the existing standards;
- National occupational standards used, tested and validated in a maximum of 3 key selected industrial areas in selected enterprises and vocational training institutions and training providers;
- Results of the pilot-testing are collated and occupational standards are revised;
- Testing and certification mechanisms are developed, validated and confirmed by the appropriate authorities. This will include the identification of assessors who will be trained and authorized to apply the tests;
- Organise a national stakeholder’s workshop to confirm standards which are finalized. The revised national occupational standards will be discussed and confirmed by stakeholders at the workshop.
• Capacity building workshop for vocational training of trainers and personnel from MOHR, KeTTHA MOE on green skills;

Publication of the occupational standards. The steering committee will confirm the finalized national occupational standards. These standards will be published and disseminated as the first official set of green skills national occupational standards for Malaysia.

### 3. RISK ANALYSIS AND MITIGATION MEASURES

<table>
<thead>
<tr>
<th>Risk</th>
<th>Risk mitigation + management</th>
<th>Importance</th>
<th>Risk Level</th>
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<tbody>
<tr>
<td>Lack of local coordination</td>
<td>Make the most of buy-in from national government through enhanced collaboration between MOHR and KeTTHA. The Steering Committee will facilitate greater coordination with local partners and institutions e.g. local counterparts, PSMB staff, employers and worker groups.</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Data may not be available on time</td>
<td>Will request data from local partners at the start of the project. Research will initiated early and estimates of data will be used.</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Project does not meet given schedule</td>
<td>ILO is committed to making the best effort to deliver the project to the given timescale. The proposed schedule places a significant obligation on the client group, as well as the consultants to move with speed and to make time available. One issue is likely to be analysis of core environment-related economic activities - because this relies most on government buy-in and stakeholder engagement to ‘fill in the gaps’ of information following the scoping phase. The contractor will be required in the TOR to submit analysis according to the schedule.</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Lack of capacity of national institutions</td>
<td>There is a need to engage existing national institutions to develop the capacity to use the DySAM as well as training new users, including training to maintain, update and modify the DySAM. Revisions have been made for capacity building which can also be scaled up subject to availability of funding.</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
A Steering Committee will be established which is composed of representatives of ILO, relevant ministries of the Government of Malaysia (including MOHR, KeTTHA), international consultants, experts from a national university and social partners (MEF, MTUC). This group will meet several times during the Study (i) to agree scope and purpose, (ii) to consider the early stage analysis and endorse the proposed environmental and decent work screening assumptions, and (iii) to consider the draft final report. The steering committee will convene throughout the course of the study to review the (outset, midterm and final) using videoconferencing facilities. The MOHR will provide the data for the analysis and provide support the international and national consultants conducting the modelling work.

The overall study will be coordinated by a project coordinator based at the ILO ROAP Green Job Unit (Bangkok). The technical backstopping of this project will be provided in different areas by the Senior Environment and Decent Work Specialist at ILO ROAP (Green Jobs), the Senior Skills Specialist at DWT Bangkok (Skills) and the Senior Economist at ILO, EMP/INVEST HQ in Geneva (modelling).

5. SUSTAINABILITY

The aim of Green Jobs Malaysia Project is to ensure that ILO constituents will have the capacity to enhance policy coherence at the national level in order to generate green employment opportunities and a just transition for worker and employers towards a low carbon, environment friendly development path. This will be achieved by providing necessary data analysis and knowledge resources to assist the government to mainstream green skills in national development and employment policies. The project will be funded by the Pembangunan Sumber Manusia Berhad PSMB (Human Resources Development Fund) of the Ministry of Human Resources of Malaysia and be supported by the Ministry of Energy, Green Technology and Water (KeTTHA) as well as other stakeholders involved in Malaysia transition to a greener economy. The project will increase the national capacity of the partners to better analyse the labour market in regards to green jobs and will guide the formulation of future sectoral policies. The MHR will utilise the dynamic Social Accounting Matrix (DYSAM) and modelling data to continue the work on promoting green job creation once the project is complete. The MHR, KeTTHA and national research institutions will be fully associated with the conduct and implementation of the project. A capacity building programme on the use and maintenance of the diagnostic tool is aimed to build the capacity of the Government to further develop research activities for the purpose of policy guidance after project completion.

6. MONITORING AND EVALUATION

A monitoring and evaluation plan will follow the performance plan and indicators as specified at the objectives and outputs level. The project will submit a midterm review and a final progress report with details on the activities undertaken according to the work-plan.

The Green Jobs Malaysia Project will be subjected to one internal project evaluation at the end of the project. The internal project evaluation will be conducted as per ILO evaluation policy, which is in compliance with the OECD/DAC Criteria Evaluation Quality Standards.

7. KNOWLEDGE MANAGEMENT AND SHARING

Knowledge Management is an important dimension of the Green Jobs Malaysia Project. Communications will be conducted electronically between the ILO, relevant ministries of the Government of Malaysia (including MHR, KeTTHA), international consultants, experts from a national university and social partners (MEF, MTUC). The results of the green jobs mapping study will be made available on the KSP and ILO website to communicate the findings to stakeholders.
Lessons learned from the study will be used to improve the green jobs mapping methodology when measuring the effects of environment related polices on the economy and labour market in other countries in the Asia and Pacific region.
Annex A: Logframe matrix

<table>
<thead>
<tr>
<th>Project structure</th>
<th>Indicators</th>
<th>Means of verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVELOPMENT OBJECTIVE: To develop the capacity of the national partner to enhance policy coherence at the national level in order to generate green jobs employment opportunities and a just transition for workers and employers towards a low-carbon, climate resilient, environmentally friendly development.</td>
<td>Roadmap on green jobs and new programme on green skills developed in line with the results of the study</td>
<td>Social partners agree to the roadmap.</td>
<td>Sustainability assumption: The economic growth and political stability are at the same levels. the development of green jobs policies is considered by ILO constituents and the national partner an important element of the policy framework for a job-centered growth and for shifting towards a low carbon, environmentally friendly economy</td>
</tr>
<tr>
<td>IMMEDIATE OBJECTIVE 1: Increased information of the environmental and socio-economic impacts on employment</td>
<td>MHR, KeTTHA, National Statistics Bureau, Labour authorities, workers’ and employers’ organizations and national institutions have available new studies and information on the impacts of environment and socio-economic policies on employment.</td>
<td>•Up-to-date labour force survey or alternative set of comprehensive employment data; •Information on country environmental performance; •Information on public welfare-for-work and similar programmes that provide employment in activities that improve resilience against climate change, •Availability of recent DYSAM, SAMs, input-output models; •Information on short and long term education and skills development programmes</td>
<td>Development assumptions: The national partner is willing and able to make the best use of the information and use the analytical tools</td>
</tr>
<tr>
<td>OUTPUT 1: A Scoping study is conducted to collect preliminary data on green jobs</td>
<td>6 target sectors for further analysis are identified</td>
<td>Information collected by IGES/national institution and transmitted under reporting mechanism to ILO-ROAP (report).</td>
<td>National Information and datasets are available for the labour market analysis</td>
</tr>
<tr>
<td>OUTPUT 2: – Draft sector profiles that identify green jobs</td>
<td>The number of green jobs in 6 different sectors are identified</td>
<td>Review of sector profiles report</td>
<td>Quality information is made available in time and is assessed by highly qualified</td>
</tr>
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<td>Project structure</td>
<td>Indicators</td>
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<tr>
<td>OUTPUT 3 – Dynamic Social Accounting Matrix (DySAM) and CO2 satellite account developed. Draft report on activities.</td>
<td>Identification of 6 new environment related sectors for the DySAM</td>
<td>Review of the report on DySAM and CO2 satellite account activities.</td>
<td>Quality information is made available in time and is assessed by highly qualified experts.</td>
</tr>
<tr>
<td>OUTPUT 4 – DySAM Report on possible policy scenarios</td>
<td>5 different scenarios are simulated</td>
<td>Mid-term review and review of DySAM report</td>
<td>Quality information is made available.</td>
</tr>
<tr>
<td>IMMEDIATE OBJECTIVE 2: Enhanced constituents’ capacity on green jobs and on how to use the analytical tool for green job analysis.</td>
<td>Knowledge on green jobs available to constituents. Research institute has the capacity to use the DySAM analytical tool.</td>
<td>Quality evaluation of foundation training. Review of workshop summary report.</td>
<td>Development assumptions: The national partner is able to analyses the labour market for green jobs and use the analytical tools.</td>
</tr>
<tr>
<td>OUTPUT 5 – training provided to national experts and tripartite partners on how to use analytical tool including training curriculum and summary report</td>
<td>20 participants from ILO constituents organizations, Government academia, NGOs participate in national capacity development programme for DySAM analysis</td>
<td>Review of summary report Review of capacity building curriculum</td>
<td>Political support for the organization of the capacity development programme is high on the part of constituents (MHR, KeTTHA) Quality training curriculum tailored to the needs of constituents is prepared.</td>
</tr>
<tr>
<td>OUTPUT 6 – Final Workshop summary report</td>
<td>60 ILO constituents (government, social partners (MEF, MTUC), etc) participate in the meeting (up to 30% are women).</td>
<td>Review of summary report, press-release, High level presence of constituents and national partners</td>
<td></td>
</tr>
<tr>
<td>IMMEDIATE OBJECTIVE 3: Occupational standards on green skills are analysed and developed</td>
<td>Occupational standards are published</td>
<td>Review of occupational standards</td>
<td>Occupational standards are published in a timely manner.</td>
</tr>
<tr>
<td>OUTPUT 7 – The green skills national occupational standards for Malaysia are verified and endorsed.</td>
<td>20 national occupational skills standards are reviewed and verified.</td>
<td>Green skills national occupational standards for Malaysia are published</td>
<td>Occupational standards are endorsed by all social partners.</td>
</tr>
</tbody>
</table>