



Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Sustainable-City Development in Malaysia
GEF ID:	9147
UNIDO ID:	150046
GEF Replenishment Cycle:	GEF-6
Country(ies):	Malaysia
Region:	SA - Southeast Asia
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs ¹ :	IAP – Cities
Stand-alone / Child Project:	If a child project, please indicate the name of the parent programme
Implementing Department/Division:	ENE / ESI
Co-Implementing Agency:	n/a
Executing Agency(ies):	Malaysian Industry – Government Group for High Technology (MIGHT)
Project Type:	Full-Sized Project (FSP)
Project Duration:	60
Extension(s):	1
GEF Project Financing:	2,752,293
Agency Fee:	247,707
Co-financing Amount:	20,230,000
Date of CEO Endorsement/Approval:	12/14/2014
UNIDO Approval Date:	1/16/2017
Actual Implementation Start:	2/3/2017
Cumulative disbursement as of 30 June 2022:	2.724.335,35
Mid-term Review (MTR) Date:	9/15/2020
Original Project Completion Date:	2/3/2022

¹ Only for GEF-6 projects, if applicable

Project Completion Date as reported in FY21:	12/31/2021
Current SAP Completion Date:	6/30/2024
Expected Project Completion Date:	6/30/2024
Expected Terminal Evaluation (TE) Date:	3/31/2024
Expected Financial Closure Date:	9/30/2024
UNIDO Project Manager²:	Ms. Katarina Barunica Spoljaric

I. Brief description of project and status overview

Project Objective
<p>The sustainable city development project executed in partnership with Malaysian Industry-Government Group for High Technology (MIGHT). The project aims to promote an integrated approach to urban planning and management in a way that balances economic, social, and environmental resource consideration. The project seeks to build awareness and institutional capacity, and to promote investment in climate risks mitigation technologies through demonstration projects.</p> <p>Malaysia has made several official commitments to sustainable development. In 2009, it pledged a 40 percent reduction in carbon emissions per unit of GDP by 2020, while reiterating its commitment at the Rio Summit in 1992 to keep at least 50 percent of the nation's landmass under forest cover. The emission cut has been adjusted to 45 % per unit of GDP by 2030 during the COP21 meeting in Paris last year. This project will provide a major step in achieving these macro-goals by demonstrating the potential for savings from smart-grid implementation and facilitating the diffusion of this technology throughout the country. This will lead to savings via (a) altering consumer behavior and building properties which leads to energy savings and (b) allowing for the inclusion of renewable energy and electric vehicles in the smart grid which will further stabilize the grid and reduce peak loads.</p> <p>The project has the aim of reducing GHG emissions in cities in Malaysia. It will achieve this by providing support to the development and enhancement of national urban policy framework in an integrated and inclusive manner. Towards this, it has a two-pronged objective: -</p> <ul style="list-style-type: none"> i. To promote an integrated approach to urban planning and management that is guided by evidence-based, multidimensional, and broadly inclusive planning process that balance economic, social, and environmental resource consideration. ii. To build awareness and institutional capacity and promote investment in climate risks mitigation technologies through demonstration projects. iii. Results: The project will result in new National & state policies, and an improved strategic direction for development of sustainable and resilient cities; supported by enabling programs (funding models, green procurement, PPPs, etc.) & projects. The Institutional capacity of policymakers at the national,

² Person responsible for report content

state, and local levels will be built and awareness raising events for policymakers, industry and end-users will be organized at all levels for dissemination of tangible benefits/results of project.

Project Core Indicators		Expected at Endorsement/Approval stage
6	Greenhouse Gas Emissions Mitigated (metric tons of CO ₂ e)	Direct 849,300 metric tons. Indirect (Bottom-Up) 3,499,000 metric tons

Baseline

This project will provide a major step in achieving macro-goals by demonstrating the potential for savings from smart-grid implementation and facilitating the diffusion of this technology throughout the country. This will lead to savings via (a) altering consumer behavior and building properties which leads to energy savings and (b) allowing for the inclusion of renewable energy and electric vehicles in the smart grid which will further stabilize the grid and reduce peak loads.

Several baseline projects have been done for Malaysia and specifically in Melaka. However, more collaboration and partnership are needed at the national and state level to ensure more high impact projects can be achieved in future.

Associated Baseline Programmes/Projects

Development of sustainable cities is being supported by several on-going and upcoming programs and policy tools at the national and local levels.

Related Baseline National Policies on Sustainable City Development

Urban development planning in Malaysia is guided by the five-year Malaysia plan (currently, the Eleventh Malaysia Plan, 2016-2020) as well as National Physical Plan-2 (NPP2).

The Eleventh Malaysia Plan (Published as of May 2015)

In the Eleventh Malaysia Plan, 2016-2020, the Government has defined six strategic thrusts to help Malaysia stay ahead of the challenges and opportunities of the fast-changing global and political landscape. These thrusts, which aim to comprehensively address the end-to-end needs of the people and the nation, are: -

1. Enhancing inclusiveness towards an equitable society.
2. Improving wellbeing of all.
3. Accelerating human capital development for an advanced nation.
4. Pursuing green growth for sustainability and resilience.
5. Strengthening infrastructure to support economic expansion; and
6. Reengineering economic growth for greater prosperity.

The Government has also identified six “game changers,” which are innovative approaches to accelerate Malaysia’s development that once successfully applied, will fundamentally change the trajectory of the country’s growth. One of the Game Changers is the promotion of competitive cities that will provide nodes for strong economic agglomeration. Under the Plan, city competitiveness

master plans will be developed for four major cities (namely Kuala Lumpur, Johor Bahru, Kuching, and Kota Kinabalu) considering six principles to ensure that they will be economically advanced and be a great place to live in for urban residents of all socioeconomic levels (see Box).

Box 1: Building Competitive Cities in Malaysia

Six principles will be used as building blocks for local authorities to develop their city competitiveness plans.

Principle 1: Enhancing Economic Density High economic density in cities is the key to innovation. It brings people and businesses closer and enables information and knowledge sharing, new technological inventions, and new businesses. In addition, economic density increases efficiency and optimises resource use.

Principle 2: Expanding Transit-oriented Development (TOD) Transit-oriented Development (TOD) refers to urban development concepts involving the mixed use of residential and commercial development to be pedestrian-friendly, designed with maximum access to public transport.

Principle 3: Strengthening knowledge-based clusters Knowledge-based clusters will be developed to attract investment and talent.

Principle 4: Enhancing liveability Cities need to be liveable and should create a conducive environment that attracts talent to live, study, work, and play in.

Principle 5: Adopting green-based development and practices All these cities will place high importance on continuous sustainable growth by enhancing green-based development and optimising low carbon resources.

Principle 6: Ensuring inclusivity Inclusivity is the backbone to successful and competitive cities. Inclusiveness will be one of the main thrusts for the four cities, to ensure that communities have ample opportunities to participate in social, political, and economic activities.

National Physical Plan (NPP) (Published as of August 2010)

When first approved by the National Physical Planning Council, the goal of the National Physical Plan (NPP) is to establish an efficient, equitable and sustainable national spatial framework to guide the overall development of the country towards achieving developed nation status by 2020. The NPP is prepared in accordance with the provisions of the Town and Country Planning Act 1976 (Act 172).

Recognizing the needs to strengthen the green agenda and to overcome the issues of climate change, the second NPP (NPP-2) sets out a strategic direction to cope with these issues with additional policies and measures formulated to include climate change, protection of biodiversity, green and new technology sustainable tourism and public transport. Selected policies in the NPP2 supporting the green growth concept and initiatives are summarized as follows:

- a) The spatial planning framework will incorporate mitigation and adaptation measures against the impacts of climate change.
- b) Environmentally Sensitive Areas (ESA) will be integrated in the planning and management of land use and natural resources to ensure sustainable development.
- c) Forests and peat lands are important carbon sinks. Existing forest reserves shall be conserved in order to limit the amount of carbon released into the atmosphere.
- d) Promoting the transit-oriented development (TOD3) concept as the basis of urban land use planning to ensure viability of public transport, supported by walkways and linkages to promote connectivity and to reduce emissions.
- e) All urban settlements will be serviced by an integrated network of solid-waste disposal and/or recovery facilities. Waste generation management will be promoted including recycling of waste, solid waste collection and disposal in accordance with the National Solid Waste Master Plan.
- f) As strategic assets, electricity generation plants and distribution mains shall be suitably located to provide a reliable and efficient supply of power to consumers. Renewable energy such as energy from solar, wind, wave and biomass are to be promoted to complement traditional power

generation sources. In accordance with the National Green Technology Policy (see below), green technology shall be actively promoted as a means to mitigate climate change. Therefore, new developments and buildings shall incorporate greater energy efficiency and utilize renewable energy sources.

National Urbanization Policy (NUP) *(Published as of August 2006)*

The NUP guides and coordinates planning and urban development in Malaysia by incorporating key concepts such as urban growth limits, compact cities, urban regeneration, utilization of open spaces, solid waste generation/containment, sustainable transport, energy efficiency, and renewable energy. Green urbanism has also been reflected in the NUP approved by the Cabinet on 8 August 2006. The NUP, which is being revised, emphasizes the following:

1. Optimal and balanced land use planning for urban development to ensure all development shall be compatible with the surrounding land use and concentrated within the urban growth limit so as to create a compact city.
2. Re-development programmes for brownfield areas and promotion of urban regeneration.
3. Provision of adequate open spaces and recreational areas to meet the requirements of the population, consequently promoting the contiguous and integrated development of green areas in urban centres to reduce carbon emission.
4. Development of an integrated, efficient, and user-friendly public transportation system including environmentally friendly vehicles, bicycle lanes, and a pedestrian network for efficient connectivity and a reduction in air pollution.
5. Effective and sustainable solid waste and toxic management systems to effect solid waste reduction, full utilization of bio-degradable materials and encourage recycling programmes for the community.
6. Strategies related to sufficient, affordable housing, considering the needs of various groups of society including the disabled and senior citizens.
7. Environmental conservation and improvements to the urban quality of life.
8. Development that reduces the impact of urban heat islands and ensure that urban development will consider reduction of air, noise, and water pollution.
9. Use of innovative technology in urban planning, development, and urban services management with the aim of reducing the production of waste, promoting the construction of green buildings, and encouraging the use of efficient energy and renewable energy.

State and Local Urban Planning Policies

Local land-use planning, and development has a key role in reducing GHG emission from cities and in Malaysia this is a top-down process through three tiers of government – the Federal Government, State Government and Local Authorities. The National Physical Plan (NPP) and the National Urbanization Policy (NUP) set the framework for land- use planning within which, on a nominal 5-year cycle, the states prepare their *State Structure Plans*, and the municipalities prepare the District Local Plans, the Municipal Council Plans and Special Area Plans. The Federal Department of Town & Country Planning (JPBD) of the Ministry of Urban Well Being, Housing and Local Government (KPKT) guides planning, including for low carbon development, through the provision of planning policies, standards, and guidelines.

State and local physical planning procedures are based on the provisions of the Town and Country Planning Act 1976. There are several specific planning guidelines and circulars with specific green city provisions including the following (See Annex G):

- Planning Guideline on Environmentally Sensitive Areas.
- Green Neighbourhood Planning Guideline.
- Planning Guideline for Roof Top Gardens; and
- The Circular from the Secretary General, KPKT on Rainwater Harvesting System, 1999.

Energy and Transport Policy Framework and Support Initiatives

Low Carbon Cities Framework (LCCF) *(Published as of 2011)*

The Low Carbon Cities Framework (LCCF), which was launched in 2011 by KeTTHA, is a conceptual framework aimed at providing a framework to achieve sustainable developments that will subsequently reduce carbon emissions. All stakeholders can use the document, in human settlements of any size, be they cities, townships or neighborhoods either new or existing, to measure the impact of their development decisions in terms of carbon emissions and abatement. LCCF is a national framework and assessment system to guide and assess the development of cities and to support holistic sustainable development in Malaysia. It will provide for equivalent GHG as a result of human activities in cities so that there may be awareness towards how these GHG can be reduced.

It focuses on four key areas: urban environment, urban transport, urban infrastructure, and buildings. The LCCF is structured around the Low Carbon City Criteria, which is categorized into thirteen performance criteria and 35 sub-criteria, each of which provides specific action plans toward carbon reduction targets for cities to adopt. Its assessment system allows the user to calculate the baseline as well as the reduced carbon count. This count will then translate into a carbon reduction rating for any development.

The Electric Mobility Blueprint *(Published as of 2015)*

The draft Electric Mobility Blueprint was released in February 2015, providing a comprehensive framework for the development of an EV sector, and supporting ecosystem in Malaysia. Key strategies outlined are: -

- i) Encourage Public Engagement with EVs.
- ii) Encourage Private Ownership of EVs through Financial Incentives.
- iii) Implement Regulatory Support to Encourage Use of EVs.
- iv) Incentivize and create an EV System; and
- v) Build an EV Economy.

Specific targets outlined in the Electric Mobility Blueprint are: Progressive increase in number of EVs and charging stations by 2020:

- 100,000 electric cars.
- 100,000 electric scooters.
- 2,000 electric buses.
- 125,000 charging stations.

While EV adoption has advanced significantly worldwide, this sector is still relatively emerging in Malaysia. Beyond encouraging more people to switch to EVs for sustainability reasons, the economic imperative is also there for Malaysia to invest in green innovation.

National Key Result Areas *(Published as of 2010)*

The National Key Result Areas (NKRAs) identified under the Government Transition Program (GTP), launched in 2010, includes Urban Public Transport as one of the six focus areas, specifically highlighting the importance of the development and improvement of bus networks, and connecting outlying areas with metropolitan cities, such as Kuala Lumpur and Melaka City. The Land Public Transport Commission (SPAD) was established in 2010 under the Land Public Transport Act and is responsible for developing transport related policies, and planning and regulating trains, buses, and taxi services within Malaysia, with a specific focus on integrated and sustainable public transport. Focusing on the more general development of green technologies, the National Green Technology

Policy (NGTP) specifically identifies the transportation sector as one of its four focal areas, highlighting the importance of incorporating green technology into supporting infrastructure and public road transport.

Malaysian Urban Rural National Indicators Network (MURNInet) (Data as of 2015)

JPBD has also introduced MURNInet (Malaysian Urban Rural National Indicators Network) in 1998. It is a system to determine the sustainability level of an urban area by using a set of urban indicators. The program, in which more than 70 % of the local authorities had participated by 2015, enables the tracking of the sustainability status of an urban area whether it has increased, reduced or static. The main objectives of MURNInet are:

1. To determine sustainability level of cities in the country based on a set of selected indicators.
2. To identify the strength and weaknesses of every city based on the performance of the indicators.
3. To propose improvement measures and identify opportunities to achieve sustainability level; and
4. To establish MURNInets as a tool to measure various local authority roles including administrative, technical, formulation of political objectives, encourage public participation and monitoring plan implementation.

The MURNInet is currently being reviewed for enhancement by JPBD.

Additional national policies and programs which are relevant but not directly connected to the project are described in Annex K.

Melaka State: Project Demonstration City (Data as of 2014 & 2015)

In consultation with the national stakeholders, Melaka has been selected to be the demonstration city for this project as it is a front-runner in Malaysia that is actively involved in embracing the concept of 'Green City.' The state government has announced an ambitious plan to become the first state in Malaysia to adopt green technology and be a green 'city-state' by 2020. This initiative is the first by a city or state outside the Klang Valley Area, after the Prime Minister of Malaysia announced that the cities of Putrajaya and Cyberjaya would become pioneer green cities.

Melaka (also known as the Historic State) is the third smallest Malaysian state. It is in the southern region of the Malay Peninsula, at proximity to the Straits of Melaka. The capital is Melaka City, which is 148 km south-east of Malaysia's capital city Kuala Lumpur, 235 km from Johor's largest city Johor Bahru. This historical city center has been listed as a UNESCO World Heritage Site since 7 July 2008. It has more than fourteen million tourists per year and a population of around 900,000.

Box 2: Melaka in Numbers

Population : 0.86mil
(2014) GDP per capita: USD
9,506 Labour Force: 375,000
Unemployment: 0.9%
Number of tourist arrival: 13.5mil (2013) &
15mil expected in 2014
(Source:

news) Total Emissions: 1.96 MT CO₂
eq Emissions per-capita: 2.33 T CO₂
eq (Source: CM speech Sep 15 in
Philippines)

Total Number of Vehicles, Melaka
(2014) Motorcycle 416,813
Motorcar 310,169
Bus 1,645
Taxi 1,548
Goods vehicles 26,683
Others 13,199
Total 770,057
Source: Ministry of Transport, Malaysia

Melaka State consists of four municipal districts – Alor Gajah, Jasin, Melaka Tengah, and Hang Tuah Jaya. Melaka Tengah is the most built out, with the highest urban density, and includes the historic

Melaka center. Alor Gajah and Jasin are still predominantly agricultural districts, while Hang Tuah Jaya is a newly created planned district that has become the new state government center.

As of 2014, service sector contributed to the largest share of economy in Melaka accounting for 46.4% of its GDP, followed by manufacturing (39.1%), agriculture (11.1%), construction (3.3%) and mining (0.1%)^{twenty-six}. In terms of number of workforces, as of 2013, there were 275,000 people working in the industrial sectors, 225,000 people working in the service sectors, 35,000 people working in the entrepreneurship sectors and 12,300 people working in the agricultural sectors.

Currently there are twenty-three industrial areas which are centered along the edges of the city proper in suburbs which include Ayer Keroh, Batu Berendam, Cheng, Taman Task Utama and Tanjung Kling. While outside Melaka City, industrial areas include Alor Gajah and Sungai Udang. There are around five hundred factories in the state which are owned by investors from Germany, Japan, Singapore, Taiwan, United States, etc. For small and medium-sized enterprises, a number of estates have been established by the state government.

Baseline projects/investments in the demonstration city:

There are significant programs and planned investments in the primary demonstration city/state of Melaka. However, integrated and inclusive approach are needed to ensure urban planning and management involved will include investment in green technologies through public and private partnership business model. This highlights the strength of this proposed project which emphasized on public private partnership in its implementation to ensure high impact deliverables in Melaka.

In October 2010 Melaka had declared that it met the benchmark of 'Developed State' as set out by the OECD (Organisation for Economic Co-operation and Development). The State Government has developed the Melaka Green Technology City State 2020 Blueprint and Melaka Green City Action Plan (GCAP). The GCAP, which has been developed in 2014 under the Asian Development Bank (ADB) funded project on Indonesia-Malaysia-Thailand (IMT) Growth Triangle (GT) Green City Initiative, provides a broad framework for integrated development that supports the actions being taken under the Blueprint. Together, these two documents will help achieve Melaka's vision of becoming a green city by 2020, a designation that is contingent on achieving a set number of indicators listed in the Blueprint.

Melaka has also set up the Melaka Green Technology Council to oversee the implementation of the blueprint and various green initiatives under GCAP. The function of the council as the highest coordinating body in green initiatives is to ensure that green technology is implemented in a holistic manner in the state by 2020. The state has also set up the Melaka Green Development Organisation (PTHM), under the council, which focuses on managing nine committees tasked with pursuing the state's green initiatives in areas such as open spaces, industrial zones, rivers, beaches, buildings, the transportation system, utilities, education, information as well as marketing. While more detailed information about the initiatives of GCAP can be found in Annex H, some related ones are elaborated as below details: -

Renewable energy power generation in Melaka

Melaka has an ambitious vision to become a world-class solar city by 2025.²⁷ For this purpose, it has set up a Melaka World Solar Valley, an area of 7,248 hectares, where a cluster of green technology industries specializing in solar energy will be created. The initiative will positively impact the process for development of renewable energy power generation – specifically for the integration of Solar PV into the grid. The state inaugurated a five megawatts solar farm in Rembia, Alor Gajah in 2013, and completed a second solar farm with a capacity to generate 8 megawatts of electricity in its newly developed state administrative center of Hang Tuah Jaya in Ayer Keroh a year later. The State is also

confident that its solar PV capacity will increase in the next few years as its industry players take advantage of the incentives offered by both the national and state governments for the installation of Large-Scale Solar Photovoltaic Plant (LSSPV) in the State.²⁸

Building and smart-grid related programmes in Melaka

In most regions of the world, heating, ventilation, and air conditioning (HVAC) and cooling loads represent the largest building-sector energy end-use (50% of building consumption). The building envelope – the boundary between the conditioned interior of the building and the outdoors – can be significantly improved to reduce the energy needed to heat and cool buildings. With innovative technologies such as advanced facades, highly insulating windows, high levels of insulation, well-sealed structures, and cool roofs in hot climates, the need for interior conditioning can be avoided in many parts of the world, including some of the fastest growing regions in hot climates.

In Malaysia, the average building energy consumption is between 269 to 275 kWh/m²/year. Malaysia's commercial and residential sector consumes approximately 13% of national energy demand, and 48% of electricity consumption. Its GHG emission accounted for approximately 4% of national CO₂ emission related to energy, at 3947 GgCO₂²⁹.

There is potential for reduction of energy consumption of 40-50% in new buildings and 15-25% in existing buildings through energy efficiency applications including retrofitting's, building/home energy management systems (BEMS/HEMS). Renewable energy applications could also help to save energy consumption and reduce the use of fossil fuels. The Malaysian Standard Code of Practice on Energy Efficiency and Use of Renewable Energy for Non- residential Buildings (MS 1525:2007) provides guidelines on the effective use of energy (including renewable energy) in new and existing non-residential buildings.

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e., FY22. Please also provide a short justification for the selected ratings for FY22.

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management³, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. To facilitate with this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e., FY21, in the last column.

Overall Ratings⁴	FY22	FY21
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	<i>Satisfactory (S)</i>	<i>Satisfactory (S)</i>
<p>The project has been able to deliver on policy, standards and capacity building activities in support of its dual objectives, contributing to its global environmental objective of mitigating and reducing greenhouse gas emissions through more integrated and sustainable urban development and the adoption of low carbon technologies. A key component still to be completed is the smart grid technology demonstration where direct GHG emissions will be mitigated. Delays on realizing the potential of the</p>		

³ Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

⁴ Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

smart grid technology reflect the realities of having to postpone in person work as a result of ongoing COVID-19 related challenges that have not been unique to Malaysia. The project has developed a strategy forward for completing the remaining work on the technology demonstration and delivering on its objectives.

Implementation
Progress (IP) Rating

Satisfactory (S)

Satisfactory (S)

In spite of the challenges related COVID-19 (health and movement restrictions), the project has been able to press ahead and complete many activities on the originally intended timeline. This has been accomplished through adapting to having meetings, conferences and capacity building activities online. The project has had set-backs with respect to timelines for installation and scoping of technology demonstrations for the smart grid demonstration and has been approved for a project extension to complete this work that could not have been completed otherwise.

Overall Risk Rating

Moderate Risk (M)

Moderate Risk (M)

There is ongoing risk that Malaysia, like all countries, could face the need to have additional health and movement restrictions due to changes in national circumstances related to COVID-19. Based on what we have experienced so far from the pandemic in terms of waves, the requested extension should suffice to complete the project's remaining activities.

II. Targeted results and progress to-date

Please describe the progress made in achieving the outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Please fill in the below table or make a reference to any supporting documents that may be submitted as annexes to this report.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress to-date
SC IAP Indicator				
Component 1 – Integration of Climate Risks in urban planning and management				
Outcome 1.1: National Urban Policy framework strengthened to promote sustainable and resilient cities model/Improved				
	SC IAP Indicator 1 Number of cities exhibiting projects with integrated, multi-sector sustainability planning	A number of fragmented sector-focused policies on green urban development exist but no specific integrated sustainable city master plans have been developed by city municipalities in Malaysia.	At least one sustainable city master plan proposed for endorsement by stakeholders	1) Development of Malaysia Sustainable Cities and Communities' Standard: Smart City ICT Infrastructure. Status: Under review, expected completion September 2022 2) Smart Melaka Blueprint 2035. Status: Completed Please refer to Appendix 1: Related documents for Item (1) - (2)
	SC IAP Indicator 2 Number of cities have integrated resilience consideration into their	There are cities with integrated resilience practices within planning process now	At least one city integrated resilience practices into their planning process	Melaka 1) Capacity Building & Awareness for Melaka Green Seal (Green Building Certification).

planning process			<ul style="list-style-type: none"> • 16 July 2021 • 30 July 2021 • 13 August 2021 <p>2) Smart Melaka Blueprint 2035: Workshop Smart Melaka Blueprint 2035.</p> <ul style="list-style-type: none"> • Workshop one 30 Jun – 1 Jul 2021 • Workshop two 25-26 Aug 2021 • 9-11 Workshop three Nov 2021 <p>3) Capability Building Program for Sustainable and Green Urban Development. Date: 27-28 July 2021</p> <p><u>Please refer to Appendix 2:</u> Related documents for Item (1) - (3)</p>
SC IAP Indicator 3 Number of cities with meaningful engagement of multiple stakeholders in planning and implementation of the projects supported by the IAP	Limited scope of Stakeholders involved in planning and implementation of sustainability plans	Multiple groups attend the stakeholder engagement events at the design and/or implementation stages, and the events complement or enhance the local authority's established process for stakeholder engagement	<p>1) Webinar 1 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 16 July 2021</p> <p>2) Workshop 1 - Smart Melaka Blueprint 2035: Workshop Smart Melaka Blueprint 2035. Date: 30 June to 1 July 2021</p> <p>3) Capability Building Program for Sustainable and Green Urban Development. Date: 27 & 28 July 2021</p> <p>4) Webinar 2 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification) Date: 30 July 2021</p> <p>5) Webinar 3 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification) Date: 13 Aug 2021</p> <p>6) Workshop 2 Smart Melaka Blueprint 2035. Date: 25 & 26 Aug 2021</p> <p>7) Malaysia Urban Forum-Webinar on "Sustainable Urban Nation 2030: Better Cities for All with Covid-19". Date: 6 September 2021</p> <p>8) CITIES 4.0 Date: 21 September 2021</p> <p>9) Workshop 3 Smart Melaka Blueprint 2035. Date: 9-11 November 2021</p> <p>10) Smart City Industry Talk. Date: 11 November 2021</p> <p>11) Webinar Smart Mobility Towards Sustainability Growth. Date: 11 November 2021</p> <p>12) Webinar Cybersecurity for Smart Cities. Date: 24 March 2022</p>

			<p>13) Global Waste Management Conference. Date: 29 – 30 March 2022</p> <p>14) Smart City Seminar. Date: 25 April 2022</p> <p>15) Global Net Zero Action 2022. Date: 24 – 25 May 2022</p> <p><u>Please refer to Appendix 3: Related documents for Item (1) – (15)</u></p>
SC IAP Indicator 4 Number of cities with improved tracking systems and enhanced capacity for measuring local and global sustainability indicators	The existing practices do not address sustainability indicators.	Developed manual for collecting and analyzing sustainability indicators at city level	<p>1) Sustainable cities and communities – Indicator for Smart cities. Status: Completed</p> <p>2) Development of Malaysia Sustainable Cities and Communities' Standards: Smart Cities' ICT Infrastructure. Status: Under review, expected completion September 2022</p> <p><u>Please refer to Appendix 4:</u> Related documents on (1) – (2)</p>
SC IAP Indicator 6 Number of cities that have learned about best practices for municipal financial management and financing for sustainability	The cities have low understanding of the best practices for municipal financial management and sustainability	At least three cities' representatives received knowledge	<p>1) Webinar 1 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 16 July 2021</p> <p>2) Workshop 1 - Smart Melaka Blueprint 2035: Workshop. Smart Melaka Blueprint 2035 Date: 30 June to 1 July 2021</p> <p>3) Capability Building Program for Sustainable and Green Urban Development. Date: 27 & 28 July 2021</p> <p>4) Webinar 2 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 30 July 2021</p> <p>5) Webinar 3 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 13 Aug 2021</p> <p>6) Workshop 2 Smart Melaka Blueprint 2035. Date: 25 & 26 Aug 2021</p> <p>7) Malaysia Urban Forum-Webinar on "Sustainable Urban Nation 2030: Better Cities for All With Covid-19". Date: 6 September 2021</p> <p>8) CITIES 4.0 Date: 21 September 2021</p> <p>9) Workshop 3 Smart Melaka Blueprint 2035. Date: 9-11 November 2021</p> <p>10) Smart City Industry Talk.</p>

			<p>Date: 11 November 2021</p> <p>11) Webinar Smart Mobility Towards Sustainability Growth. Date: 11 November 2021</p> <p>12) Webinar Cybersecurity for Smart Cities. Date: 24 March 2022</p> <p>13) Global Waste Management Conference. Date: 29 – 30 March 2022</p> <p>14) Smart City Seminar. Date: 25 April 2022</p> <p>15) Global Net Zero Action 2022. Date: 24 – 25 May 2022</p> <p><u>Please refer to Appendix 5: Related documents for Item (1) – (15)</u></p>
	<p>SC IAP Indicator 9 Number of institutions and city-based networks engaged with IAP at the local, regional, and global level as partners</p>	<p>No institutions or city-based networks engaged with IAP</p>	<p>At least three institutions and city-based networks engaged</p> <p>1) MyICSC Content and Technical Committee.</p> <p>2) Melaka Green Seal Technical Committee.</p> <p>3) Melaka Green Seal Technical Assessor.</p> <p>4) Local Authorities (PBT).</p> <p>5) TC/D/29 - Sustainable cities and Communities.</p> <p>6) WG/D/29-2 Committee.</p> <p>7) National Standards Committee on Smart City.</p> <p>8) Smart Melaka Technical Committee.</p> <p>9) Smart Melaka Implementation Committee.</p> <p>10) Project Evaluation Committee Smart Melaka Blueprint 2035.</p> <p><u>Please refer to Appendix 6: Related documents on Item (1) – (10):</u></p>
Outcome 1.2 Investments in pilot cities generate local and global environmental benefits			
	<p>SC IAP Indicator 7 Number of cities where investment projects have incorporated sustainability indicators or factors</p>	<p>No city project on low emission and environmentally sound technologies implemented under SC-IAP</p>	<p>Two (2) to three (3) cities demonstration projects on low-emission and environmentally sound technologies, incorporating sustainability indicators or factors, implemented under SC-IAP</p> <p>1) 30kW Rooftop Solar at Majlis Bandaraya Melaka Bersejarah (MBMB). Status: Installation of solar panel completed. Way forward, to install small battery system connected to the solar PV rooftop at MBMB and to complete testing and commissioning for data measurement and verification.</p> <p>2) Tapping on existing 4000L Solar Thermal Project at Ever Delicious Food Industries. Status: To procure flowmeter and install at Solar Thermal system.</p> <p>3) 100kW Rooftop Solar at Majlis Perbandaran Alor Gajah (MPAG).</p>

				<p>Status: Approval obtained from building owner. Next, to finalize solar key term agreement.</p> <p>4) 1000kW Solar Thermal with UTeM. Status: Obtained approval for matching grant on the development of Solar Thermal drying machine. Next, to proceed with MOA.</p> <p>Please refer to Appendix 7: Related documents on Item (1) – (4):</p>
	SC IAP Indicator 8 Funds leveraged to support the investment flow to urban sustainability in the IAP projects	No business models/ contractual agreements established under SC-IAP	2-3 business models / contractual agreements established in the 2-3 investment projects	<p>1) Zero capex (UNIDO 100%).</p> <p>2) Co-investment from EVD.</p> <p>3) 300,000 smart meters from TNB.</p> <p>4) NDA with parties.</p> <p>5) User Acceptance Proposal.</p> <p>6) Matching grant.</p>
Component 1 – Integration of Climate Risks in urban planning and management				
Outcome 1.1: National Urban Policy framework strengthened to promote sustainable and resilient cities model/Improved				
Output 1.1: National & state policies and strategic direction for development of sustainable and resilient cities	Developed national framework for sustainable city development	Developed the National Policy Level on Smart City Framework 2019-2025.	One national framework for sustainable city development	<p>1) Development of Malaysia Sustainable Cities and Communities' Standard: Smart City ICT Infrastructure. Status: Under review, expected completion September 2022</p> <p>2) Smart Melaka Blueprint 2035. Status: Completed</p> <p>Please refer to Appendix 8: Related documents for Item (1) - (2)</p>
	Developed enabling policy frameworks	There is smart grid initiatives of TNB and GEF-UNDP GTALCC projects in Melaka. The project will leverage ongoing initiatives and allow for scaling up smart grid developments through development of enabling policies.	10% increase of expected smart grid applications	<p>Smart Grid Regulatory Framework is currently developed through our PDP (Universiti Tenaga Nasional, UNITEN). The project started in January 2020 till December 2021 (EOT: Jan 2022 – June 2022)</p> <p>SGRF & Policy Input had been drafted and presented to various stakeholders as follows:</p> <p>1) TNB Distribution Network and TNB Grid on 11th October 2021.</p> <p>2) SEDA on 20th October 2021.</p> <p>3) Roundtable discussion with UPEN Melaka, PTHM, Gading Kencana (LSS), Kumpulan Melaka Berhad (LSS), QSP (LSS), i2 Energy (LSS) and UTeM on 26th October 2021.</p> <p>4) Input consolidations on Smart Grid and Grid Code with Energy Commission on 25th January 2022.</p> <p>5) Ministry of Housing and Local Government (Sustainable Cities Department) and (Local Authority Department) on 3rd March 2022.</p> <p>6) Smart Grid Regulatory Framework & Policy Input Finalization Workshop on 10th March 2022.</p>

			<p>7) Validation on Smart Grid Regulatory Framework & Policy Input content with MIGHT on 10th June 2022.</p> <p>8) Validation on Smart Grid Regulatory Framework & Policy Input content with Energy Commission on 30th June 2022.</p> <p><u>Please refer to Appendix 9:</u> Related documents for Item (1) - (8)</p> <p>1) Thematic Analysis on 10 SG Priority Areas had performed to scrutinize recent status and identify the loopholes from the existing documents. Following are the 10 SG Priority Areas:</p> <ul style="list-style-type: none"> ▪ Advanced Metering Infrastructure (AMI). ▪ Electric Vehicle (EV) & Electric Vehicle Supply Equipment (EVSE). ▪ Cyber Security. ▪ Renewable Energy (PV, biodiesel, biomass). ▪ Wide-area Situational Awareness (WASA). ▪ Distribution Automation System (DAS). ▪ Demand Response. ▪ Energy Management System (EMS). ▪ Network Communication. ▪ Energy Storage. <p>2) The Smart Grid Regulatory Framework also highlighted the Cyber Security aspect on Smart Grid development as follows:</p> <ul style="list-style-type: none"> ▪ Cyber Security Levels. ▪ Cyber Security Pillars. ▪ Cyber Security Requirements. ▪ Smart Grid Data Security and Privacy. <p>3) Prominent stakeholders had verified the formulation of Smart Grid Cyber Security as below:</p> <ul style="list-style-type: none"> ▪ MCMC ▪ NACSA ▪ Cyber Security Malaysia ▪ TNB ▪ Petronas ▪ SIRIM ▪ TM ▪ MIMOS ▪ MTFSB <p><u>Please refer to Appendix 10:</u> Related documents for Cyber Security</p> <p>1) Following is the list of increment on Smart Grid applications for RE & EV penetration in Malaysia:</p> <ul style="list-style-type: none"> ▪ Data as of Dec 2021:-Smart Meter increment (deployment): 2019: 281,066 2020: 891,294 2021: 1.8 million
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				<ul style="list-style-type: none"> RE Penetration 2019: 8,047 MW 2020: 8,699 MW 2021: 7,995 MW EV Penetration 2019: 645,151 kWh 2020: 934,691 kWh 2021: 997. 000 kWh
Output 1.2: Institutional capacity of policymakers at the national, state, and local levels built.	Number of workshops and seminars organized	No comprehensive training on integrated sustainable urban planning and management	At least 1 training on integrated, evidence based and inclusive sustainable city planning and management including formulation of master plans conducted.	<p>Sustainable City Development:</p> <ol style="list-style-type: none"> 1) Webinar 1 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 16 July 2021 2) Capability Building Program for Sustainable and Green Urban Development. Date: 27 & 28 July 2021 3) MyICSC Portal Training for Stakeholder. Date: 29 July 2021 4) Webinar 2 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 30 July 2021 5) Webinar 3 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 13 Aug 2021 6) Workshop Smart Melaka Blueprint 2035 – Workshop 3. Date: 9-11 November 2021 7) Smart City Seminar. Date: 25 April 2022 <p>Please refer to Appendix 11 Related documents for Item SCD (1) - (7)</p> <p>Smart Grid:</p> <ol style="list-style-type: none"> 1) Training Session: Costs and Benefit Analysis for Smart Grid on 27th and 28th July 2021. 2) UNITEN had distributed e- certificate for SG Elements, issue & Challenges on 30 August 2021 events. 3) Mini-Workshop for development of SG Virtual Site, 20 September 2021. 4) SGP SG Virtual Site Photography and Filming Session on 28th – 30th September 2021. 5) SG Virtual Site Development on 4th – 27th October 2021. 6) Training Session: RE- integrated Smart Grid, solar-powered EV charging stations, energy and RE applications in buildings on 8th

				<p>October 2021. With 22 participants attended, 14 participants (65%) were male, and 8 participants (35%) were female.</p> <p>7) MIGHT-UNITEN Smart Grid Virtual Site Visit Program on 27th December 2021.</p> <p>8) Training Session: MIGHT-UNITEN Smart Grid Refresher Course 2022 on 17th – 19th January 2022.</p> <p>Please refer to Appendix 12 Related documents for Item SG (1) - (8)</p>
	Number of policy makers participated in training courses/ workshops and awareness events on integrated sustainable city development	No national or local policy maker trained	100 policy makers at national state and local level trained (at least 40 % female participants)	<p>1) Webinar 1 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 16 July 2021 Total Participants: 47 (Male 57%, Female 43%)</p> <p>2) Workshop 1 - Smart Melaka Blueprint 2035: Workshop Smart Melaka Blueprint 2035. Date: 30 June to 1 July 2021 Total Participants: 63 (Male 58%, Female 42%)</p> <p>3) Capability Building Program for Sustainable and Green Urban Development. Date: 27 & 28 July 2021 Total Participants: 109 (Male 66%, Female 34%)</p> <p>4) Webinar 2 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 30 July 2021 Total Participants: 22 (Male 64%, Female 36%)</p> <p>5) Webinar 3 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 13 Aug 2021 Total Participants: 38 (Male 48%, Female 52%)</p> <p>6) Workshop Smart Melaka Blueprint 2035 – Workshop 2. Date: 25 & 26 Aug 2021 Total Participants: 83 (Male 55%, Female 45%)</p> <p>7) Malaysia Urban Forum - Webinar on "Sustainable Urban Nation 2030: Better Cities for All with Covid-19". Date: 6 September 2021 Total Participants: 83 (Male 62%, Female 38%)</p> <p>8) Cities4.0 Date: 21 September 2021 Total Participants: 83 (Male 51%, Female 49%)</p> <p>9) Workshop Smart Melaka Blueprint 2035 – Workshop 3. Total Participants: 52 (Male 68%, Female 32%)</p>

				<p>10) Smart City Industry Talk. Date: 9-11 November 2021 Total Participants: 52 (Male 68%, Female 32%)</p> <p>11) Webinar Smart Mobility Towards Sustainability Growth. Date: 11 November 2021 Total Participants: 139 (Male 69%, Female 31%)</p> <p>12) Cybersecurity for Smart Cities. Date: 24 March 2022 Total Participants: 154 (Male 59%, Female 41%)</p> <p>13) Global Waste Management Conference. Date: 29 – 30 March 2022 Total Participants: 117 (Male 51%, Female 49%)</p> <p>14) Smart City Seminar. Date: 25 April 2022 Total Participants: 50 (Male 60%, Female 40%)</p> <p>15) Global Net Zero Action 2022. Date: 24 – 25 May 2022 Total Participants: 127 (Male 51%, Female 49%)</p> <p><u>Please refer to Appendix 13.</u> Related documents for Item (1) – (15)</p>
	Number of experts and end-users participated in training courses / workshops and awareness events on integrated sustainable city development and RE integrated smart grid	No experts or end users trained	At least 50 experts and 50 end users trained (at least 40% female participants)	<p>1) Assessment and Certification for Smart Grid Training on:</p> <ul style="list-style-type: none"> ▪ Smart Grid: Elements, Issues & Challenges <ul style="list-style-type: none"> ○ Total Participants: 75 ○ Total Proficiency: 45% ▪ Solar Thermal Engineering <ul style="list-style-type: none"> ○ Total Participants: 55 ○ Total Proficiency: 64% ▪ Solar Photovoltaic <ul style="list-style-type: none"> ○ Total Participants: 56 ○ Total Proficiency: 59% ▪ EV Deployment Towards Sustainability <ul style="list-style-type: none"> ○ Total Participants: 56 ○ Total Proficiency: 63% ▪ Building Energy Modelling <ul style="list-style-type: none"> ○ Total Participants: 41 ○ Total Proficiency: 46% ▪ GHG Calculation & Analysis on SG Integration <ul style="list-style-type: none"> ○ Total Participants: 23 ○ Total Proficiency: 26% ▪ Data Analytics & Cyber Security for Smart Grid <ul style="list-style-type: none"> ○ Total Participants: 103 ○ Total Proficiency: 12% ▪ Cost Benefit Analysis & Risk Analysis on Smart Grid Investment <ul style="list-style-type: none"> ○ Total Participants: 60 ○ Total Proficiency: 57% <p><u>Kindly refer to Appendix 14</u> Related documents on Assessment and Certification for Smart Grid Training</p>
	Increased awareness of local policy makers	Low awareness on RE-integrated,	At least 60% of the	<p>1) Mini Workshop for Smart Grid Virtual Site Development.</p>

		evidence based and inclusive approach to sustainable city planning and management.	participating end-users and utilities companies are convinced on the benefits of smart grid	<p>Date: 20th Sept 2021 Total Participants: 28 (Male 75%, Female 25%)</p> <p>2) Smart Grid Virtual Site Visit. Date: 27th Dec 2022 – 31st March 2022 Total Participants: 103 (Male 64%, Female 36%)</p> <p>Visit to following technology contributor sites:</p> <ul style="list-style-type: none"> ▪ Quantum Solar Park (LSS) ▪ Gading Kencana (LSS) ▪ Ever Delicious Food Industries (Rooftop Solar and Solar Thermal) ▪ Xin Yi Solar (Rooftop Solar) ▪ Putra Specialist Hospital (Solar Thermal) ▪ Mahkota Parade (EV Charging Station) ▪ Seong Hoe Premium Motor (EV Charging Station) ▪ Wisma TNB Melaka (Energy Efficient Building: Smart Chiller) <p>Kindly refer to Appendix 15 Related Documents for Item (1) – (2)</p>
	Increased awareness of concerned national policy makers at various levels and targeted stakeholders created on integrated, evidence-based inclusive approach to sustainable city planning and management.	Low awareness on integrated, evidence based and inclusive approach to sustainable city planning and management	At least 60% of participants feel capable of successfully applying the knowledge/skills	<p>1) Webinar 1 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 16 July 2021</p> <p>2) Workshop 1 - Smart Melaka Blueprint 2035: Workshop Smart Melaka Blueprint 2035. Date: 30 June to 1 July 2021</p> <p>3) Capability Building Program for Sustainable and Green Urban Development. Date: 27 & 28 July 2021</p> <p>4) Webinar 2 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 30 July 2021</p> <p>5) Webinar 3 - Capacity Building & Awareness for Melaka Green Seal (Green Building Certification). Date: 13 Aug 2021</p> <p>6) Workshop 2 Smart Melaka Blueprint 2035. Date: 25 & 26 Aug 2021</p> <p>7) Malaysia Urban Forum-Webinar on "Sustainable Urban Nation 2030: Better Cities for All with Covid-19". Date: 6 September 2021</p> <p>8) Cities 4.0 Date: 21 September 2021</p> <p>9) Workshop 3 Smart Melaka Blueprint 2035. Date: 9-11 November 2021</p> <p>10) Smart City Industry Talk. Date: 11 November 2021</p>

				<p>11) Webinar Smart Mobility Towards Sustainability Growth. Date: 11 November 2021</p> <p>12) Webinar Cybersecurity for Smart Cities. Date: 24 March 2022</p> <p>13) Global Waste Management Conference. Date: 29 – 30 March 2022</p> <p>14) Smart City Seminar. Date: 25 April 2022</p> <p>15) Global Net Zero Action 2022. Date: 24 – 25 May 2022</p> <p><u>Please refer to Appendix 16:</u> <u>Related documents for Item (1) – (15)</u></p>
	Number of events	Capacity building activities on sustainable city development is limited and fragmented. For instance, GEF-UNIDO IEEMMS project implements capacity building activities in the field of Energy Management Systems and energy system optimization.	One Targeted training courses for end-users, private sector, academia and civil society to promote integrated approach to sustainable city development.	<p>1) Smart Grid Refresher Course. Date: 17, 18 and 19 Jan 2022 Total Participants: 37 (Male 57%, Female 43%)</p> <p>(Targeted to Melaka Participants):</p> <ul style="list-style-type: none"> ▪ Smart Grid: Elements, Issues and Challenge ▪ Solar Photovoltaic ▪ Electric Vehicle (EV) Deployment Towards Sustainability ▪ Building Energy Modelling <p><u>Kindly refer to Appendix 17</u> <u>Related documents on Smart Grid Refresher Course</u></p>
	Number of workshops and seminars organized.	There are only a few demonstration projects on smart grid in few locations in Malaysia, e.g., Melaka, Johor, Putrajaya. The institutional capacity of local authorities remain limited and not sufficiently addressed within the other demonstration projects.	<p>1 Training course on costs and benefits analysis on smart grid related investment; RE-integrated smart grid, solar powered EV charging stations, energy efficiency and RE applications in Buildings</p> <p>At least 1 RE-integrated smart grid training conducted, on data analysis and management on sustainable city development and on data collected from smart grid</p>	<p>1) Smart Grid Training on Costs and Benefit Analysis for Smart Grid. Date: 27th and 28th July 2021 Total Participants: 60 (Male 73%, Female 27%)</p> <p><u>Kindly refer to Appendix 18</u> <u>Related documents for Smart Grid Training on Costs and Benefit Analysis for Smart Grid</u></p> <p>1) Smart Grid Refresher Course on Smart Grid: Elements, Issues & Challenges. Date: 8th October 2021 Total Participants: 22 (Male 65%, Female 35%)</p> <p>2) Training for 30kW Rooftop Solar at MBMB. Date: 27th May 2022.</p> <p><u>Kindly refer to Appendix 19</u> <u>Related documents for Item (1) – (2)</u></p>

Output 1.3: Awareness raising events for policymakers, industry and end-users organised at all levels for dissemination of tangible benefits/results of project.	Developed and implemented education and outreach programme	The state government has a program to promote electric cars and scooter, but there is Low awareness on benefits of smart grid among consumers and stakeholders.	At least five awareness raising events on REintegrated smart grid organized (at least 40% female participants)	<p>1) Awareness Raising Event to Financial Institutions, Private Sectors and NGO. Date: 29th July 2021 Total Participants: thirteen (Male 69%, Female 31%)</p> <p>2) Smart Grid Code War Competition 2021 Date: 1st Sept 2021 – 15th Dec 2021 Total Participants: 162 (Male 60%, Female 40%)</p> <p>3) Smart Grid Awareness Sharing Session with MAIM (Melaka Islamic Religion Council) Date: 17th Nov 2021 Total Participants: eight (Male 38%, Female 62%)</p> <p>4) Awareness Sharing Session with Melaka Local Community Date: 7th December 2021 Total Participants: 100 (Male 58%, Female 42%)</p> <p>5) Smart Grid Radio Talkshow at Melaka FM (30-minute session) Date: 16th June 2022 Total views: 242</p> <p><u>Kindly refer to Appendix 20</u> Related documents for Item (1) – (5)</p> <p>Understanding and Satisfaction Index on following activities:</p> <p>1) Smart Grid Knowledge Sharing Session & Road to Recovery. Total Respondents: 769 Overall Percentage: 84.75%</p> <p>2) Smart Grid Virtual Run 2021 & Smart Grid Code War Competition 2021. Total Respondents: 1000 Overall Percentage: 84.75%</p> <p><u>Kindly refer to Appendix 21</u> Related documents for Item (1)-(2)</p>
	% Of participants reporting that they feel capable of successfully applying the knowledge/skills acquired in their workplace.	Low awareness on REintegrated smart grid system among equipment vendors, service providers, industry management, and financial institutions.	At least 60% of the participating end-users and utilities companies are convinced on the benefits of smart grid	
	Number of institutions and city-based networks engaged with IAP at the local, regional, and global level as partners (IAP Indicator 8)	Limited number of institutions and networks have been engaged with IAP so far	At least fifty companies Engaged	<p>1) List of Smart City Development (SCD) stakeholders.</p> <p>2) List of Smart Grid Project Stakeholder.</p> <p><u>Kindly refer to Appendix 22</u> Related documents for Item (1)-(2)</p>
	Established web portal	There is no specific web portal on sustainable city development	Published materials on integrated approach for sustainable city	<p>1) Smart City Development (SCD)</p> <ul style="list-style-type: none"> ▪ Malaysia International Centre for Sustainable Cities (MyICSC). <p>2) Smart Grid Project Web Portal:</p>

			development; and RE integrated smart grid (Materials should be gender aware)	<ul style="list-style-type: none"> Smart Grid Facebook Smart Grid Instagram Smart Grid YouTube Smart Grid Capacity Building Virtual Site Smart Grid Capacity Building Training Website Smart Grid Website Publication on Smart Grid Virtual Run 2021 on 4th October 2021 <p>Kindly refer to Appendix 23 Related documents for Item (1)-(2)</p> <ol style="list-style-type: none"> SGP Road to Recovery Webinar entitled "Smart Grid and The Drive Towards a High-Tech Nation". Date: 5th August 2021 Total Participants: 197 (Male 70%, 30%) Smart Grid Virtual Run 2021. Date 15th July 2021 – 15th Aug 2021 Total Participants: 1000 (Male 62%, Female 38%) Smart Grid Virtual Run 2021 (Closing Ceremony streaming via YouTube). Date: 20th August 2021 Total Views: 470 Link: YouTube Smart Grid Awareness Exhibition. Date: ninth – 11th November 2021 Total Participants: 100 (Male 51%, Female 49%) <p>Kindly refer to Appendix 24 Related documents for Item (1)-(4)</p>
Outcome 1.2: Investments in pilot cities generate local and global environmental benefits				
Output 1.2.1: The adoption of renewable energy (RE) integrated smart grid facilitated through demonstration activities of distributed RE systems, solar powered EV charging facilities, battery energy storage, EE and RE applications in buildings and ICT system.	<p>Location choice and demonstration project design is justified through</p> <p>Demonstration projects constructed in line with ESMP and technical requirements</p>	<p>No due diligence studies conducted for smart grid application on selected sites in Melaka</p> <p>Project had not started installations</p>	<p>Prepared Due Diligence Report</p> <p>Successfully performing three installations</p> <p>300,000 residential</p>	<p>Various series of Site technical assessment (STA) had been carried out from July 2021 until June 2022.</p> <p>Please refer Appendix 25: Related documents on Site Technical Assessment Reports for SGDP.</p> <ol style="list-style-type: none"> For Phase 1 of SGDP, a total of 13 Energy Monitoring System (EMS) toolkit installations had been done throughout Phase 1. For Phase 2 of SGDP, a total of 47 Energy Monitoring System (EMS) toolkit installations had been done throughout Phase 2.

	Number of consumers (residential and commercial) connected to the smart grid with smart meters	270,000 residential. This figure should be zero as none connected to the smart grid.	This figure should be 30,000 as per Phase 3.	30,000 smart meters from residential area has been connected to TNB (national utility provider). Agreement is to be finalised with TNB and data can be integrated with Smart Grid. TNBR currently developing Energy Efficiency Application for smart meter from residential area and obtain approval for commitment as AMI user data. Features development of the applications is based on the requirement from Term of Reference.
	Number of commercial buildings implementing BEMS	Zero commercial	110 commercials	<p>For commercial buildings with smart meter, according to Phase 1 deliverables, a total of ten buildings is to be integrated to the smart grid. Ten buildings have been integrated to the Smart Grid System.</p> <p>Completed:</p> <ol style="list-style-type: none"> 1) Majlis Bandaraya Melaka Bersejarah (MBMB) 2) Ever Delicious Food Industries 3) Mahkota Parade mall 4) UiTM Alor Gajah 5) Wisma TNB MITC 6) Five buildings at Composites Technology Research Malaysia (CTRM) <p>For commercial buildings with smart meter, according to Phase 2 deliverables, a total of ten buildings is to be integrated to the smart grid. Thirty-four buildings have been integrated to the Smart Grid System and total of 6 buildings still on going on obtaining approval proposal user acceptance as technology contributor.</p> <p>On Going:</p> <ol style="list-style-type: none"> 1) Institut Latihan Perindustrian (ILP) Selandar 2) Syarikat Air Melaka Berhad (SAMB) 3) Sanpoly Industry Sdn Bhd <p><u>Please refer Appendix 26:</u> Related documents on SGDP for approved proposal from site owners for integration with smart grid.</p>
	Number of commercial buildings implementing BEMS	Zero commercial	Zero large commercial Buildings	<p>Large Commercial Building with BEMS:</p> <ol style="list-style-type: none"> 1) CTRM 2) UTeM 3) MMU
	Capacity of RE energy installed in Melaka	0 MW Renewable installed	44.26 MW of solar PV	<p>According to Phase 1 deliverables, one site large solar scale has been integrated with the smart grid.</p> <ol style="list-style-type: none"> 1) Large Solar Scale Gading Kencana Solar Farm (8MW). <p>According to Phase 2 deliverables, two site large solar scale and 130kW solar PV rooftop have been integrated with the smart grid.</p> <ol style="list-style-type: none"> 1) Large Solar Scale KMB Solar Farm (5MW). 2) Large Solar Scale i2 Energy Solar Farm (6.8MW). 3) Solar PV Rooftop at MBMB (30kW).

	Number of EVs added to municipal fleet.	0 EV in municipal fleet	5 EV Charging Stations	<p><u>Please refer Appendix 27:</u> <u>SGDP for approved proposal from site owners for integration with Smart Grid</u></p> <p>According to Phase 1 deliverables, 1 EVCS have been integrated with the Smart Grid. 1) EVCS at Mahkota Parade mall</p> <p>According to Phase 1 deliverables, 1 EVCS have been integrated with the Smart Grid. 1) EVCS at BMW 2) EVCS at MBMB</p> <p><u>Please refer Appendix 28</u> <u>SGDP for approval from Mahkota Parade, BMW and MBMB post installation report:</u></p>
Component 2 – Adequate monitoring and evaluation facilitates smooth and successful project implementation				
Outcome 2.1: Adequate monitoring and evaluation facilitates smooth and successful project implementation				
Output 2.1.1: Regular monitoring exercises conducted.	GEF PIRs prepared	Project had not started	Prepare GEF PIRs on yearly basis	1) Completed for 1 July 2018 – 30 June 2019. 2) Completed for 1 July 2019 – 30 June 2020. 3) Completed for 1 July 2020 – 30 June 2021. 4) Ongoing for 1 July 2021 – 30 June 2022.
Output 2.1.2: Midterm review and final independent project evaluation conducted.	Project mid-term review carried out including submission of GEF Tracking Tools Project final evaluation conducted including submission of GEF Tracking Tools	Project had not started	Conduct independent mid-term review in project year 3 Conduct independent final evaluation	Completed the MTR in September 2020.

III. Project Risk Management

1. Please indicate the overall project-level risks and the related risk management measures: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

Describe in tabular form the risks observed and priority mitigation activities undertaken during the reporting period in line with the project document. Note that risks, risk level and mitigations measures should be consistent with the ones identified in the CEO Endorsement/Approval document. Please also consider the project's ability to adopt the adaptive management approach in remediating any of the risks that had been sub-optimally rated (H, S) in the previous reporting cycle.

	(i) Risks at CEO stage	(i) Risk level FY 21	(i) Risk level FY 22	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
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⁵ New risk added in reporting period. Check only if applicable.

1	Drop in oil prices significantly affect government revenues and spending resulting in changed priorities and resource allocation	Medium (M)		<p>The economy being highly dependent on global economic factors is beyond the control of the project. However, by virtue of the focus on planning at the sub-national level and the emphasis on an integrated approach, especially with regards cross-sectoral coordination, the impact of economic downturn in any sector is diffused.</p> <p>The risk will also be reduced by closely engaging Government at all levels across a range of institutions and in various capacities. In particular, KPKT, MESTECC, MNRE, and state and city authorities have been involved in the project design and have clearly defined roles and responsibilities. Also, by ensuring that the project outputs are aligned to the national and state priorities, the said risk would be reduced. Continued political support will be maintained by involving high level decision makers in the activities of the project, especially in public events, and maintaining a regular high-level briefing and feedback on project progress</p>	Not relevant	<input type="checkbox"/>
2	Delays/lack of adoption at the national level of the proposed improvements to the institutional and regulatory framework by public institutions	Medium (M)		<p>Output 1.1.1. is dedicated to supporting improvements to the regulatory and policy framework, and awareness and capacity building within national, state, and local institutions. In order to mitigate any potential risk of delays, close cooperation of the project partners in the NSC, comprising of senior government policy makers, will be sought and a clear delineation of project stakeholders' roles and responsibilities has been outlined in this project document.</p> <p>In addition, Output 1.1.2 aimed at capacity building of the various relevant institutions to create awareness and a better understanding of the project's interventions, thereby creating</p>	<p>Output 1.1.1.</p> <ol style="list-style-type: none"> 1) Smart Melaka Blueprint 2035 The rescheduling on Smart Melaka Blueprint 2035 timeline are due to the change of process and procedure by the state government to execute the meeting and endorsement. 2) Development of Malaysia Sustainable Cities and Communities' Standards: ICT Infrastructure. The rearrangement of standards schedule is due to the process getting the right stakeholders and expertise on ICT. Municipalities engagement is one of the crucial stakeholders to take part in this standards development. 3) Smart Grid Project: Smart Grid Regulatory Framework & Policy Input Smart Grid Policy Framework required on site engagements with stakeholders in order to obtain feedback and buy in from prominent stakeholders. A series of roundtable discussion and finalization workshop is physically conducted with relevant experts and regulators. <p>Output 1.1.2</p> <ol style="list-style-type: none"> 1) On track for Sustainable City Development programme deliverables. 	<input type="checkbox"/>

				ownership among the local counterparts.	2) Smart Grid Project: Capacity Building Program Limitation in conducting physical site visit to Smart Grid Demo Project and training due to traveling restriction. Smart Grid Virtual Site Visit and online training was conducted. However, based on the feedback received, most participants proposed for physical site visit and training. Thus, there will be physical training and site visit will be conducted in 2022.	
3	Delays/lack of adoption at the municipal level of the proposed improvements to the institutional and regulatory framework by public institutions	Medium (M)		At a municipal level, a number of green city initiatives are being developed in Malaysia, in such cities as Putrajaya, Cyberjaya and Iskandar. The project envisages substantial policy and information support for selected city, including provision of training, awareness raising activities and demonstration. The project will tailor capacity building activities for local counterparts to ensure essential understanding on importance and benefits of sustainable city master plan.	On track	<input type="checkbox"/>
4	Negative construction, operation, and decommissioning phase impacts and technology failure	Medium (M)		<p>Proper due diligence and construction management will be conducted during the pre-construction and construction phases of the pilot project to mitigate negative construction impacts. This will include public consultation and information disclosure.</p> <p>For the operational phase, though this is a pilot project, electric vehicles, and the associated required equipment, as well as the energy efficiency and renewable energy applications in buildings are now commercially and widely available in Malaysia. In addition, the groundwork already laid by the ongoing Energy Efficient Low-Carbon Transport project will have built capacity and tested the products at length. The smart grid demonstration will also build on ongoing smart grid initiative of the Melaka State. Moreover, UNIDO will share its experience of similar projects in other countries such as South Africa, Senegal, the Republic of Côte d'Ivoire, India, and China.</p> <p>To address risks of inappropriate disposal of equipment during the decommissioning phase, during the project there will be the provision of training on hazardous materials as well as adoption of official policies for dealing with disposal of materials.</p>	<p>Low signal strength from EMS Toolkit antenna transferring data to the data server causing interruption for data reporting. Product defect or lower product lifespan effect reporting period for GHG reduction and poor energy efficiency application for building owner.</p> <p>Unfeasible site determination has caused repetitive site technical assessment causing rescheduling of work progress and implementation timeline.</p>	<input type="checkbox"/>
5	Project interventions are not sustained beyond the project life span	Medium (M)		Relevant public bodies' agreement will be secured in order to guarantee the project continuation after the end of the GEF funding period and the built capacity and policies will support this continued implementation. Given the ongoing Green City initiatives, it is expected that the project activities will	<p>Output 1.1.1</p> <p>1) Smart Melaka Blueprint 2035 SMB2035 Need to further continue to execute the action plan, quick win, and game changers. State agency (MICTH) been appointed as the</p>	<input type="checkbox"/>

				<p>be incorporated into its structure to ensure sustainability.</p>	<p>implementation agency for SMB2035.</p> <p>2) The Development of Malaysia Sustainable Cities and Communities' Standards: ICT Infrastructure Need to be expanded with other area and focus as the Technical Committee has been upgraded to National Standard Committee.</p> <p>3) Smart Grid Project: Smart Grid Regulatory Framework & Policy Input. The finalization workshop on the content of Smart Grid Regulatory Framework & Policy Input is expected to be conducted in July 2022. In the meantime, the development of Smart Grid Regulatory Framework & Policy Input Final Report and booklet (simplified version of full report with infographic) is in progress.</p> <p>Output 1.1.2</p> <p>1) Melaka Green Seal The awareness programs will be organized more frequently to educate and promote green building implementation in Melaka and make the Melaka Green Seal initiative as a state policy so that it is compulsory for all new buildings and development in Melaka.</p> <p>2) Capacity Building Capacity Building program should be done continuously as the municipalities, state government and federal agencies are keen to have more understanding, training, and knowledge & technology transfer in future.</p> <p>3) Smart Grid Project: Capacity Building Program There will be a physical training on Solar Thermal Engineering particularly for Melaka stakeholders. This training to be conducted in January 2022 and it was rescheduling to July 2022 due to trainer unavailability and low number of registrants. On the other hand, the site visit is scheduled tentatively in September 2022 to leverage on Melaka Smart Grid Technology Summit 2022.</p> <p>Output 1.1.3</p> <p>1) MyICSC MyICSC operational and management need to be sustained with new financing source as KPKT would not accept the cost.</p> <p>2) Smart Grid Project: Awareness The Melaka Smart Grid Technology Summit 2022, an event to showcase and secure buy-in from the government on the developed</p>	
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					Smart Grid Demo Project at Melaka as a pioneer advanced technology in Malaysia. This event will be conducted tentatively in September 2022.	
6	Climate change risk/Infrastructure developed is vulnerable to climate change risks	Low (L)		While the infrastructure to be developed under the proposed project could potentially be vulnerable to climatic disruptions (e.g., smart grid system in coastal areas), sufficient due diligence has been undertaken in the PPG phase as to the location of such infrastructure and location to mitigate this risk.	Not applicable due to installation of EMS toolkit, Solar PV Rooftop system is not affected to the climate change.	<input type="checkbox"/>
7	Gender Risk: Risk of resistance against, or lack of interest in, the project activities from stakeholders, especially regarding the active promotion of gender equality. Low participation rates of suitable female candidates due to lack of interest, inadequate project activity or missing qualified female population within engineering sector.	Low (L)		Malaysia, while having a number of significant gender issues, is a pro-gender equality society. This project will pursue thorough, gender responsive communication, and ensure stakeholder involvement at all levels, with special regard to involving women and men, as well as civil society and non-governmental organizations promoting gender equality. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in the energy field. As gender has been clearly mainstreamed throughout the project design, this will help mitigate any potential risk.	For the project 2021/2022, the participation has recorded the attendance by gender. Unfortunately, it is challenging to match balanced in participant's gender as the targeted participants position holders are male.	<input type="checkbox"/>
8	Key stakeholders (government institutions, the private sector, and end-users) are not interested/not supportive the project's interventions	Medium (M)		As the project will demonstrate a very new and unique technology to Malaysia, 'buy-in' from the private sector and public is very important to mitigate the said risk of disinterest. Any such potential risk will be mitigated through targeted public awareness, engagement, outreach and education activities, dissemination of information and consultations, as well as capacity building, to be implemented under Outputs 1.1.2. and 1.1.3. In addition, the demonstrations to be undertaken under Output 1.2.1. will showcase the technology in a visible manner to present the opportunities and benefits of the proposed technologies. Furthermore, the private sector's involvement in the development of the policies and strategies under Output 1.1.1. will help ensure that the policy framework and financial mechanisms are in line with the needs of investors and manufacturers.	Continuously engaging the key stakeholders for their expertise and directions.	<input type="checkbox"/>
9	Environmental and social risks	Medium (M)		During the project preparation period (PPG) relevant environmental and social risks have been identified and included in the ESMP. Since ESMP will serve as an active tool, additional risks that are identified during the project implementation will be included as they are identified.	No additional risks have been identified so far during project implementation.	<input type="checkbox"/>

10	Delays due to COVID 19 pandemic	Medium (M)		Project has and will comply with national health and safety procedures prescribed by the government. Where possible, activities have and will be moved to online platforms and activities that require in person site visits have been postponed until permitted.		<input type="checkbox"/>
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2. If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

NA

3. Please indicate any implication of the **COVID-19** pandemic on the progress of the project.

As of July 2021, the government manage to control the Covid-19 outbreak chain and started to re-open numbers of activities that's essential for government sectors and private sectors. The delivery timeline for some projects needs to be restructure in term on the new workflow and SOP. Unfortunately, Smart Grid Project faced difficulties to conduct on ground technical site assessment, engagements and physical activities as this project is not categorized as an essential service by the government. The Extension of Time (EOT) requested by Project Delivery Partners (UNITEN and TNBR) had been endorsed and approved at NSC.

4. Please clarify if the project is facing delays and is expected to request an **extension**.

The official project closure date is presently 3 February 2022 and based on expected completion of activities, the National steering committee has approved on 13 December 2021 an extension until 30th June 2024 due to the following reasons:

- Smart Melaka Blueprint 2035 due to the internal process of state government to undertake the slot for meeting and workshop.
- The Development of Malaysia Sustainable Cities and Communities' Standards project to be extend due to the stakeholders' engagement from municipalities in providing information on developing the vocabulary and framework and change of delivery timeline based on the new timeframe.
- The Smart Grid Project, due to various limitation in traveling, conducting on ground installation and obtaining commitment from technology contributors, it is challenging for Smart Grid Demo Project to complete all the deliverables within the timeline and TNBR is expected to request new EOT. For UNITEN, several physical activities had been rescheduled beyond the project timeline and is expected to be completed by December 2023.

5. Please provide the **main findings and recommendations of completed MTR** and elaborate on any actions taken towards the recommendations included in the report.

If the project has undergone a Mid-Term Review, please summarize the outcome and elaborate on specific actions taken towards implementing the recommendations included in the report.

Recommendation

Action taken

Ensure that the project has a sufficient timeline for implementation to allow for the delivery of all planned outputs and construction of an exit strategy to facilitate a seamless transition to full national ownership and scaling up of results and benefits.	This project has been extended to June 2024 to provide sufficient time to complete the smart grid technology demonstration after facing delays due to travel restrictions related to COVID-19 pandemic. MIGHT is actively working on how to ensure the project's outputs are sustainable beyond the life of the project.
Resolve the contractual/administrative challenges that have emerged from adaptive management, and misalignment in understanding regarding attribution of national co-financing, in the context of a guiding framework (which needs to be developed) that provides coherence and ideally encompasses the notion of "build back better".	UNIDO and MIGHT have worked together to address administrative and contractual challenges to ensure alignment, especially with consideration for what is required to completed and on what timeline given the project extension.
Maximize Malaysia's contribution to and benefit from the Global Sustainable Cities Platform, thereby leveraging and catalysing impacts of this knowledge platform and building valuable knowledge management orientation and capacities domestically.	The project has followed-up with GPSC on how best Malaysia can leverage the platform to share knowledge developed under the project as well as showcase some of the project's outputs, including the Malaysian International Centre for Sustainable City (MyICSC).
In upscaling smart grid/smart metre activities, in case of consumer resistance to smart meters, develop and implement appropriate strategies (and incentives) to foster adoption of smart meters in order to maximize realization of GEBs and impact of smart grid installation.	MIGHT's team has worked with partners to address any concerns related to the technology demonstration. Given delays in installation of equipment, more data and feedback will be collected during the next reporting period.
Enhance the demonstration effects (for Malaysia and beyond) from the project's investment in municipal finance.	An important milestone for scale-up of this activity was the public disclosure of credit ratings for Melaka State and Melaka City, raising the profile of the work completed and garnering interest from other municipalities. Discussion on how to scale-up this activity are ongoing.
<p><i>NB: The information provided in this section will be used by the GEF Secretariat to measure the project's ability to adopt an <u>adaptive management approach</u>. This will be measured through the assignment of a <u>project-level proactivity index</u>.</i></p>	

IV. Environmental and Social Safeguards (ESS)

1. As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

☐ Category A project

☒ Category B project

☐ Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used
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			in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	The general public opposes the execution of the proposed project.	The project has continued awareness raising activities through the reporting period.	Positive media coverage of project and public engagement during project milestones.
	Negative construction, operation and decommissioning phase impacts and technology failure	Due diligence to be completed when construction occurs.	n/a
	Infrastructure developed is vulnerable to climate change risks	Demonstration sites assessed for risks.	n/a
	Low participation of rates of females in project implementation	Female participation encouraged in trainings and sessions.	Signup sheets with gender disaggregation at events.
	Project development involves alteration, damage, or removal of any critical physical or cultural heritage	It has been verified that sites selected are not cultural heritage sites.	n/a
	Conflict of interest over locations where selected sites are based	Sites proposed through consultations/	n/a
	COVID-19	Project has moved stakeholder consultations and training sessions online. Site visits are also now being conducted virtually as a pilot when travel has not been possible due to restrictions.	Monitoring through the submission of Monthly Project Progress Report on the deliverables again schedule.
(ii) New risks identified during project implementation (If not applicable, please insert 'NA' in each box)	NA	NA	NA

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges, and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

The National Steering Committee (NSC) continues to be chaired by the Ministry of Housing and Local Government (KPKT), providing strategic guidance and coordination between various ministries, state and local authorities, and other stakeholders. The local project executing agency remains the Malaysian Industry-Government Group for High-Technology (MIGHT), which hosts the PMU with support from UNIDO. The NSC members comprise organizations from the government Ministry and Agencies with multi-disciplinary backgrounds that provide guidance and input in meeting the GEF 6 program objectives. The National Steering Committee provides a platform for disseminating the project's work to a larger audience through the membership of committee members. The project has also supported the development of the Malaysia Smart City Framework, and funds have been allocated to supporting awareness-raising activities directed at other cities, civil society, and the public since its launch. Below are the detailed deliverables:

Under Output 1.1.1 focuses on developing the National and State Policies for sustainable cities and communities.

At the National level, the latest progress in **Development of Malaysia Sustainable Cities and Communities' Standards: Smart Cities' ICT Infrastructure**, National Standards Committee for Smart City (NSC-SC) is chaired by PlanMalaysia is established. Under this NSC-SC, two Technical Committee (TC) were formed to focus on smart city indicators and smart city ICT infrastructure standards. Many government bodies and industry are engaged. MIGHT engages in both TC.

At state level, MIGHT has develop a policy of **Smart Melaka Blueprint 2035** as a strategic document for Melaka state to deliver a smart city vision, goals, and objectives toward a sustainable State. The document will be developed based on our MIGHT foresight methodology, looking into Melaka as a smart city by 2035, considering present and future issues, trends, and challenges. The blueprint must be aligned with national narratives, including WKB 2030, 12th Malaysia Plan, Melaka Structure Plan and Malaysia Smart Cities Framework. Furthermore, this framework must align with Melaka State's thrust, action plans, and smart city initiatives. Relevant stakeholders from National and state is engaged in every step of its development.

Smart Grid Regulatory Framework & Policy Input, series of engagements with prominent stakeholders, focus group discussions and workshop had been conducted. It is to develop the Smart Grid Regulatory Framework & Policy Input final reports which later on will support the development and enhancement of existing policy and regulatory related to Smart Grid, particularly in Malaysia. Since the limitation in organizing physical event and travelling restriction had been lift by stages, most of the engagements have been conducted physical. As of now, the engagement with relevant subject matter experts, stakeholders, regulators, policy makers and academicians in obtaining valuable inputs, feedbacks and buy-in had been completed. The final report for Smart Grid Regulatory Framework and Policy Input which consist of SG outlines in Malaysia context, i.e., SG definition, SG vision, SG drivers, SG priority areas, SG Enablers & Key Technologies, SG SWOT analysis, SG strategy interoperability of the standards, Thematic Analysis on related regulatory documents and Cyber Security for Smart Grid will be submitted to MIGHT.

Under Output 1.1.2, related to capacity building, MIGHT, in collaboration with several partners, organized programs like **'Capacity Building & Awareness for Melaka Green Seal** (Green Building Certification). Under this initiative, Melaka State is producing its green building rating tools to regulate the implementation of the Melaka Green Seal to new development in Melaka involving Commercial / Institutional Buildings through local governments in Melaka.

At state level, a **Capability Building Program is on Sustainable and Green Urban Development** was conducted in a collaborative program between MIGHT and Perak State. This programme was held from 27 - 28 July and was participated by twenty experts and more than 130 participants from various PBTs and government agencies, from Perak state. In this capacity building, there were nine sharing sessions where participants were introduced to green initiatives in buildings designs and initiatives to reduce GHG emissions through a combination of energy efficiency and renewable energy.

At other state, MIGHT, together with UPEN Melaka, had collaborated on the **Smart Melaka Blueprint 2035 Workshop 3** to serve as the final stage of the development of SMB2035. This workshop will validate action plans and develop proposed quick-win projects relevant to each 7 Smart Melaka Components (Government, Economy, Digital Infrastructure, mobility, community, living, and environment). About one hundred participants from 50 organizations had a comprehensive workshop to deliberate on the action plans,

timeline, and indicator and come out with potential quick-win projects plus ownership which was presented to Melaka State Secretary & UPEN for implementation.

At city level, MIGHT in collaboration with MSCA, has conducted an online **capacity building for Smart City Seminar** to spread the knowledge and information on smart city implementation. The seminar was participated by fifty-one participants from Alor Gajah Municipal Council staff. Representatives delivered presentations and dissertations on smart cities from MIGHT and MSCA. Among the topics highlighted is the Introduction to Smart Cities, Smart Melaka Blueprint 2035, Introduction to Smart City Standard, Taking the big leap into smart cities, Smart Action Centre/ Smart City Command Centre.

Under the Smart Grid **Capacity Building Program**, 8 trainings activities related to the Smart Grid key components including Smart Grid (elements, issues & challenges), Solar Thermal Engineering, Solar Photovoltaic, Electric Vehicle and Electric Vehicle Supply Equipment, Building Energy Modelling, GHG Calculation and Analysis on Smart Grid Integration, Data Analytics & Cyber Security and Cost Benefit & Risk Analysis on Smart Grid Investment had been completed. In addition, the SG Virtual Site was developed to replace actual visit at Smart Grid Demo Project sites where participants able to walk-through the sites and collect information on the Smart Grid technologies. The Smart Grid Refresher Course to Melaka stakeholders also conducted to build institutional capacities in integrated and inclusive approach to sustainable city development, related to Smart Grid areas. For Smart Grid Training evaluation, 44% of total participants had obtained proficiency certification in Smart Grid related areas.

Under Output 1.1.3, MIGHT has organised and participated in various local and international conferences to support awareness in smart and sustainable cities. MIGHT also develop and launch an online portal, the **Malaysian International Centre for Sustainable City (MyICSC)**. It is a virtual or web-based portal that hosts information on policy, activities, projects, and forums dedicated to sustainable city work. This will function as a platform for stakeholders within the sustainable cities space in Malaysia to disseminate lessons learned and share best practices. MyICSC being drive by nineteen organisation who sits in the MyICSC content and technical committee and 32 admin from 19 organisation who constantly updating the portal.

At national level, MIGHT also led a forum discussion title the **expert insight @ live virtual forum - translating concept to bankable projects - an up-close with smart cities enablers** on 22nd July 2021 with key smart city enablers from KPKT, Bank Pembangunan, IRDA and Oracle Malaysia, providing insights and necessary fundamentals on translating strategic concept to bankable projects. The session was a fruitful discussion, provided audiences from both the public and private sectors good understanding on the principals and enabling factors of smart city projects from the point of view of the policy maker, project executor, technology provider and most importantly the financier, path the way towards immense new development and investment opportunities. Over 150 smart city stakeholders attended the virtual forum.

In conjunction with the Malaysia Urban Forum 2021 which was organized by Urbanice Malaysia, MIGHT has conducted **Networking Event 4 (NW4): Intersection of Technology, Urbanisation and Pandemic** on 6th September 2021 which was attended by 150 participants. This webinar is to provides best practices for city authorities, communities, and technology companies to learn on becoming highly innovative and responsive to any situations' ensuring our cities are resilient and sustainable. The panelist also talked about use of digitalisation in urban life for city data analysis, utilising on physical and digital infrastructure, and develop a system to connect all information platforms will ensure that cities can evolve to be sustainable.

At State & city level, MIGHT and UPEN conducted a program on **Smart City Industry Talk** for municipalities & authorities in Melaka was conducted on 10th November 2021. This talk was conducted to provide better understanding on the implementation of smart city components and benchmarked it against the global best practices. 150 participants participated in this session. Through the session, many suggestions were provided to realize the smart city targets, highlighted on new and emerging technology within each component, providing potential business model directions and recommendations on driving smart city in Malaysia. This talk also emphasizes exploring to collaborate for new initiative implementation.

As for international level, MIGHT and The Chartered Institute Logistics and Transport (CILT) organized a webinar on **Smart Mobility Towards Sustainability Growth** on 11 November 2021. The Hybrid webinar was attended by over 120 smart city stakeholders and municipalities. This webinar deliberated how smart mobility utilizes technologies to accomplish sustainable growth for cities, communities, and individuals. Panellists are thought- and technology- leaders in providing smart mobility solutions, directly or indirectly.

The **fourth edition of Cities 4.0 2021**, co-organised by MIGHT and Confexhub, held virtually from 21 – 22 September 2021, attracted over 500 attendees from 30 countries gathered remotely. Themed 'Reimagining City Transformation,' the 2-full day conference with 20 presentations from a range of influential technology and urban development leaders under five focused subthemes, covering topics on urban development in a post-pandemic world, low touch economy, healthy mobility, disaster readiness, connected communities provided the audience new insights and strategies to transform their city on the post-Covid era. The virtual exhibition showcased international and local companies focusing on advanced technologies and solutions for smart city development and attracted over 3,000 serious trade visitors sourcing for potential collaboration. Other than the knowledge and information gained, participants of the event were also allowed to explore strategic collaboration with potential partners through the business matching activities.

At national level of awareness program, MIGHT, MSCA, and Cybersecurity Malaysia jointly hosted **Cybersecurity for Smart Cities on 24th March 2022** which is an interactive sharing session focused on Cybersecurity for Smart Cities and its functional solutions for ensuring secure digital infrastructure and user privacy. This session drew 135 participants from Government agencies, PBTs, MSCA members, academia, and industry. This session aims to create awareness of cyber security for smart cities and effective functional solutions for ensuring cyber security and user privacy in smart cities. This two-hour session was fruitful, with valuable inputs from distinguished speakers from Cyber Security Malaysia.

MIGHT jointly host an international level of awareness program on **Global Waste Management Conference**, an entirely virtual exhibition and conference from twenty-nine until 30 March 2022. The program was participated by 178 participants and six exhibitors from local and international, consisting of government, industry, and academia. The conference aims to gather all policymakers, international experts, and global industry practitioners to explore strategies and chart direction to achieve Zero-Waste Cities. The two-day conference covers the Plenary Session and five main sessions that cover various issues and challenges in managing waste.

Another international level of awareness program is the **Global Net Zero Action Conference – The Net-Zero Playbook - Building Resilience, Accelerating Growth 24th & 25th May 2022**. This entirely virtual conference and exhibition aim to provide the answers through a curated program; delivering changed perspectives and assessments to support government and business climate transition action plans in meeting net-zero emission targets and supported by essential discussions on potential net-zero carbon roadmaps to address GHG emissions in companies, industries, and cities' operations and value chains.

Under the **Smart Grid Project Awareness Raising Events**, several engagements and outreach programs such as Smart Grid Virtual Run 2021, Smart Grid Code War Competition 2021, Smart Grid exhibition, Knowledge Sharing Session, Radio Talk Show and Road to Recovery webinar were conducted to targeted participants from state agencies, financial institutions, private sectors, higher education institution, school, and local community at Melaka. The engagement with Melaka stakeholders were conducted to disseminate benefits of Smart Grid in mitigating the GHG emission via adoption of Smart Grid technologies.

Under Output 1.2.1- Smart Grid Demonstration Project, before the increasing cases of Covid-19 in Malaysia, the team members had been travelling back and forth to sites for physical engagement and site installations. Following a series of nationwide lockdown and travel restrictions between states in Malaysia, physical engagements were postponed several times throughout Phase 2 of the project. During the Phase 2 of the Smart Grid Demonstration Project, the project had switched to online mode to pursue potential stakeholders into contributing to the project. However, challenges arise when the stakeholders were not having a stable internet connection which reduces the amount of information that the team members were trying to project. Due to inability to convey the importance of energy management system, it was hard to convince potential stakeholders into joining the project since they did not ready yet to give commitment and not practicing competitive procurement for energy management. Data of energy consumption or generation from these components are still collected to a mock server and will be collected to the data centre and National Load Dispatch Centre. With the Covid-19 situation, it will be challenging to quantify the GHG reduction from commercial buildings since the capacity of people coming to work have been reduced significantly between 60-80%, which would reflect to blurry baseline on how to quantify the GHG reduction.

2. Please provide any feedback submitted by national counterparts, GEF OFP, co-financiers, and other partners/stakeholders of the project (e.g., private sector, CSOs, NGOs, etc.).

Feedback has been provided at National Steering Committee Meetings and Technical Meetings. Minutes have been included as appendixes.

3. Please provide any **relevant stakeholder consultation** documents.

List of stakeholder's consultation through committee meetings as follows:

- 1) National Steering Committee 2/2021
Date: 13 December 2021
- 2) MyICSC Content and Technical Committee (CTC) Meeting
 - a. CTC Meeting No.1/2022
21 June 2022
 - b. CTC Meeting No.3/2021
 - c. 26 October 2021
- 3) Smart Melaka Blueprint 2035 Technical Committee
- 4) Smart Melaka Blueprint 2035 MELDIC Committee Meeting
- 5) 2nd Project Advisory Committee (PAC) Meeting: Smart Grid Project PAC Meeting No. 02/2021
Date: 12th August 2021 (UNITEN Session) and 19th August 2021 (TNBR Session).
- 6) 2nd Technical Committee (TC) Meeting: Smart Grid Project TC Meeting No.2/2021
Date: 30th August 2021.
- 7) 3rd Technical Committee (TC) Meeting: Smart Grid Project TC Meeting No. 3/2021
Date: 15th December 2021
- 8) 1st Project Advisory Committee (PAC) Meeting: Smart Grid Project PAC Meeting No. 01/2022
Date: 8th February 2022
- 9) 2nd Project Advisory Committee (PAC) Meeting: Smart Grid Project PAC Meeting No. 02/2022
Date: 21st June 2022
- 10) 1st Technical Committee (TC) Meeting: Smart Grid Project TC Meeting No.1/2022
Date: 4th April 2022

Please refer Appendix 29

Related documents for Item (1)-(10)

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress achieved on implementing gender-responsive measures and using gender-sensitive indicators**, as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),

A number of initiatives have been made to improve the quality of governmental policies, programmes, and projects, to ensure a more efficient allocation of resources and outline better results to increased well-being for both women and men, and the establishment of a more socially just and sustainable society. This includes efforts to enhance female presence in the training sessions, awareness sessions and other project activities. As for the Smart Grid Initiative, the stakeholders and players involved in this project were male and female. Based on respondents' feedback, it is owing to technicality subject on Smart Grid which predominantly led by male. Nevertheless, the effort had been made to boost female presence in Smart Grid

initiatives. At the same time, most of the events such as meeting and workshop, criteria of Gender Equality is being taken seriously, where freedom of speech and decision making are being given fair justice regardless of gender factor.

VII. Knowledge Management

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management activities / products**, as documented at CEO Endorsement / Approval.

For this reporting period, the project has produced several knowledge products as follows:

- 1) **Malaysia International Centre for Sustainable Cities (MyICSC)** encourage the stakeholders of smart cities to construct sustainable cities and communities in accordance with UNDP SDG-11. It provides a significant opportunity to utilise the knowledge and shared learning of an entire endeavour, which helps to promote the accomplishment of high performance at all sites and accelerates the broad-based adoption of new improvements. MyICSC establishes a setting that actively promotes and makes it easier for members of a specific community of interest to share their knowledge and gain fresh perspectives on a variety of topics. The successful execution of this function can accelerate innovation and the adoption of best practises throughout an organisation. Shared ideas promote further insights and knowledge, and the successful execution of this role.
- 2) **The Smart Melaka Blueprint 2035** will allow for effective governance, guarantee the establishment of an ecosystem that is favourable to growth, and ensure that the ecosystem is well matched with the global agenda for sustainable cities. It is necessary to guarantee the direction of Melaka State as a smart city is properly established and is well aligned with the national desire of the country. This is because it is well aligned with the national aspiration of the country. Establishing a measurable outcome is something that might be done in addition to the strategies and action plans that have been discussed.
- 3) **Capacity Building & Awareness for Melaka Green Seal (Green Building Certification)** is to enhance and increase Melaka State capacity on Melaka Green Seal building assessors and awareness programs regarding technical knowledge, guidelines and regulations to government officers, developers, planners, architects, contractors, and related stakeholders. This implementation has the potential to be replicated in another state in Malaysia.
- 4) **Capability Building Program for Sustainable and Green Urban Development** help Local Authorities (PBT) in the state of Perak to comprehend the concept of the proposed model in more depth, particularly regarding the planning, implementation, and management of smart cities based on such concept. This is also consistent with the 12th Malaysia Plan (RMK-12), which aims to transform Malaysia's cities into "Smart Cities" by equipping them with innovative technology. This responds to the increasing demand to enhance efficiency, sustainability, and quality of life. The development of policies and programmes that would make their cities more intelligent has been a primary priority of the governments at the local level.
- 5) **The Expert Insight @ Live Virtual Forum** - Translating Concept to Bankable Projects - An Up-Close with Smart Cities Enablers forum discussion provided insights and necessary fundamentals on translating the strategic concept to bankable projects. It is a good understanding of the principles and enabling factors of smart city projects from the point of view of the policy maker, project executor, technology provider and, most importantly, the financier, path the way towards immense new development and investment opportunities.
- 6) **Webinar On Intersection of Technologies, Urbanization and Pandemic** -Networking Event 4 (NW4): Intersection of Technology, Urbanisation and Pandemic. This webinar provides best practices for city authorities, communities, and technology companies to learn about becoming highly innovative and responsive to any situations' ensuring our cities are resilient and sustainable. The panellist also talked

about using digitalisation in urban life for city data analysis, using physical and digital infrastructure, and developing a system to connect all information platforms to ensure that cities can evolve to be sustainable.

- 7) **Cities 4.0: Reimagining City Transformation** offered twenty presentations from a range of influential technology and urban development leaders under five focused subthemes, covering topics on urban development in a post-pandemic world, low-touch economy, healthy mobility, disaster readiness, connected communities, providing the audience with new insights and strategies to transform their city on the post-Covid era. The virtual exhibition showcased international and local companies focusing on advanced technologies and solutions for smart city development and attracted over 3,000 serious trade visitors sourcing for potential collaboration.
- 8) **Webinar - Capacity Building & Awareness for Melaka Green Seal** (Green Building Certification) is a sharing session program which has involved participants from all states in Malaysia. This session exposed participants to the Melaka Menuju Negeri Lestari Initiatives and Melaka Green Seal Guidelines. Through this program, MeGTC were able to educate and enhance the knowledge and awareness to all related parties and stakeholders in Melaka on the implementation of the Melaka Green Seal.
- 9) **Cyber Security Seminar** focused on Cybersecurity for Smart Cities and its functional solutions for ensuring secure digital infrastructure and user privacy. The discussions highlighted MIGHT's strategic roles in creating a secure digital world via coordinating Smart Cities development between government and industry players and the developing Smart Cities Standards. Also, the panellist outlines the disadvantages of Cybersecurity in the rapidly evolving technology for Smart Cities development that requires all stakeholders to increase cybersecurity initiatives to provide better security for citizens.
- 10) **Smart Cities Seminar** shared the information and best practises of smart city implementation, which helped the audience of Alor Gajah municipalities with the smart city introduction, Standards required for smart city development, the latest smart city document by Melaka State, and an example of smart city best practises from industry players.
- 11) In the context of Smart Grid Project - Capacity Building program, it was designed to nurture local talents and knowledge in technical and commercial aspect of Smart Grid technology. The training targeted to all levels of participants from various agencies and institutions, i.e., Governments, Industries, Private Sectors and Academicians. Besides, the trainings provide the platform for the local subject matter (technical experts) in sharing their knowledge. Following are the trainings, which come together with online quizzes and assignment to gauge participants understanding of the knowledge rendered:
 - a) 2-days training on Cost-Benefit & Risk Analysis for Smart Grid Investment. The training exposed the participants to the concept and principle of cost-benefit analysis (CBA). It also relates CBA with smart grid technology.
 - b) 1-day Smart Grid Refresher Course on Smart Grid: Elements, Issues & Challenges. This session covered the Smart Grid Introduction, Renewable Energy integration, Energy Storage, Smart Meters, Control & Operations and Cyber Security.
 - c) 3-days Smart Grid Refresher Course on Smart Grid: Elements, Issues and Challenges, Solar Photovoltaic, Electric Vehicle (EV) Deployment Towards Sustainability and Building Energy Modelling.
 - d) The Smart Grid Virtual Site was conducted to value-added on the theory knowledge from Smart Grid training. SG Virtual Site was developed to replace actual industrial site visit in light of recent threat of new covid-19 variant and spike of Covid-19 cases.
- 12) For Smart Grid Awareness Raising Event, it was designed to fit the Covid-19 situation. The awareness activities were leveraged on online platform. However, it is challenged to engage with Melaka communities due to the limitation in network connection and most of them are non-tech savvy. Thus, the awareness activities were pushed towards 2022 to allow physical activities for Melaka communities.

Following are the conducted activities:

- a) Awareness Raising Event to Financial Institutions, Private Sectors and NGO. The overview of the Smart Grid project was presented and highlighted on the benefits of the Smart Grid in mitigating GHG emission.
- b) Smart Grid Code War Competition 2021 utilizing Scratch Application. The theme for this competition is "Let's Save Energy." This competition targeted primary and secondary school student from Melaka.
- c) Awareness Sharing Session with Melaka Local Community. This two-way communication session allows participants to ask any questions related to the Smart Grid. This session was conducted in Bahasa Melayu and using layman terms. It is a great opportunity to educate participants in managing daily energy consumptions to reduce the consumed energy, cost and GHG emission.
- d) 30-minute session radio talk show at Melaka FM. It is to provide an opportunity for audience to gain knowledge on Smart Grid and also to spread awareness on on-going Smart Grid Demo Project at Melaka.
- e) Road to Recovery Webinar entitled "Smart Grid and The Drive Towards a High-Tech Nation." The main objective of this webinar session is to provide awareness of the Smart Grid project to the public and stakeholders. So, this session allows the panel of experts to share their thoughts and insights in accelerating Smart Grid project deployment in Malaysia, even in the era of pandemic Covid-19.
- f) Smart Grid Virtual Run 2021 using Strava application. This outreach program is targeted to school, higher education institutions and communities. The main objective of this event is to promote and highlight the SG project despite the MCO 3.0 situation. It is an excellent opportunity for creating awareness of the Smart Grid Demonstration Project in Melaka.
- g) Smart Grid Awareness Exhibition during the Workshop No. 03 for the development of Smart Melaka Blueprint 2035. It enables the awareness team to share the Smart Grid Project with a broader crowd, particularly for Melaka stakeholders as recipient states for GEF6 Smart Grid Project.

2. Please list any **relevant knowledge management mechanisms / tools** that the project has generated.

- 1) Online information exchange/sharing platforms:
The Malaysia International Center for Sustainable Cities platform can be accessed here:
<https://icsc-my.org/>
- 2) All programme/activities for launching videos, training video, webinars for Output 1.1, Output 1.2, and Output 1.3. (Please refer Appendix 30).
- 3) Related documents on Smart Grid programme/activities for launching videos, training video, webinars, videos.
 - Capacity Building Website:
<https://sites.google.com/view/sg-e-workshop/home?authuser=1>
 - Smart Grid Website:
<https://smartgrid4smartnation.com/>
 - Smart Grid Virtual Run 2021 (Closing Ceremony):

https://www.youtube.com/watch?v=MiwUOKddJ_I

- Road To Recovery Webinar on Smart Grid and the Drive Towards High-Tech Nation
<https://www.youtube.com/watch?v=QNXYES72puk>
- Smart Grid Talk Show at Melaka FM
<https://ms-my.facebook.com/melakafm/videos/melakafm-mempesonakan/353194026920751/>

VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed** with regards to project implementation.

<p>Progress</p>	<ol style="list-style-type: none"> 1) Development of A Malaysia Sustainable Cities and Communities' Standards. The TC SC 2 is finalizing the Smart City ICT Framework and will be open for public comment by August 2022. As for the Smart City ICT infrastructure- Vocabulary is being prepared and will be deliberate further during TC SC 2 workshop scheduled on 7-8 August 2022. Both standards will be reported to National Standards Committee on Smart City on 9 August 2022. 2) SMB2035 There are three workshops conducted by MIGHT and UPEN Melaka to gain data and analytical process. This document was presented to Melaka Digital Council (MELDiC) for approval and endorsed by the Melaka Chief minister and the committee members. Further collaboration between MIGHT and state agencies was formed to accelerate the implementation of SMB2035 initiative. 3) Melaka Green Seal The implementation of the Melaka Green Seal requires commitment from stakeholders and the public. Thus, awareness programs will be organized more often to educate and promote green building implementation in Melaka. As of today, the implementation of the Melaka Green Seal is voluntary based in Melaka. MeGTC is still in the process to make the Melaka Green Seal initiative as a state policy so that it is compulsory for all new buildings and development in Melaka. 4) MyICSC The operational & management of MyICSC has entered phase 3 which the portal is ready to be connected with international platform. All organization, agencies and members are updating the portal with the latest information and content. 5) Conference
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	<p>Overall progress show improvement to meet the deliverable and conducted in a new normal way which impactful to reach out participants and panellist all around the globe</p> <p>6) Capacity Building All programs were conducted successfully especially on the Virtual event that offered more participation of stakeholders rather than physical because everyone can contribute from anywhere.</p> <p>7) Finalization of Smart Grid Regulatory Framework and Policy Inputs with following prominent stakeholders:</p> <ul style="list-style-type: none"> ▪ TNB Distribution Network and TNB Grid on 11th October 2021. ▪ SEDA on 20th October 2021. ▪ Roundtable discussion with UPEN Melaka, PTHM, Gading Kencana (LSS), Kumpulan Melaka Berhad (LSS), QSP (LSS), i2 Energy (LSS) and UTeM on 26th October 2021. ▪ Input consolidations on Smart Grid and Grid Code with Energy Commission on 25th January 2022. ▪ Ministry of Housing and Local Government (Sustainable Cities Department) and (Local Authority Department) on 3rd March 2022. ▪ Smart Grid Regulatory Framework & Policy Input Finalization Workshop on 10th March 2022. ▪ Validation on Smart Grid Regulatory Framework & Policy Input content with MIGHT on 10th June 2022. ▪ Validation on Smart Grid Regulatory Framework & Policy Input content with Energy Commission on 30th June 2022. <p>8) Capacity Building Training, Site Visit and Training Evaluation progress as below:</p> <ul style="list-style-type: none"> ▪ Smart Grid Training on Costs and Benefit Analysis for Smart Grid on 27th and 28th July 2021. ▪ Mini Workshop for Smart Grid Virtual Site Development on 20th September 2021. ▪ Smart Grid Virtual Site Visit to following technology contributor sites on 27th December 2021 till 31st March 2022: ▪ Smart Grid Refresher Course on Smart Grid: Elements, Issues & Challenges on 8th October 2021. ▪ Smart Grid Refresher Course (Targeted to Melaka Participants) on 17th – 19th January 2022. ▪ Assessment and evaluation process on 8 Capacity Building Training. <p>9) Awareness Raising Events for Smart Grid progress as follows:</p> <ul style="list-style-type: none"> ▪ Awareness Raising Event to Financial Institutions, Private Sectors and NGO on 29th July 2021. ▪ Smart Grid Code War Competition 2021 on 1st September 2021 till 15th Dec 2021. ▪ Smart Grid Awareness Sharing Session with MAIM (Melaka Islamic Religion Council) on 17th November 2021. ▪ Awareness Sharing Session with Melaka Local Community on 7th December 2021.
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	<ul style="list-style-type: none"> ▪ Smart Grid Radio Talk show at Melaka FM (30-minutes session) on 16th June 2022. ▪ Road to Recovery Webinar entitled “Smart Grid and The Drive Towards a High-Tech Nation” on 5th August 2021. ▪ Smart Grid Virtual Run 2021 on 15th July 2021 till 15th August 2021. ▪ Smart Grid Virtual Run 2021 (Closing Ceremony streaming via YouTube) on 20th August 2021. ▪ Smart Grid Awareness Exhibition on 9th to 11th November 2021. <p>10) Smart Grid Demo Project for Smart Grid progress as follows:</p> <ul style="list-style-type: none"> ▪ Obtaining approval for residential smart meter by developing Energy Efficiency Application. ▪ Obtaining approval installation of EMS toolkit for commercial/large building. ▪ Installation of Solar PV Rooftop 30kW with small battery storage system at MBMB. ▪ Obtaining approval for installation of Solar PV Rooftop 100kW at MPAG. ▪ Integrate KMB and i2 Energy large scale solar farm into Smart Grid Demonstration Project. ▪ Obtaining approval for integrate 4000L Solar Thermal System Ever Delicious Food Industries into Smart Grid Demonstration Project. ▪ Integrate BMW (EV car) and MBMB (EV scooter) EVCS into Smart Grid Demonstration Project. ▪ Obtaining approval for Solar Thermal Drying Machine Project with UTeM.
Challenge	<p>1) Development of A Malaysia Sustainable Cities and Communities' Standards.</p> <p>A crucial challenge for this project is about the contribution and participation from the municipalities on developing the vocabulary . The only municipalities to take part in this process are those which already implemented the digital infrastructure element. The input from industry players who contributed to this process need to be validate and justify with municipalities input.</p> <p>2) Melaka Green Seal</p> <p>Stakeholders have acknowledged the challenges in developing green building rating tools and they have shown their interest in developing their own rating tools indirectly promote green building initiatives. MeGTC is prepared to assist other state government authorities to develop their own rating tools.</p> <p>3) Smart Melaka Blueprint 2035</p> <p>During the development stage, UPEN Melaka has difficulty to secure participants availability for the final workshop. This has extended the process of finalizing the data and write up. A 3-months extension period was given during NSC, and it's completed on 18th April 2022.</p> <p>4) MyICSC</p>

	<p>KPKT neglect to fund on MyICSC operational & management cost due to limited source of finance. MIGHT and other MyICSC committee members need to be identified on new source of finance to fund MyICSC for the next upcoming years.</p> <p>5) Conference The challenge was in ensuring that speakers were available for each of the programmes. Additionally, the changes in the panellists influenced the overall programme outline, which necessitated significant revisions to the context setting to match the expectations of the audience.</p> <p>6) Capacity Building A crucial challenge for capacity building program is the contribution and participation to meet each program requirement and gender balance. Small numbers of stakeholders were keen to participate which has implemented smart city initiatives or delivered digital infrastructure. Structuring the suitable content also a challenge as it also has to be customised according to the participant needs and readiness.</p> <p>7) Smart Grid Project.</p> <ul style="list-style-type: none"> ▪ Due to the complexity of the smart grid technology demonstration, completion of the contractual arrangement between all parties took longer than expected. ▪ Unlettered importance of energy management system makes potential stakeholder turn down the proposal as user acceptance for Smart Grid Demonstration Project. ▪ Limitation to conduct site technical assessment, stakeholder engagement, site visit and physical activities due to MCO. ▪ Shortage to get buy in to participate in Smart Grid Demo Project from the system owners (private sectors) due to uncertain business situation and prioritization. Some of business will be closed i.e., hotels, buildings, commercial lots. Recipients company struggling between survive and having energy efficiency usage post pandemic, change of operation mode which effect policy and energy usage. ▪ Political instability and leadership changes has caused interruption in delivering project output according to the timeline.
Outcomes achieved / observed	<p>1) Smart Melaka Blueprint 2035 The document of SMB2035 has been approve and endorse by Melaka Digital Council (MELDiC) and shall be launch by UPEN Melaka in year 2022. The quick-win and game changers which proposed in the report will be implemented in Melaka.</p> <p>2) Melaka Green Seal Melaka State Government intends to enhance and increase its capacity for Melaka Green Seal building assessors and awareness programs regarding technical knowledge, guidelines, and regulations to government officers, developers, planners, architects, contractors, and related stakeholders before the state-wide compulsory implementation of Melaka Green Seal in Melaka.</p>

	<p>3) MyICSC MyICSC portal is a kick start initiative to gather all information, stakeholders, program, and discussion towards the development of Sustainable & Smart Cities in Malaysia. All stakeholders from national, state and city level had contributed much of content towards MyICSC for everyone to access and leverage.</p> <p>4) Conference Many awareness programs are conducted in a new normal way which impactful to reach out participants and panellist all around the globe. MyICSC Portal entered phased-3 and would be more impactful with the connection to the international counterpart.</p> <p>5) Capacity Building All programs were successfully conducted and give impactful outcome to all participants and organizers. It is recommended some of the capacity building program shall be continue for other area and new participants' background.</p> <p>6) Smart Grid Project</p> <ul style="list-style-type: none"> ▪ Outline of Smart Grid Regulatory Framework derived based on Smart Grid Architecture Model, Thematic Analysis and Cyber Security for Smart Grid had been presented and obtained buy-in from prominent stakeholders. ▪ The capacity building on Smart Grid related technology had been conducted online. This technical training should be organized physical as per feedback received by the respondents. ▪ The Awareness activities was designed based on the conducted market segmentation prior to Covid-19. It becomes a challenge for the team to be creative and shift it to online platform. Nevertheless, most of the awareness activities managed to be conducted despite the pandemic situation. ▪ Smart Grid Demonstration Project activities were conducted in manageable way. Some the challenges was to obtain approval from the stakeholders as technology contributor of the Smart Grid Demonstration Project. As such mitigation plans were determined to ensure all the deliverables are to be completed according to the project timeline.
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2. Please briefly elaborate on any **minor amendments⁶ to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).**

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

⁶ As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

<input type="checkbox"/>	Results Framework	NA
<input type="checkbox"/>	Components and Cost	NA
<input type="checkbox"/>	Institutional and Implementation Arrangements	NA
<input type="checkbox"/>	Financial Management	NA
<input checked="" type="checkbox"/>	Implementation Schedule	The project has been extended due to challenges related to completing the project's technology demonstration as a result of the COVID-19 pandemic. Site visits for scoping and installation of equipment have been stalled at times due to national health and movement restrictions.
<input type="checkbox"/>	Executing Entity	NA
<input type="checkbox"/>	Executing Entity Category	NA
<input type="checkbox"/>	Minor Project Objective Change	NA
<input type="checkbox"/>	Safeguards	NA
<input type="checkbox"/>	Risk Analysis	NA
<input type="checkbox"/>	Increase of GEF Project Financing Up to five%	NA
<input type="checkbox"/>	Co-Financing	NA
<input checked="" type="checkbox"/>	Location of Project Activities	The project has adjusted some sites for technology demonstration in Melaka due to further consultations and scoping completed with project partners.
<input type="checkbox"/>	Others	NA

3. Please provide progress related to the **financial implementation of the project.**

The project's national co-financing is a combination of government (central, state, municipal) and private sector funding (cash and in kind). National co-financing allows for country ownership and gains the government's interest in project outputs and outcomes for which their funds are spent.

The co-financing has been mobilized mostly for the investment and technology demonstration of the smart grid in Melaka, under Outcome 1.2.

The GEF grant makes a catalytic effect, unlocking investment in sustainable urban development and smart grid technology, with consideration for policy development and financial investment that reflects an integrated approach.



Project Delivery Report

Reporting Period:

03.02.2017 -

Project

150046 - SUSTAINABLE-CITY DEVELOPMENT IN MALAYSIA

Prepared on:

27.07.2022

Sponsor Nr.	Sponsor	Grant	Fund	Curr	Grant Status	Grant Validity
400150	GEF - Global Environment Facility	2000003570	GF	USD	Authority to implement	03.02.2017 - 30.06.2024

Funds Available

		Total Budget (a)	Released Budget (b)	Obligations (c)	Disbursements (d)	Expenditures (e=c+d)	Funds Available* (f=b-e)	Support Cost (g)	Total Expenditures (h=e+g)
		USD	USD	USD	USD	USD	USD	USD	USD
150046-1-01-01	Policy framework strengthened								
1100	Staff & Intern Consultants	(183,851.93)	(183,851.93)	(0.02)	3,884.10	3,884.08	(187,738.01)	0.00	3,884.08
1500	Local travel	4,805.57	4,805.57	0.00	0.00	0.00	4,805.57	0.00	0.00
1700	Nat.Consult./Staff	(80,000.00)	(80,000.00)	0.00	0.00	0.00	(80,000.00)	0.00	0.00
2100	Contractual Services	(20,113.81)	(20,113.81)	(448,281.35)	445,957.92	(303.43)	(19,810.38)	0.00	(303.43)
3000	Train/Fellowship/Study	(50,000.00)	(50,000.00)	0.00	0.00	0.00	(50,000.00)	0.00	0.00
4500	Equipment	554,599.00	554,599.00	0.00	0.00	0.00	554,599.00	0.00	0.00
5100	Other Direct Costs	(225,038.83)	(225,038.83)	0.00	236.29	236.29	(225,275.12)	0.00	236.29
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	343.50	343.50
150046-1-01-01	Total	200.00	200.00	(446,261.37)	450,078.31	3,816.94	(3,616.94)	343.50	4,160.44
150046-1-01-02	Investments in pilot cities								
1100	Staff & Intern Consultants	52,557.03	52,557.03	0.01	2,888.26	2,888.27	49,668.76	0.00	2,888.27
1500	Local travel	4,853.74	4,853.74	0.00	0.00	0.00	4,853.74	0.00	0.00
2100	Contractual Services	(15,079.02)	(15,079.02)	(137,351.57)	137,338.32	(15.25)	(15,093.77)	0.00	(15.25)
4500	Equipment	(42,834.88)	(42,834.88)	0.00	45.99	45.99	(42,880.85)	0.00	45.99
5100	Other Direct Costs	503.11	503.11	0.00	168.83	168.83	334.28	0.00	168.83
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	275.55	275.55
150046-1-01-02	Total	(0.00)	(0.00)	(137,351.56)	140,419.40	3,067.84	(3,067.84)	275.55	3,343.39

* Does not include Unapproved Obligations



Project Delivery Report

Reporting Period:

03.02.2017 - 30.06.2022

Project

150046 - SUSTAINABLE-CITY DEVELOPMENT IN MALAYSIA

Prepared on:

28.07.2022

Sponsor Nr.	Sponsor	Grant	Fund	Curr	Grant Status	Grant Validity
400150	GEF - Global Environment Facility	2000003570	GF	USD	Authority to implement	03.02.2017 - 30.06.2024

Funds Available

		Total Budget (a)	Released Budget (b)	Obligations (c)	Disbursements (d)	Expenditures (e=c+d)	Funds Available* (f=b-e)	Support Cost (g)	Total Expenditures (h=e+g)
		USD	USD	USD	USD	USD	USD	USD	USD
150046-1-02-01	Monitoring and Evaluation								
1100	Staff & Intern Consultants	1,836.77	1,836.77	0.00	4.16	4.16	1,832.61	0.00	4.16
1500	Local travel	(6,229.59)	(6,229.59)	0.00	0.00	0.00	(6,229.59)	0.00	0.00
1700	Nat.Consult./Staff	10,021.50	10,021.50	0.00	0.00	0.00	10,021.50	0.00	0.00
2100	Contractual Services	(7,085.31)	(7,085.31)	0.00	0.00	0.00	(7,085.31)	0.00	0.00
5100	Other Direct Costs	756.63	756.63	0.00	76.16	76.16	680.47	0.00	76.16
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	7.24	7.24
150046-1-02-01	Total	(700.00)	(700.00)	0.00	80.32	80.32	(780.32)	7.24	87.56
150046-1-03-01	Monitoring and Management								
1100	Staff & Intern Consultants	64,009.09	64,009.09	(970.67)	988.83	18.16	63,990.93	0.00	18.16
1500	Local travel	425.71	425.71	0.00	0.00	0.00	425.71	0.00	0.00
1700	Nat.Consult./Staff	(23,982.99)	(23,982.99)	0.00	0.00	0.00	(23,982.99)	0.00	0.00
2100	Contractual Services	(55,593.69)	(55,593.69)	(18,543.55)	18,551.92	8.37	(55,602.06)	0.00	8.37
4500	Equipment	12,324.42	12,324.42	0.00	0.00	0.00	12,324.42	0.00	0.00
5100	Other Direct Costs	3,317.46	3,317.46	0.00	14.30	14.30	3,303.16	0.00	14.30
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	3.67	3.67
150046-1-03-01	Total	500.00	500.00	(19,514.22)	19,555.05	40.83	459.17	3.67	44.50
150046	USD Total	0.00	0.00	(275,013.95)	275,310.96	297.01	(297.01)	26.73	323.74

IX. Work Plan and Budget

1. Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Please fill in the below table or make a reference to a file, in case it is submitted as an annex to the report.

Outputs by Project Component	Year 1 2017				Year 2 2018				Year 3 2019				Year 4 2020				Year 5 2021				Year 6 2022				Year 7 2023				Year 8 2024				GEF Grant Budget Available (US\$)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Component 1 - Integration of climate risks in urban planning and management																																	
Outcome 1: National Urban policy framework strengthened to promote sustainable and resilient cities model/Improved																																	
Output 1.1: National & state polides and strategic directions for development of sustainable and resilient cities.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	457.96
Output 1.1.2: Institutional capacity of policymakers at the national, state, and local levels built.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20.49
Output 1.1.3: Awareness raising events for policymakers, industry and end-users organised at all levels for dissemination of tangible benefits/results of project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	454.21
Outcome 1.2: Investment in pilot cities generate local and global environmental benefits																																	
Output 1.2.1: The adoption of renewable energy (RE) integrated smart grid facilitated through demonstration activities of distributed RE systems, solar-powered EV charging facilities, battery energy storage, EE and RE applications in buildings and ICT system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
Component 2 – Monitoring and Evaluation																																	
Outcome 2.1: Adequate monitoring and evaluation facilitates smooth and successful project implementation																																	

Output 2.1.1: Regular monitoring exercises conducted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0
Output 2.1.2: Midterm review and final independent project evaluation conducted.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27,018.59

X. Synergies

1. **Synergies** achieved:

Potential synergies achieved throughout this project is throughout the collaboration of multiple stakeholders for each project activities which will improve the revenue, cost and financial of the project.

3. **Stories to be shared** (Optional)

N/A

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e., 1 July 2021 – 30 June 2022.
2. **Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
3. **Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.
4. **Results-based management:** The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

Global Environmental Objectives (GEOs) / Development Objectives (DOs) ratings	
Highly Satisfactory (HS)	Project is expected to achieve or exceed <u>all</u> its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as "good practice."
Satisfactory (S)	Project is expected to <u>achieve most</u> of its <u>major</u> global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to <u>achieve most</u> of its major <u>relevant</u> objectives but with either significant shortcomings or modes overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environmental benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve <u>some</u> of its major global environmental objectives with major shortcomings or is expected to <u>achieve only some</u> of its major global environmental objectives.
Unsatisfactory (U)	Project is expected <u>not</u> to achieve <u>most</u> of its major global environmental objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, <u>any</u> of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of <u>all</u> components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as "good practice."
Satisfactory (S)	Implementation of <u>most</u> components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of <u>some</u> components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of <u>some</u> components is <u>not</u> in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of <u>most</u> components is <u>not</u> in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of <u>none</u> of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will assess the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risk of projects should be rated on the following scale:	
High Risk (H)	There is a probability of greater than 75% those assumptions may fail to hold or materialize, and/or the project may face high risks.
Substantial Risk (S)	There is a probability of between 51% and 75% those assumptions may fail to hold or materialize, and/or the project may face substantial risks.
Moderate Risk (M)	There is a probability of between 26% and 50% those assumptions may fail to hold or materialize, and/or the project may face only moderate risk.
Low Risk (L)	There is a probability of up to 25% those assumptions may fail to hold or materialize, and/or the project may face only low risks.