

Proposal for Board of MPC Management

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| Title Keterangan: Tajuk Projek/ Cadangan | Pilot Project Part 1: on IoT-Driven Energy Monitoring System for Automotive and Pharmaceutical Nexus |
| Date / Time line Keterangan: Jadual mula dan akhir pelaksanaan projek/ cadangan | Nov 2024 - Mac 2025 |
| Purpose and Background Keterangan: Tujuan dan penerangan ringkas mengenai projek | <p>The purpose is to guide the company through the process of improving energy management practices, reducing operational cost and staying compliant with latest regulation.</p> <p>This project also aims to equip selected manufacturing companies with the expertise to enhance energy efficiency monitoring and reduce operational costs. By implementing IoT energy monitoring systems, companies are expected to reduce their energy consumption by 10%, which will directly contribute to improving Malaysia's Energy Intensity (EI) indicator—a key factor in the country's World Competitiveness Ranking.</p> <p>This program aligns with the Energy Efficiency & Conservation Act 2024 and supports Malaysia's national carbon reduction targets (45% by 2030 and net zero by 2050). Additionally, it ensures compliance with the National Energy Transformation Roadmap (NETR) and helps companies meet Environmental, Social, and Governance (ESG) standards, positioning them as leaders in sustainability while reaping long-term cost savings and operational improvements.</p> |

Justification

Keterangan: Penjelasan yang menyokong kepada pelaksanaan projek/ cadangan

- **Improve Energy Intensity**

This project will help companies reduce energy consumption by using IoT Monitoring system. By improving energy efficiency, companies will lower operational costs, enhance productivity, and contribute to Malaysia's World Competitiveness Ranking.

- **Prepare for Compliance**

The project will prepare companies for the Energy Efficiency & Conservation Act 2024, ensuring they meet legal requirements. Participants will gain skills in energy monitoring and reporting, avoiding penalties and ensuring smooth compliance.

- **Support National and ESG Targets**

This initiative supports Malaysia's carbon reduction goals (45% by 2030) and net-zero targets by 2050. It aligns with the National Energy Transformation Roadmap and promotes ESG compliance, enabling companies to reduce their carbon footprint, meet investor expectations, and access green financing.

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| <p>Method of Implementation Keterangan: Kaedah yang perlu dilakukan bagi melaksanakan projek</p> | <p>The project will be executed through a structured and phased approach, ensuring that participating companies gain practical knowledge and tools (ATTACHMENT 2).</p> <p>The key elements include</p> <p>A. Capacity Building and Training</p> <ol style="list-style-type: none"> 1. Conduct a comprehensive Awareness Seminar, Clinic, training workshop for participants, focusing on the development and implementation on the IoT Monitoring system. 2. Provide participants with practical tools, including an IoT Sensor for customizing and updating their energy management data. <p>B. Assessments and Monitoring</p> <ol style="list-style-type: none"> 1. Implement assessments at the 10 participating companies to identify Significant Energy Uses (SEUs), analyze energy consumption patterns, and establish energy baselines. This will be followed by customized intervention strategies to reduce energy consumption by up to 10%, directly improving the Energy Intensity (EI) of each company. 2. Provide each company with access to a real-time energy monitoring portal that integrates smart energy analytics. This platform will help companies track their energy performance in real-time and make data-driven decisions for continuous improvement. <p>C. Reporting and Review</p> <ol style="list-style-type: none"> 1. Performance reports will be generated to document energy savings, improvements in the Energy Intensity (EI) indicator and reporting international compliance, contributing to Malaysia's World Competitiveness Ranking. <p>Timeline for the pilot project in ATTACHMENT 3</p> |
| <p>Stakeholders Keterangan: Pihak atau kumpulan yang menerima kesan positif mahupun negatif daripada projek yang dijalankan</p> | <ol style="list-style-type: none"> 1. Ten companies from Automotive or Pharmaceutical Nexus (2 person for each company) |

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| Expected Outcome Keterangan: Apa yang MPC perlu capai/ faedah-faedah jangka pendek dan jangka panjang hasil dari intervensi projek/ cadangan | <ul style="list-style-type: none"> Improved Energy Intensity (EI) Ranking: A 10% reduction in energy consumption, positively impacting Malaysia's EI indicator and World Competitiveness Ranking. Long-term Cost Savings: Companies will experience sustained operational cost savings through better energy management. Reduced Carbon Footprint: Companies will lower their carbon emissions, supporting Malaysia's target |
| | of 45% carbon reduction by 2030 and net-zero by 2050. <ul style="list-style-type: none"> Ensuring companies to compliance with the Energy Efficiency & Conservation Act 2024 and enhancing their ESG performance. |
| Expected Output Keterangan: Output ketara dan tidak ketara yang dihasilkan daripada aktiviti projek/ cadangan. | <ul style="list-style-type: none"> Real-Time Monitoring: Track energy usage in real-time, allowing for immediate detection of inefficiencies. Data Analytics: Use AI to analyze energy consumption patterns, identify trends, and predict potential issues. Customizable Alerts: Set up notifications for anomalies or inefficiencies, helping to prevent energy waste. Integration: Compatible with other industrial systems, allowing for seamless data exchange and enhanced operational efficiency. |
| Target Audience Keterangan: Individu/ kumpulan yang menerima faedah daripada projek/ cadangan | 10 Manufacturing Companies |
| Source of Budget Keterangan: Sumber bajet / jumlah kos yang terlibat. | Procurement method: PK 7.3 <div> <div>SPC 2.0</div> <div>:</div> <div>157,000</div> </div> <div> <div>SPC 3.0</div> <div>:</div> <div>157,000</div> </div> <div> <div>OE</div> <div>:</div> <div>20,000</div> </div> <div> <div>Total</div> <div>:</div> <div>334,000</div> </div> |

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| | <ul style="list-style-type: none"> Details budget (ATTACHMENT 1) |
| Income to MPC Keterangan: Pendapatan yang diterima daripada projek | Value creation RM100mil savings |
| Recommendation Keterangan: Keputusan yang diperlukan daripada Lembaga Pengurusan MPC | We seek the Board of Management's approval 50% of RM314,000 using SPC 2.0 budget and RM20,000 operation budget to implement this part 1 of pilot project in 2024 on IoT-Driven Energy Monitoring System for Automotive and Pharmaceutical Nexus, while another 50% will be using SPC3.0 This budget will ensure that 10 companies can participate in the program, receive training and tools for IoT Energy Monitoring System and contribute to Malaysia's energy efficiency and decarbonization goals |
| Unit/Division | MMT |

ATTACHMENT 1

Pilot Project on IoT-Driven Energy Monitoring System for Automotive and Pharmaceutical Nexus

| | Phase and activities | RM |
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| A | Training Capacity Building (4 days) Day 1: Introduction to Energy Monitoring Systems Day 2: System Setup and Basic Configuration Day 3: Using the Energy Monitoring Dashboard Day 4: Practical Applications and Review Package of Installation for each company <ul style="list-style-type: none"> i. Installation the unit covered during training process ii. 3 no's of Class 0.5 Current Transformer iii. IOT Connectivity included for 24 month iv. Platform access for 24 month (5 user per client) v. Data Access via API for 24 month (1 API user) | 314,000 |
| B. | Logistic for per company <ul style="list-style-type: none"> i. Gemba | 20,000 |
| | Grand Total | 334,000 |

DETAILS COSTING

| Details | RM | Company | Day | Pax | Utilisation | Total |
|---|-------|---------|-----|-----|-------------|----------------|
| Training Fee | 3,925 | 10 | 4 | 2 | | 314,000 |
| Gemba at company | 200 | 10 | 2 | 5 | | 20,000 |
| Grand Total | | | | | | 334,000 |
| Budget Utilisation SPC2 Nov – Dec 2024 | | | | 50% | 157,000 | |
| Budget Utilisation SPC3 Jan – March 2025 | | | | 50% | 157,000 | |

*Note : RM31,400 per company

Four Days Training Details of Pilot Project on IoT-Driven Energy Monitoring System for Automotive and Pharmaceutical Nexus

Day 1: Introduction to Energy Monitoring Systems

Duration: 4 hours

Objective: Introduce participants to the fundamentals of energy monitoring and its significance in various industries.

Outline:

- Overview of Energy Monitoring
- Importance of Energy Efficiency
- Introduction to 3-Phase Energy Monitoring Solutions
- Interactive Q&A Session

Learning Outcomes:

- Understand the basic concepts and importance of energy monitoring.
- Identify the features of 3-Phase Energy Monitoring Solutions.
- Recognize the significance of energy efficiency in reducing costs and promoting sustainability.

Day 2: System Setup and Basic Configuration

Duration: 4 hours

Objective: Guide participants through the installation and initial configuration of the energy monitoring system.

Outline:

- Installation of IoT Sensors
- Connecting to the Monitoring Platform
- Basic System Configuration
- Hands-On Setup Exercises
- Q&A Session

Learning Outcomes:

- Successfully install and configure the energy monitoring system.
- Navigate the system dashboard and understand its core functionalities.
- Troubleshoot common setup issues.

Day 3: Using the Energy Monitoring Dashboard

Duration: 4 hours

Objective: Equip participants with the skills to effectively use the monitoring dashboard for day-to-day operations.

Outline:

- Dashboard Overview
- Key Metrics and Reports
- Setting Up Alerts for Anomalies
- Case Studies: Dashboard Usage in Real-World Scenarios
- Q&A Session

Learning Outcomes:

- Navigate and customize the energy monitoring dashboard.
- Interpret key metrics and generate reports.
- Set up alerts and notifications for energy usage anomalies.

Day 4: Practical Applications and Review

Duration: 4 hours

Objective: Reinforce the knowledge gained and explore practical applications of the energy monitoring system.

Outline:

- Review of Key Concepts
- Practical Exercises on System Usage
- Group Discussions on Potential Applications
- Final Q&A and Program Wrap-Up

Learning Outcomes:

- Apply the knowledge gained to real-world scenarios.
 - Confidently use the energy monitoring system in daily operations.
 - Identify potential areas for energy savings in your organization.
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Timeline of Pilot Project on IoT-Driven Energy Monitoring System for Automotive and Pharmaceutical Nexus

