



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

MID-YEAR PROGRESS REPORT 2017

SECTION 1 TO 5: TO BE COMPLETED BY UNDP MALAYSIA

1. PROJECT DETAILS	
Project Title: Building Sector Energy Efficiency Project Implementing Partner: Public Works Department	Award ID: 00072266 Project ID: 00058231 Project Period (Project Document): Jan 2011 – Dec 2015 Revised Project End Date (If Any): 31 Dec 2017
2. FINANCIAL MANAGEMENT	
2017 AWP Budget: USD 930,000 2017 Expenditure - As of 30 June: USD 1,042,759.80 2017 Expenditure - As of 30 June (%): 112%	Total Project Budget: USD 5,000,000 Total Cumulative Expenditure- As of 30 June: USD 4,778,562 Total Cumulative Expenditure- As of 30 June (%): 95.7%
<i>(to be updated by PM)</i>	
3. PROJECT OVERSIGHT	
NSC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PRC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Minutes (Attached): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	NSC Date: N/A NSC Chair & Designation: Dato' Sri Dr Ir Roslan Bin Taha, Director General, Public Works Department PRC Date: 20 February 2017 1 June 2017
4. RISK LOG MANAGEMENT AND MONITORING	
Risk Log Reviewed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Risk Log Amended: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Last Log Update: Last Log Amendment:
5. AUDIT AND EVALUATION	
HACT Audit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Report (Attached): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rating:	Project Evaluation: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Report (Attached): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Rating:



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

SECTION 6 TO 8: TO BE COMPLETED BY IMPLEMENTING PARTNER

6. 2017 OUTPUT TARGETS AND STATUS – AS PER AWP	
Output 1: Institutional Capacity Development	
<p>Target:</p> <ul style="list-style-type: none"> • Customization and transfer of EMIS to Energy Commission • Transfer of Malaysian Building Energy Management Program to SEDA Malaysia • Development of a National Competency Standard (NCS) for Building Energy Management by SEDA Malaysia 	<p>Status: <input checked="" type="checkbox"/> On Track <input type="checkbox"/> Off Track</p> <p>Details:</p> <ol style="list-style-type: none"> 1. The Energy Commission (EC) has been regulating the Efficient Management of Electrical Energy Regulations 2008 (EMEER 2008) in which installations consuming more than 3,000,000 kWh for a period of six consecutive months is subjected to energy management and reporting. BSEEP has provided technical, training and support services through Ekoneg from Croatia, who has customized a database to collect and track the energy use of installations subjected to this regulations. Up to date both Ekoneg and the EC have been collaborating closely to implement EMIS. The following activities have been conducted in 2017: (i) user requirement framework and architecture has been developed, (ii) final acceptance test has been completed and approved, and (iii) training manuals have been developed. The EMIS database is now installed and operational. The only remaining activity will involve a series of trainings to the EMEER 2008 end-users to train participants about the overall system architecture, usage patterns and other subjects required for successfully using the system. This is scheduled to start in Mid July 2017 and is expected to be completed by the end of July. 2. The Energy Management Programme has been handed over to the SEDA Malaysia with the signing of an acceptance letter in the first quarter of 2017.



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

	<p>3. Documentation for the National Competency Standard for Building Energy Management has also been completed by SEDA in May 2017. The National Competency Standard will be endorsed by the Ministry of Human Resource (MoHR) in August 2017. The first training will be officially conducted in August 2017 after receiving endorsement.</p>
<p>Output 2: Policy Development & Regulatory Frameworks</p>	
<p>Target:</p> <ul style="list-style-type: none"> • Completion of the energy efficiency code of practice for residential buildings • Development of a Regulatory instrument to deliver long term energy efficiency in the buildings sector • A report on building cost for EE Code of Practise for residential buildings • A paper to MTHPI on Transforming Local Authorities for Building Energy Efficiency • A National Conference on Building EE with JKR CASKT/BSEEP 	<p>Status: <input checked="" type="checkbox"/> On Track <input type="checkbox"/> Off Track</p> <p>Details:</p> <ol style="list-style-type: none"> 1. BSEEP has led the initiative to develop Malaysia's first energy efficiency code of practice for residential buildings with the Department of Standard Malaysia, which is intended to guide architects, construction companies and local councils on green criteria to build energy efficient residential buildings. The energy efficiency code of practice for residential buildings was published as a Malaysian Standard MS2680:2017 in May by the Department of Standards Malaysia. 2. Regulatory instrument development to deliver long term energy efficiency in the buildings sector: <ol style="list-style-type: none"> 2.1 BSEEP coordinated a meeting between the Secretary General of KeTTHA and the Director General of JKR and the CEO of CIDB in January on the promotion of MyCREST. The JKR and CIDB proposed that government buildings be certified to MyCREST and that KeTTHA could assist in promotion. KeTTHA's Sec. Gen. has subsequently presented MyCREST at other interviews and events including at the Green Technology and Climate Change Council meeting chaired by the Prime Minister on March 2nd 2017. 2.2 BSEEP assisted KETTHA in preparing the proposal papers and presentation material for fund request from the Malaysian



	<p>Electricity Supply Industries Trust Account (MESITA) to expand the Energy Performance Contracting (EPC) Fund to RM200 million by the contribution of RM10 million to cover the credit guarantee fee and RM5.8 million for interest rate buydown of 1%. BSEEP also assisted in preparing the information papers and presentation material for KETTHA's presentation to the Prime Minister at the Green Technology and Climate Change Council (GTCCC) on March 2nd, 2017 to obtain the Prime Minister's approval for the creation of the RM200 million EPC Fund. The Prime Minister has since granted approval for the EPC Fund.</p> <p>2.3 The BSEEP has been providing technical support to KeTTHA on the building sector component of the EE&C Law however funding support by BSEEP for the drafting of the law is not confirmed. KeTTHA is intending to develop the EE&C Law starting the 3rd Quarter of 2017 which will have regulatory requirements for building sector energy efficiency i.e. mandatory building energy codes, BEI labelling/disclosure, progressively tightened building energy codes towards near zero carbon building.</p> <p>2.4 BSEEP proposed funding to SIRIM to begin the revision of the MS1525 immediately. BSEEP recommended that the MS1525:2019 take advantage of technology improvements in OTTV, roof U-values, and RTTV which can help meet an improved BEI of 120 kWh/m²/year. BSEEP has also proposed that SIRIM nominate the BSEEP NPD to chair the next MS1525 Technical Workgroup.</p> <p>2.5 BSEEP has been assisting KeTTHA on the building labelling agenda by conducting a consultation with stakeholders on BEI labelling for government stakeholders on</p>
--	---



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

	<p>May 2017. Consensus was reached on a preliminary BEI calculation methodology and a 5-STAR rating system. KeTTHa intends to submit the proposal for BEI labelling for government buildings to the Green Technology and Climate Change Council chaired by the Prime Minister in September 2017.</p> <p>3. -A proposal was made to KeTTHA to present the paper on Transforming Local Authorities for Building Energy Efficiency at the Green Technology and Climate Change Council but this is being replaced by the proposed EE&C law, which would act as an alternative pathway to engage with local authorities.</p> <p>4. A national conference was held on May 11th 2017 with >350 registered participants and >50 invited guests. The conference was officiated by the Minister of Public Works, Datuk Fadillah Yusof. The outcomes from all components in BSEEP were presented.</p>
<p>Output 3: EE Financing Capacity Improvements</p>	
<p>Target:</p> <ul style="list-style-type: none"> • Implementation of Credit Guarantee Facility by the Malaysia Debt Venture dedicated for ESCOs investment • Award of at least 5 successful ESCO under Credit Guarantee Facility by MDV 	<p>Status: <input checked="" type="checkbox"/> On Track <input type="checkbox"/> Off Track</p> <p>Details:</p> <p>1. BSEEP has developed financing schemes to target the commercial and residential segments of the market. In the past, BSEEP/JKR has signed an MOU with Malaysia Debt Ventures Corporation (MDV) which is a subsidiary of Ministry of Finance (MOF) to help train MDV staff on EE EPC based project financing. Resulting from the capacity built, MDV has entered into an agreement with JKR CASKT/BSEEP in September 2016 to offer EE EPC based financing to the market. A RM 2.0 million UNDP fund has since been transferred to the MDV for the premium towards the Credit Guarantee Facility for loan disbursed to successful ESCOs. The Credit Guarantee</p>



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

	<p>Corporation and MDV has entered into agreement under the arrangement.</p> <p>2. BSEEP has provided consultancy services to MDV for the implementation of the EPC fund. The following activities have been completed in 2017: (i) preparation of the general framework, documentation and training, (ii) completion of hands-on assistance for qualifying/ evaluating loan applications, including the preparation of due-diligence reports for two applications involving 3 EPC projects, and (iii) preparation of a template for the EPC contract to be used by MDV and the ESCOs. The disbursements of loans to ESCOs is currently ongoing. The remaining activity will be to set up a joint monitoring committee for MDV, EC and KeTTHA to monitor and make decisions on the EPC fund.</p>
<p>Output 4: Information and Awareness Enhancement</p>	
<p>Target:</p> <ul style="list-style-type: none"> • MyCREST-training and certification of assessors and qualified professionals • Publications <ol style="list-style-type: none"> 1. BSEEP demonstration projects and good practice guide 2. EE for small office guide 3. EPC good practice guide 4. Policy compendium on EE in buildings 5. Impact of EE Residential code on building construction 	<p>Status: <input checked="" type="checkbox"/> On Track <input type="checkbox"/> Off Track</p> <p>Details:</p> <p>1. BSEEP has transferred RM 800,000 to JKR for capacity building of JKR staff in EE buildings management, particularly to train new MyCREST assessors and qualified professionals (QPs). This is a continuation of the various training on building energy efficiency including the critical Building Energy Intensity Tool (BEIT) training provided by BSEEP since 2012 on BEI setting of JKR new building projects. Following the successful adoption of the BEI setting methodologies by JKR, BSEEP via CASKT has agreed on the need for JKR to further equip its technical staff on MyCREST competency which will continue to use BEI setting in its projects. JKR has sent 40 technical staffs to MyCREST's QP and Assessors course conducted by CIDB for 2017. More than 80 new buildings projects under JKR have benefitted from the BEI setting capabilities averaging at 160 kWh per square metres per year.</p>



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

	<p>2. The following publications acting as useful technical resources to guide the implementation of energy efficiency design and implementation were completed and distributed during the National Conference in May 2017:</p> <ul style="list-style-type: none"> 2.1 The active technical design guidelines 2.2 The passive technical design guidelines (2nd edition) 2.3 The policy compendium which includes a primary paper on long-term policy framework and target setting, as well as 10 other topical policy papers 2.4 The EPC guidebook 2.5 The Building Energy Management guidebook <p>3. BSEEP has also produced a few educational videos on energy efficiency, and an animated video on energy management that were showcased to the public through BSEEP's social media channels (Youtube, Facebook, Instagram) and the BSEEP website.</p>
<p>Output 5: Building EE Demonstrations</p>	
<p>Target</p> <ul style="list-style-type: none"> ▪ Implementation of online monitoring in buildings by Sustainable Energy Development Authority (SEDA) involving demo projects, 11th Malaysia Plan energy audit and retrofit program and selected JKR Buildings ▪ Implementation of online monitoring at JKR HQ (9 buildings) at Jln. Salahuddin, KL by JKR Senggara to pilot building energy database for MySPATA ▪ Completing nine demo projects based on partial grant principles 	<p>Status: <input checked="" type="checkbox"/> On Track <input type="checkbox"/> Off Track</p> <p>Details:</p> <ul style="list-style-type: none"> 1. SEDA and JKR have been appointed as implementing agencies for the online monitoring in buildings. SEDA will undertake implementation for RMK 11th audit beneficiaries and selected BSEEP demonstration projects. 2. JKR will implement monitoring of buildings at JKR HQ Complex in Jalan Sultan Salahuddin, Kuala Lumpur. 3. The demo projects implemented based on partial grants principles are as follows: <ul style="list-style-type: none"> 3.1 Sime Elmina 730 numbers low OTTV bricks residential housing projects- Completion in 2018 3.2 JKR Block F LED re-lamping project- Completed 3.3 Xioaby Crustz bakery LED lamps projects- Completed



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

	<p>3.4 PAM HQ Building on BEM system project- Completed</p> <p>3.5 DBKU Commission building on air-conditioning system- Completed</p> <p>3.6 FMM-MiMG Sg Ara roof insulation programme- Completed</p> <p>3.7 GM Plaza air conditioning system project-completed</p>
--	---

7. ISSUES AND CHALLENGES

Description:

Upon assessment of the BSEEP project in general. It can be summarized that BSEEP has managed to achieve its stated objective following the successful completion of the strategic revision of the project planning matrix which can be summarized as follows:

1. The development of the Energy Performance Contracting Fund for Energy Service Companies currently under implementation by the Malaysia Debt Venture. This dedicated fund for building energy efficiency projects has since been endorsed by the Malaysia's Green Technology Council chaired by the Honorary Prime Minister in March this year as a co-funding initiative with the Ministry of Energy, Green Technology and Water. In total, it is capable of financing initial project investments to a tune of RM 200 million.
2. BSEEP has also managed to achieve many 'FIRSTS' on functional elements which can be continued and benefitted JKR and KETTHA on the longer term for examples;
 - 2.1 Development of a new Malaysian Standard (MS) with Standard Malaysia and SIRIM Berhad on energy efficiency code of practice for residential buildings, the MS2680:2017. The purpose of the new MS is to assist stakeholders such as architects, developers and materials suppliers to work collectively in lowering the levels of carbon emission for residential buildings projects.
 - 2.2 Development of a new National Competency Standard (NCS) for Building Energy Management in collaboration with SEDA Malaysia and Department of Skills Development, Ministry of Human Resource, Malaysia.
 - 2.3 Development of guidelines on building energy design and energy management systems which have since been published and make available in printed copies as distributed to the BSEEP National Conference participants in May this year.
 - 2.4 Assistance on the implementation of the Energy Management System (EMIS) to support enforcement of Energy Management and Energy Efficiency Regulation (EMEER 2008) by the Energy Commission.
 - 2.5 Implementation of online energy monitoring by SEDA Malaysia and JKR Senggara in selected buildings to complement implementation of building energy management, building codes and building energy labelling for Government buildings.
 - 2.6 Publication of compendium of policy papers for reference by policy makers related to the promotion and widespread adoption of building energy efficiency in Malaysia which is make available during the National Conference in May 2017



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

3. There are a few remaining activities which will be carried out before the end of the project:

- 3.1 Training of EMIS end-users by Ekonerg to enable them to fully understand the system & use it to their advantage
- 3.2 Endorsement of the National Competency Standard for Building Energy Management by MoHR
- 3.3 To set up a joint monitoring committee for MDV, EC and KeTTHA to monitor and make decisions on the EPC fund

The below are the proposed activities which would be crucial to sustain the results that the BSEEP project has been achieved thus far. These proposed activities will require endorsement from the National Steering Committee:

- 3.4 Further technical due diligence support to MDV to ensure that projects funded through the EPC fund are suitable (based on an Investment Grade Audit, have reliable savings and cash flow projects, and proper M&V practices), to ensure fund performance and to mitigate project risk by improving project design or debt structure.
- 3.5 Support to develop the Energy Efficiency and Conservation Law spearheaded by KeTTHA, which would act as an instrument to drive renovations of existing private sector buildings while providing energy audit grants, and build the confidence of the market towards improvements in building sector energy efficiency

Action Taken by implementing Partner:

JKR CASKT will continue with trainings and capacity building of JKR staffs in building energy management.

Additional Support Requested from UNDP/ EPU:

To ensure sustainability of the programme which has been successfully laid-out by BSEEP via the provision of an umbrella policy under the Ministry of Energy, Green Technology and Water.

8. LINKAGE TO THE 11TH MALAYSIA PLAN: 2016

a. The project outputs will contribute to the following 11th Malaysia Plan Strategic Thrusts.

STRATEGIC THRUSTS (Mandatory)

	Enhancing inclusiveness towards an equitable society
	Improving wellbeing for all
	Accelerating human capital development for an advanced nation
	Pursuing green growth for sustainability and resilience
	Strengthening infrastructure to support economic expansion
	Re-engineering economic growth for greater prosperity

GAME CHANGERS (If Applicable)

	Unlocking the potential of productivity
	Uplifting B40 households towards a middle-class society
	Enabling industry-led Technical and Vocational Education and Training (TVET)



COUNTRY PROGRAMME ACTION PLAN 2016-2020



Empowered lives.
Resilient nations.

	Embarking on green growth
	Translating innovation to wealth
	Investing in competitive cities
<p>b. The project outputs will contribute to the 11th Malaysia Plan Key Focus Area <i>(please state the specific focus area)</i></p> <p>The project outputs will build upon one of the six Strategic Thrusts of the 11th Malaysia Plan- Pursuing Green Growth for Sustainability and Resilience.</p>	

Mid Year Progress Report 2017 approved by:

Name: Ir. Gopal Narian Kutty

Designation: Director of CASKT, JKR

Date: