



Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

Melaka World Solar Valley (MWSV)

Award Scheme

Guangzhou Award

Sustainable Development Goals

Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

Summary

Melaka World Solar Valley (MWSV) is an area designated for the purpose of the development of Malaysia's first solar valley, with an area of 7,248.43 hectares. The project is aimed at the creation of a sustainable urban systems in the Alor Gajah Municipal Council area of jurisdiction, in particular the generation of electricity from renewable energy sources. Solar energy has been identified as the most feasible option in this initiative.

Background and Objective

"The vision for Melaka World Solar Valley is to become a world-class urban area build on the fundamentals of green technology by the year 2020." The planning of an "urban scale renewable energy technology approach area" was formally announced in 2011 amid the development of Sunpower (M) Sdn. Bhd. Solar cell factory in Rembia Industrial Area, district of Alor Gajah - a RM2.5 billion foreign direct investment has successfully inspired community-based renewable energy programs as well as the development of a 5MWp solar farm. BACKGROUND INFORMATION Policies with regard to the application of solar energy technology have been drafted and documented in the draft Melaka World Solar Valley Special Area Plan. It is in-line with the state's intention to be the leading force of green technology in Malaysia, which shows the emphasize on the sustainability agenda in the state administration. In addition, Alor Gajah also referring to Urban Environmental Accords (UEA) and Sustainable Development Goals (SDG), especially Goal #11 as main reference for future action. ORIGINS From the project, the Council has been exposed with the following areas: Understanding the evolution of the world "green" investment and assess demand both nationally and locally; Understanding the Government's fiscal policy to encourage private sector investment; Assessing challenges in green investments and strategies to overcome them; Emphasizing the opportunities and investment strategies in various green industries; Reviewing the decisions and strategies of capital resources; Maximizing return on investment. The Council has also identified challenges in the implementation of green technology development components as follows: Land acquisition for specific green technology project components purpose; Funding for specific project components; Commitment of private sector (industry players/property developers/commercial entities); Procedures and bureaucracy in the implementation of Feed-In Tariff; General nature of green technology policies. The project aims to coordinate with government agencies and commercial entities in the implementation of solar energy technology projects; promote and execute policies that conforms with sustainable development practices and green technology application; promote the development of green technology industry as catalyst for economic sustainability; educate and create awareness amongst the community on sustainable energy; develop and upgrade green technology-based infrastructure and utilities in line with the existing and future land use planning; achieve targets of sustainability based on sustainable development indicators. Alor Gajah Municipal Council was the key agency to manage and lead this project. Partnership and collaboration includes local stakeholders such as Melaka Economy Planning Unit, Melaka Green Technology Corporation (MGTC), Melaka Foundation, Melaka State Progress Corporation, Alor Gajah Land Office and Melaka PlanMalaysia (Town Planner). Others agencies also benefited from the initiative, especially the private sector, such as Sunpower Sdn. Bhd, the solar farm and others. The whole initiative involves many projects and processes which include funding from government and private sector. Based on the initiative and projects that has been planned and completed in Alor Gajah, the federal government has agreed to fund approximately RM300,000 to prepare a special area plan for the implementation of additional green technology project components with estimated total cost of RM 1,586,290,962.50 in three phases of development.

Outcomes and Impacts

MWSV has the potential to be the centre of solar energy technology industry with a complete value-chain set-up. It can also serve as a catalyst and "spark" in the application of green technology in an urban scale scenario in Malaysia. The project has benefitted the local community as a whole and responds to the economic, social and environmental aspects of sustainability as follows: Supply of energy from a renewable and clean source and saving of energy from conventional sources (fossil fuel); Scale of change: Local Supply of green technology components and systems for local and international markets; Scale of change: National & Global Create jobs in the green technology industry; Scale of change: National Produce skilled and semi-skilled workers in the green technology industry; Scale of change: National Create awareness for sustainability. Scale of change: Local & Regional Indicators or metrics for measurement are as follows: Green building certificate application to Melaka Green Technology Corporation under scheme Melaka Green Seal. PIC & user: Local authority & Melaka Green Technology Corporation How: Application form Total energy consumption (electricity) every month. PIC & user: Electrical provider TNB, local authority & Melaka Green Technology Corporation How: State Green committee monthly meeting agenda



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Quantity of rain water harvesting system. PIC & user: Local authority & Melaka Green Technology Corporation How: Data recording building owner
Number of total workers. PIC & user: Labor Department & State Economy Planning Unit How: Data recording building owner Carbon emission inventory. PIC & user: Local authority & Melaka Green Technology Corporation How: Data collection and carbon calculator Implementation of Melaka Green Seal and Melaka World Solar Valley Special Area Plan as a compulsory guideline for new development. Alor Gajah district area mainly was an industrial area in state of Melaka. Since two years ago Alor Gajah have been under transformation, which is expected to last until 2025. Melaka World Solar Valley Special Area Plan will boost the industrial economy and develop more new sustainable building.

Innovative Initiative

This project was revolutionary technology from the good example in the other countries. This project was the first ever in Malaysia to have the special area for solar innovation. The key factors in the proposal of MWSV are Availability of Renewable energy technology Support for the industry Compliments other sustainable development approaches in urban planning especially in ensuring a sustainable urban system in an existing or new urban areas. MWSV is also planned to serve as a catalyst in renewable energy technology application in an urban scale context in Malaysia. Development components and policies are based on the following aspects : Public awareness on sustainable practices, sustainable development and green technology; Sustainable development approaches and green technology application guidelines in new development plans; Research, development, innovation and commercialization of solar energy technology; Green technology industry as development catalyst; “Green” management for existing development Development of green technology-based infrastructure and utilities; Sustainable development indicators. All criteria above include in the planning application by developer and consultant during the submission to local authority. Challenges in the implementation of MWSV presented themselves as below: Land acquisition for specific MWSV components purpose; There are many individual land owner and it’s hard to find them to have discussion and more on. Funding for specific MWSV components. This project divided into 3 phases as below: i. First Phase Development Cost (2013-2015) = RM 477,212,125.00 ii. Second Phase Development Cost (2016-2020) = RM 667,437,837.50 iii. Third Phase Development Cost (2021-2025) = RM 441,641,000.00 This project need huge funding from federal and state government also contribution from private sectors. Commitment of property developers; Developers and consultant need to follow all legal requirement and advice from local stakeholders technical department to achieve green development in MWSV. Procedures and bureaucracy in the implementation of FIT; Fair and square to all applicant. General RE policies; Need more recommended and support from federal government.

Conclusion

What lies ahead for Melaka World Solar Valley are Community programs on sustainable practices, sustainable development and green technology; It is not an easy job to have attention from local people because of their old mentality and behavior. Melaka World Solar Valley Special Plan Area, Sustainable development approaches and green technology application guidelines in new development plans; Other city need to have this special plan area proposal for future guideline. Research, development, innovation and commercialization of solar energy technology; Planned physical components consist of R&D Centre with industry players and universities (local or/and foreign) working together in R&D in producing marketable solar energy technology products and inventions as well as other supporting components – commercial areas, an international exhibition centre and residential; Green technology industry as development catalyst; “Green” management for existing development; Development of green technology-based infrastructure and utilities; Sustainable development indicators; All indicators based on Green City Action Plan (GCAP) Work closely with federal government such as MIDA and Invest Melaka To develop incentives for property developers/investors/community /businesses/house owners