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MALAYSIA'S SUSTAINABLE CITIES JOURNEY: LESSONS FROM GEF-6 AND THE PATH TO GEF-8

Funded by:

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Executed by:

MiGHT
Malaysian Industry-Government Group for High Technology

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Bianca Nina Filastò

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UNIDO'S EXPERIENCE IN SCIP

UNIDO GEF-6 PROJECTS

- **Senegal** - Sustainable Cities Initiative for Senegal.
- **India** - Sustainable Cities Integrated Approach Pilot in India.
- **Malaysia - Sustainable City Development in Malaysia.**
- **Cote d'Ivoire** - Abidjan Integrated Sustainable Urban Planning and Management in Cote d'Ivoire

UNIDO GEF-8 PROJECTS

- **China** - The Sustainable City Project for Coordinated Development of the Beijing-Tianjin-Hebei Region.
- **Madagascar** - Establishing the basis for clean, healthy and resilient cities through an integrated and smart approach in Madagascar.
- **Malaysia - Decarbonization and sustainable cities for a net-zero future in Malaysia.**

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GEF-6 SUSTAINABLE CITY DEVELOPMENT IN MALAYSIA (2019–2025)

Policy and planning

10 policy and planning documents

Capacity building

25 capacity-building activities

Awareness and partnerships

79 awareness events

Demonstration

Smart Grid Demonstration Project in Melaka

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Policy and planning

10 policy and planning documents

National level

Frameworks, standards, and regulatory inputs guiding smart cities and energy systems (e.g., Smart City Framework, Smart Grid policy).

State level (Melaka)

Strategic plans, blueprints, and structure plans setting long-term development vision and priorities.

City level

Implementation strategies, resilience plans, diagnostics, and assessments to guide concrete actions and investments

National

State

City

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Capacity building

- Smart city planning and governance
- Municipal finance and PPPs
- Smart grids, renewable energy and green buildings
- Technical training, workshops and site visits

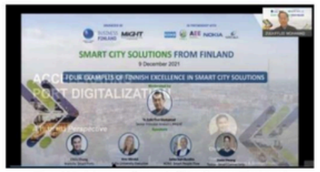
Awareness and partnerships

- Global knowledge exchange through GPSC and urban forums
- Multi-stakeholder engagement across government, industry and academia
- Public awareness on sustainable urban development

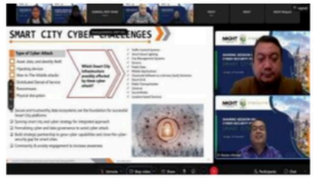
Key figures:

- 1,150 organizations engaged
- 600 government stakeholders
- 550 industry stakeholders
- 153 participants trained
- 3,463 participants reached through awareness activities

Awareness Sharing Session with Melaka Local Community
7 December 2021



The Webinar - Smart City from Finland
9 Dec 2021



Webinar on Smart Cities Cybersecurity
24 March 2022

Global Waste Management Conference 2022
29-30 Mar 2022

Smart Grid Kiosk
July 2022

Cities 4.0 2022
20 - 21 September 2022

MyICSC Workshop & Briefing
29 Aug 2019

Leadership Training for Municipalities on Public Private Partnerships (PPP) Towards Development of Smart Cities
7 - 28 July 2020

Melaka Green Seal Workshop
4-6 Sep 2020

Smart Grid Training: Building Energy Modelling
6-7 Oct 2020

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Demonstration

13 Smart Grid Demonstration Components

Smart energy management

- **30,000 residential smart meters**
- 120 commercial buildings connected to energy management systems (EMS)
- Real-time monitoring and data collection

Renewable energy integration

- **44 MW of large-scale solar** integrated into the platform
- Rooftop solar PV installations
- Solar thermal systems (1,000L and 4,000L installations)
- Battery energy storage systems (202 kWh)

Sustainable mobility

- EV charging stations
- EV bus charging infrastructure
- Solar-powered EV charging solutions with battery backup

Digital infrastructure

- Data centre established in Melaka
- Regional control centre
- Smart grid gateway
- GHG monitoring dashboard and web portal

191,336 tCO_2eq Estimated GHG emissions reduced

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WHAT DID WE LEARN FROM GEF-6?

Lessons from GEF-6

- Demonstrations create evidence
- Cities need investment pathways
- Integrated approaches deliver greater impact

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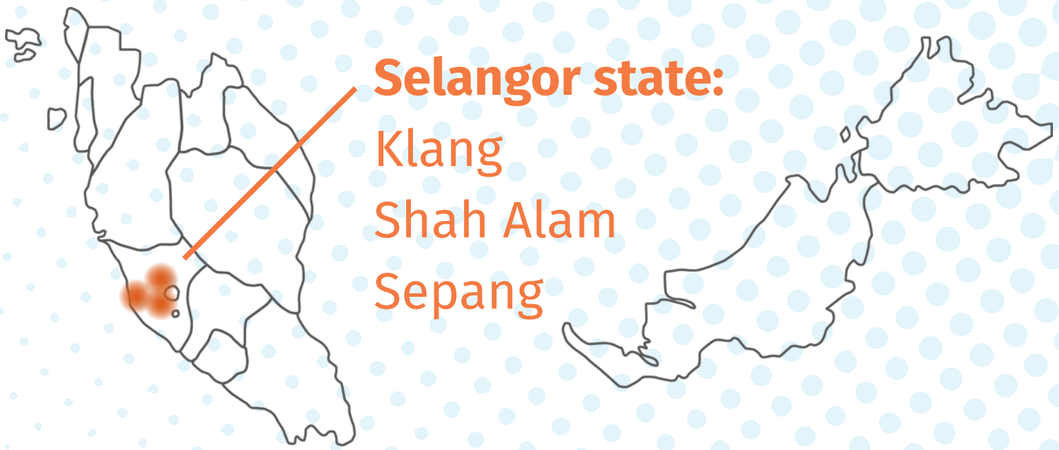
GEF-8 DECARBONIZATION AND SUSTAINABLE CITIES FOR A NET-ZERO FUTURE IN MALAYSIA



Integrated decarbonization policies

Facilitating finance for cities

Knowledge management and capacity building

Piloting and replicating/scaling impactful projects

- **Multi-city implementation, enabling comparison, exchange, and learning**
- **Integration embedded from the design stage**
- **Stronger focus on:**
  - **Translating plans into concrete investment proposals**
  - **Integrating nature-based solutions alongside infrastructure planning**
- **Continued use of pilots, but as entry points within a broader system strategy**

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DEMONSTRATION PROJECTS

Shah Alam

- Sustainable urban drainage
- Food waste anaerobic digestion
- Trees for Life
- Tree asset management system

Sepang

- Net-zero building retrofit
- Solar EV charging and micromobility
- Cyberjaya Lake ecological restoration

Klang

- Palm Grove Park restoration
- Klang River rehabilitation and garbage traps

Project selection criteria

- Strategic Alignment with GEF-8 SCIP Objectives
- Environmental and social risk assessment
- Implementation feasibility
- Stakeholder engagement and ownership
- Scalability and replication potential
- Innovation potential
- Gender equality and social inclusion
- Resource availability and sustainability

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The Malaysia experience highlights the importance of connecting policy, technology, finance and stakeholder engagement to achieve lasting urban transformation. As these lessons are applied through GEF-8, they also offer valuable insights for the design of future GEF-9 sustainable cities initiatives.

Scan to explore the UNIDO website on decarbonization of cities

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