

**UNDP EEG and GEF
Annual Performance Report (APR)
Project Implementation Review (PIR)
2008 – CLIMATE CHANGE**

Reporting Period = 1 July 2007 to 30 June 2008

PLEASE COMPLETE ALL SECTIONS

Incomplete PIRs will not be accepted and will not be registered as submitted.

See background note for further guidance.

1. Basic Project Data

| |
|--|
| Official Project Title: Malaysia Building Integrated Photovoltaic Technology Application Project (MBIPV) |
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| |
|---|
| Project Summary (as in PIMS and Project Document) |
|---|

The Malaysia Building Integrated Photovoltaic (BIPV) Technology Application Project, MBIPV, is intended to induce the long-term cost reduction of the non-emitting GHG technology (i.e. the photovoltaic or PV) via integration of the PV technology within building designs and envelopes. It is aimed at creating a sustainable BIPV market in Malaysia that will generate widespread BIPV applications. The MBIPV project will specifically focus on the market development for BIPV technology, and building the national capacities on three major areas: (a) policy and education; (b) technical skill and market implementation; (c) technology development support. The project will catalyze BIPV technology acceptance among the public, policy makers, financiers and building industry, which will lead towards a sustainable BIPV market beyond the completion of the project. The project objectives will be achieved via a multi-pronged approach: (1) BIPV information services, awareness and capacity building programs; (2) BIPV market enhancement and infrastructure development; (3) BIPV policies and financing mechanisms program; (4) BIPV industry development and technology localization program.

| | | | | | | |
|---|----------------------|----------|---|-----|--|----|
| Country/ies: | PIMS Number | 2754 | | | | |
| | Atlas Project Number | 00042090 | | | | |
| | Project Type | FSP | X | MSP | | EA |
| GEF Focal Area | CC | | | | | |
| GEF Focal Area Strategic Objective and Strategic Priority | SP-5 | | | | | |
| GEF Operational Programme | OP-7 | | | | | |

Project timeframe:

| | | | | | |
|--|-----------------|--|----|---|---|
| Date of Entry into Work Programme ¹ | 21 May 2004 | | | Planned Project Duration | 63 months |
| Project Document Signature Date | 11 May 2005 | | | Original Planned Closing Date | 30 September 2010 |
| Date of First Disbursement | 5 November 2005 | | | Revised Planned ² Closing Date | N/A |
| Is this the Terminal APR/PIR? | YES | | NO | X | Date Operationally Closed (if applicable) |

Project Supervision:

| | |
|---|--|
| Dates of Tripartite Project Review (TPR) Meetings during reporting period (if applicable) | Not applicable – NSC serves as the TPR meeting |
| Date of Project Steering Committee meetings during reporting period. | 18 January 2008 |

Project Evaluation:

| | | | |
|---|-----|-------------------------------------|-----------------------|
| Date Final Evaluation ¹ carried out (if applicable) | N/A | Planned date of Final Evaluation | N/A |
| Date Mid Term Evaluation carried out (if applicable) | N/A | Planned date of Mid Term Evaluation | 1 - 12 September 2008 |
| If the project had a MTE or FE please ensure they are posted in PIMS and the UNDP Evaluation Resource Centre ³ before final submission or provide justification. | | | |
| Overall Rating of the project in the evaluation | | N/A | |
| If the project had a MTE or FE, please attach the relevant tracking tool. The tracking tool should correspond to the GEF Funding cycle: For projects approved in GEF 2 and 3: use the tracking tools for GEF 3 For projects approved in GEF 4: use the tracking tools for GEF 4 | | | |

Project documentation and information:

| | |
|--|---|
| List documents/ reports/ brochures / articles that have been prepared about the project. | <ul style="list-style-type: none"> ▪ Milestone Reports: <ol style="list-style-type: none"> 1. Launching of National SURIA 1000 2. PV Industry Days - Conference 3. Media Communications in 2007 4. SURIA High Tea Event 5. PV Finance and Investment Forum 6. BIPV System at Damansara Utama Shoplots 7. BIPV System Damansara Country Heights 8. BIPV System Putrajaya Perdana Berhad 9. BIPV System at Bukit Sebukur, Melaka 10. BIPV System at PTM-ZEO |
|--|---|

¹ All dates should be in the following format: day/month/year

² Please explain any entry here in section 8

³ The UNDP Evaluation Resource Center can be found a <http://erc.undp.org/index.aspx?module=Intra>

| | |
|---|---|
| | 11. BIPV System Monash University 12. Techno-Economic Assessment of BIPV in Malaysia 13. Compared Assessment of Selected Environmental Indicators of Photovoltaic Electricity in Selected OECD Cities and Malaysian Cities 14. International Review of Regulatory Schemes for PV 15. Grid Connection and Net Metering of BIPV Installations in Malaysia 16. Assessment of Local PV Business 17. PV R&D in Malaysian Universities <ul style="list-style-type: none"> ▪ PV Industry Handbook ▪ Quarterly Industry Newsletters ▪ Quarterly Policy Newsletters ▪ SURIA 1000 notebook ▪ MBIPV Project folder ▪ Grid-Connected PV System Training flyer |
| List other monitoring and/or reporting requirements for this project. | Project Review Committee, last meeting on 6 May 2008 |
| List the Website address (URL) of project. | www.mbipv.net.my |

Project contacts:

| <i>Title</i> | <i>Name</i> | <i>E-mail</i> | <i>Date</i> | <i>Signature</i> |
|--|------------------------|-------------------|-------------|------------------|
| National Project Manager/Coordinator | Ir. Ahmad Hadri Haris | hadri@ptm.org.my | | |
| Government GEF OFP ⁴ (optional) | Dr. Teddy Lian Kok Fei | drlian@nre.gov.my | | |
| Executing Agency (optional) | | | | |

⁴ In the case of a project involving more than 1 country, it is suggested that for simplicity only the OFP (optional) and Country Office Programme Manager from the lead country sign-off. If representatives from more than 1 country sign off, please add additional rows as necessary indicating the country name for each signature.

2. UNDP Country Officer ONLY

Please estimate the inputs delivered to this project in this reporting period as part of project implementation oversight⁵.

| <i>Name of UNDP Staff member</i> | <i>Position and level (P3, G5 etc...)</i> | <i>Work done for the Project</i> | <i>Estimated days worked on project</i> | <i>Estimated travel costs</i> | <i>Other oversight costs</i> | <i>Comments</i> |
|----------------------------------|---|----------------------------------|---|-------------------------------|------------------------------|-------------------------------------|
| Asfaazam Kasbani | ARR (NO-C) | Monitoring & Evaluation | Once a month. | USD 15,000 | USD10,000 | Costs include M&E at the demo sites |

| |
|---|
| <p>List the dates of <u>site</u> visits to project during this reporting period. 17 July 2007, 2 Aug 2007, 11 Sep 2007, 9 Oct 2007, 1 Oct 2007, 26 Dec 2007 9 Jan 2008, 13 Feb 2008, 26 Mar 2008, 23 Apr 2008, 5 May 2008, 16 June 2008</p> |
| <p>General Comments: The project is under the closed supervision by both the executing agency (Ministry of Energy, Water and Communication) and UNDP. As the project is implemented with 2 other projects (00013470 & 00013487) by the same implementing agency (Pusat Tenaga Malaysia), UNDP normally monitors all 3 projects together during each visit.</p> |

UNDP Country Officers must sign this APR/PIR. This indicates that you have checked it and to your understanding it is as complete and accurate as possible.

Name: Asfaazam Kasbani

Signature: _____

Date: 2 September 2008

2. UNDP Regional Technical Advisor ONLY

⁵ Note that in addition to the UNDP country office environment team staff, other staff might include the Resident Representative, DRRs, ARRs, Finance Division Staff, drivers etc...

If not included in the above table, please estimate the inputs delivered to this project by the regional coordination unit/ practice team / service centre in this reporting period as part of project implementation oversight⁶.

| <i>Name of UNDP Staff member</i> | <i>Position and level (P3, G5 etc...)</i> | <i>Work done for the Project</i> | <i>Estimated days worked on project</i> | <i>Estimated travel costs</i> | <i>Other oversight costs</i> | <i>Comments</i> |
|----------------------------------|---|---|---|-------------------------------|------------------------------|-----------------|
| Manuel Soriano | Regional Technical Advisor (L-5) | Provision of expert advice on addressing technical issues on project implementation | 10 | US\$300 | | |
| Karakate Bhamornbutr | Programme Associate | Provision of administrative and logistical services for project implementation | 5 | NA | | |

Please insert the core performance information from the APR/PIR here before sending to the Principal Technical Adviser.

| <i>Key indicator</i> | |
|---|-------------------|
| PIMS number | 2754 |
| Pipeline Entry Date ⁷ | 18 June 2003 |
| CEO Endorsement Date | 29 December 2004 |
| Project Start Date | 11 May 2005 |
| Closing Date | 30 September 2010 |
| PDF Funding ⁸ , if any | US\$ 0.13 |
| GEF Grant | US\$ 4.70 |
| Total GEF Funding | US\$ 4.83 |
| Co-financing | US\$ 20.26 |
| Total Project Cost | US\$ 25.09 |
| Total GEF disbursement as of June 30, 2008 | US\$ 2.64 |
| Proposed co-financing (only if MTE or FE was conducted in reporting period) | NA |
| Actual co-financing (only if MTE or FE was conducted in reporting period) | NA |
| Delay in project completion (in months) | NA |
| Number of critical risks | 3 |
| Overall Rating ⁹ of project progress toward meeting objectives | S |

⁶ Note that in addition to the UNDP country office environment team, staff might include the Resident Representative, DRRs, ARRs, Finance Division Staff, drivers etc...

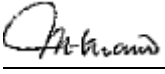
⁷ All dates should be in the following format: day/month/year

⁸ Figures should be in US\$ million

| | | | | |
|--|-----|--------------------------|----|---|
| Overall Rating of project implementation | S | | | |
| Has the project strategy been adjusted? | Yes | <input type="checkbox"/> | No | X |
| Comments | | | | |

UNDP RTAs must sign this PIR. This indicates that you have checked it and to your understanding it is as complete and accurate as possible.

Name: Manuel Soriano

Signature: 

Date: 12 September 2008

⁹ Overall rating can be determined as follows. For each rating assign the following figures to the rating: HS = 1, S = 2, MS = 3, MU = 4, U = 5, HU = 6. The total of these figures should be divided by the number of ratings given (maximum 5). Enter the final rating not figure (1 = HS, 2 = S, 3 = MS, 4 = MU, 5 = U, 6 = HU)

3. Progress towards achieving project objectives

| <i>Project Objective and Outcomes</i> | <i>Description of Indicator¹⁰</i> | <i>Baseline Level¹¹</i> | <i>Target Level</i> | <i>Level at 30 June 2008</i> |
|--|---|------------------------------------|---------------------|------------------------------|
| Objective: The overall capacity (technical, policy, planning, institutional, fiscal, financial) both in government and the private sectors, to develop, design and make use of the BIPV energy potential and to develop local industry is significantly improved. | 1) % of increased installed BIPV capacity against baseline | 468 kWp | 101% | 175% (1,287 kWp) |
| | 2) % of BIPV unit cost reduction against baseline | US\$8,266 | 6% | 14% (US\$7,269) |
| | 3) No. of National BIPV program integrated into the 10th Malaysian Plan | 0 | 0 | 0 |
| Objective 1: BIPV Information Services, Awareness and Capacity Building Programs | | | | |
| Outcome 1.1: Integrated information and awareness building program on BIPV | 4) Cumulative: | | | |
| | • No. of books/ magazines/ references available in the resource centre at PTM | 0 | 27 | 108 |
| | • No. of staff available as BIPV spokesperson | 0 | 10 | 10 |
| | 5) No. of hits on the BIPV website and visitors each year that received information | 0 | 120 | 26,800 |
| | 6) | | | |
| | • No. of media articles published | 8 | 2 | 108 |
| | • No. of brochures distributed | 0 | 500 | 1,930 |
| • No. of PVPS meetings attended | 2 | 1 | 6 | |
| 7) | | | | |
| • No. of media adverts published | 0 | 4 | 17 | |
| • No. of seminars/ workshops organized | 2 | 1 | 3 | |
| • No. of talks delivered | 3 | 2 | 18 | |
| • No. of developers' launching | 1 | 1 | 1 | |
| • No. of road show implemented | 0 | 1 | 5 | |

¹⁰ This should describe the quantitative indicator

¹¹ This should be a quantitative numerical value

| <i>Project Objective and Outcomes</i> | <i>Description of Indicator¹⁰</i> | <i>Baseline Level¹¹</i> | <i>Target Level</i> | <i>Level at 30 June 2008</i> |
|---|--|---|----------------------------|-------------------------------------|
| Outcome 1.2: National BIPV database | 8) No. of download from BIPV database and visitors each year that received information | 0 | 50 | 5,050 |
| Outcome 1.3: BIPV training courses | 9) • No. of in-house training course organized | 0 | 0 | 0 |
| | • No. of support staff (PTM) fully trained. | 0 | 0 | 0 |
| | 10) • No. of training manual developed | 0 | 0 | 0 |
| | • No. of training institute established | 0 | 0 | 0 |
| Outcome 1.4: Malaysian PV Industry Association | 11) • No. of trainings conducted | 0 | 2 | 3 |
| | • No. of participants enrolled | 0 | 24 | 36 |
| | • % of participants passing the exam | 0% | 80% | 64% |
| Outcome 1.5: Quality control programs for local industry | 12) • No. of meetings organized (including pro-tem meetings) | 1 | 2 | 15 |
| | • Cumulative no. of members (full and associate members) | 0 | 17 | 48 |
| Outcome 1.6: Capacity building and awareness programs for policy makers and financial sector | 13) • No. of BIPV quality consultants appointed | 0 | 1 | 0 |
| | • No. of BIPV systems checked | 0 | 1 | 0 |
| | 14) No. of companies approved as "Approved PV Service Provider" and one-stop centre | 0 | 2 | 8 |
| Outcome 1.6: Capacity building and awareness programs for policy makers and financial sector | 15) • No. of BIPV award ceremony | 0 | 0 | 0 |
| | • No. of winners for BIPV award ceremony | 0 | 0 | 0 |
| Outcome 1.6: Capacity building and awareness programs for policy makers and financial sector | 16) • No. of participants | 0 | 15 | 38 |
| | • No. of local study missions | 0 | 1 | 3 |
| | • No. of international study missions | 0 | 1 | 0 |

| <i>Project Objective and Outcomes</i> | <i>Description of Indicator¹⁰</i> | <i>Baseline Level¹¹</i> | <i>Target Level</i> | <i>Level at 30 June 2008</i> |
|---|---|------------------------------------|---------------------|------------------------------|
| Outcome 1.7: International BIPV event for decision makers | 17) | | | |
| | <ul style="list-style-type: none"> • No. of international BIPV event hosted in Malaysia • No. of participants | 0 | 1 | 0 |
| | | 0 | 50 | 0 |
| Outcome 1.8: Disseminate information and lessons learn to regional ASEAN countries | 18) No. of presentation at RE-SSN meetings and to other ASEAN countries | 1 | 1 | 1 |
| Outcome 1.9: Impact assessment of BIPV technology development | 19) No. of surveys conducted | 0 | 0 | 0 |
| Component 2: BIPV Market Enhancement and Infrastructure Development Program | | | | |
| Outcome 2.1: Standards and guidelines development | 20) No. of PV standard published by DSM | 0 | 0 | 0 |
| | 21) No. building standard/guideline developed | 0 | 0 | 0 |
| Outcome 2.2: Review and final design of the planned BIPV showcases | 22) | | | |
| | <ul style="list-style-type: none"> • No. of tender documents or approved design for BIPV showcase “office building” | 0 | 0 | 0 |
| | <ul style="list-style-type: none"> • No. of tender documents or approved design for BIPV showcase “Government building” | 0 | 0 | 0 |
| | <ul style="list-style-type: none"> • No. of tender documents or approved design for BIPV showcase “public access building” | 0 | 0 | 0 |
| | <ul style="list-style-type: none"> • No. of tender documents or approved design for BIPV showcase “residential property” | 0 | 0 | 0 |
| Outcome 2.3: Hardware installation and operation of the BIPV showcases | 23) | | | |
| | <ul style="list-style-type: none"> • BIPV showcase “office building” installed capacity | 0 | 0 | 0 |
| | <ul style="list-style-type: none"> • BIPV showcase government building” installed capacity | 0 | 4 kWp | 4.4 kWp |
| | <ul style="list-style-type: none"> • BIPV showcase “public access building” installed capacity | 0 | 20 kWp | 0 |
| | <ul style="list-style-type: none"> • BIPV showcase “residential property” installed capacity | 0 | 36 kWp | 35.36 kWp |

| <i>Project Objective and Outcomes</i> | <i>Description of Indicator¹⁰</i> | <i>Baseline Level¹¹</i> | <i>Target Level</i> | <i>Level at 30 June 2008</i> |
|---|--|------------------------------------|---------------------|------------------------------|
| Outcome 2.4: Evaluation of demonstration sites | 24) No. of BIPV demonstration applications received | 0 | 6 | 7 |
| Outcome 2.5: Design and evaluation of technical and commercial viability for the demonstration projects | 25) No. of BIPV demonstration projects evaluated and approved | 0 | 5 | 6 |
| Outcome 2.6: BIPV demonstration implementation and operation at government and private buildings | 26) No. of BIPV demonstration installed capacity | 0 | 50 kWp | 102.38 kWp |
| Outcome 2.7: Review and promotion of national PV program "Suria 1000" | 27) No. of review/assessment reports prepared | 0 | 1 | 1 |
| | 28) <ul style="list-style-type: none"> • No. of adverts published • No. of launching/calls for "bidding" announced | 0 0 | 2 2 | 2 2 |
| Outcome 2.8: Implementation and operation of "Suria 1000" | 29) No. of BIPV systems awarded | 0 | 18 | 36 |
| | 30) Awarded installed capacity under Suria 1000 | 0 | 235 kWp | 485.76 kWp |
| | 31) Cumulative of awarded BIPV installed capacity under Suria 1000 | 0 | 275 kWp | 544.02 kWp |
| Outcome 2.9: Monitoring and evaluation of BIPV projects | 32) No. of PV monitoring centre established | 0 | 0 | 0 |
| | 33) No. of BIPV systems monitored | 0 | 8 | 25 |
| | 34) No. of evaluation reports published | 0 | 1 | 1 |
| Outcome 2.10: Dissemination and promotion of demonstration program results | 35) No. of information (BIPV system and results) disseminated | 0 | 1 | 1 |
| | 36) No. of workshop participants | 0 | 0 | 0 |
| Outcome 2.11: Sustainable follow-up program design | 37) No. of follow-up program submitted to EPU | 0 | 0 | 0 |
| Component 3: BIPV Policies and Financing Mechanisms Program | | | | |
| Outcome 3.1: Techno-economic analysis for grid-connected BIPV | 38) No. of reports submitted to NSC | 0 | 0 | 0 |

| <i>Project Objective and Outcomes</i> | <i>Description of Indicator¹⁰</i> | <i>Baseline Level¹¹</i> | <i>Target Level</i> | <i>Level at 30 June 2008</i> |
|---|---|---|----------------------------|-------------------------------------|
| Outcome 3.2: Design and implementation of government incentives to utility and manufacturing industry | 39) No. of reports on proposal and recommendation submitted to NSC | 0 | 0 | 0 |
| Outcome 3.3: Analysis on existing and new financial mechanism and fiscal incentives | 40) No. of assessment reports submitted to NSC | 0 | 0 | 0 |
| | 41) No. of proposal and recommendation submitted to NSC | 0 | 0 | 0 |
| Outcome 3.4: Implementation of a fiscal and financial framework for a sustainable follow-up program | 42) No. of policy formulated and proposed to NSC | 0 | 1 | 0 |
| | 43) No. of policy recommendations endorsed by Government | 0 | 0 | 0 |
| Outcome 3.5: Study on past experience and impact on international regulatory schemes | 44) No. of assessment report submitted to NSC | 0 | 0 | 0 |
| Outcome 3.6: Review and integration of BIPV in existing regulatory schemes | 45) No. of assessment report submitted to NSC | 0 | 0 | 0 |
| | 46) No. of BIPV systems registered under SREP | 0 | 21 | 26 |
| | 47) No. of reports on proposal and recommendation submitted to MEWC | 0 | 0 | 0 |
| Outcome 3.7: Implementation of an institutional and policy framework for a sustainable follow-up program | 48) No. of policy formulated and proposed to MEWC | 0 | 0 | 1 |
| | 49) No. of policy endorsed by Government in the 10 th Malaysia Plan | 0 | 0 | 0 |
| Outcome 3.8: Policy and financial framework implementation, monitoring and impact assessment | 50) No. of annual policy impact assessment conducted during 10 th Malaysia Plan. | 0 | 0 | 0 |
| | 51) No. of annual policy impact assessment completed and reviewed by MEWC | 0 | 1 | 0 |
| Outcome 3.9: Government liaison and dissemination of results | 52) No. of workshop participants | 0 | 0 | 0 |

| <i>Project Objective and Outcomes</i> | <i>Description of Indicator¹⁰</i> | <i>Baseline Level¹¹</i> | <i>Target Level</i> | <i>Level at 30 June 2008</i> |
|---|--|------------------------------------|---------------------|------------------------------|
| Component 4: BIPV Industry Development and Technology Localization Program | | | | |
| Outcome 4.1: Activities on cost reduction of local BIPV products and system optimization for local condition | 53) No. of MoA signed for product development activity | 0 | 0 | 0 |
| | 54) • No. of pre-commercialize inverter produced | 0 | 2 | 2 |
| | • No. of pre-commercialized inverter pilot tested | 0 | 0 | 0 |
| Outcome 4.2: International collaboration and transfer technology program | • No. of industry collaboration (MoU) established | 0 | 0 | 0 |
| | 55) • No. of industry missions completed | 0 | 0 | 2 |
| | • No. of international collaborative program materialized | 0 | 1 | 3 |
| Outcome 4.3: Upgrading local industry capabilities | 56) • No. of business opportunity meetings organized | 0 | 3 | 10 |
| | • No. of MoUs generated between local & international parties | 0 | 0 | 3 |
| | 57) • No. of industry research conducted | 0 | 0 | 0 |
| Outcome 4.4: Establishment of BIPV Quality Control Center | • No. of business plans developed | 0 | 0 | 6 |
| | 58) No. of company assisted (industry growth program) | 0 | 2 | 2 |
| Outcome 4.4: Establishment of BIPV Quality Control Center | 59) No. of quality control centre (testing facility) established | 0 | 1 | 2 |
| | 60) No. of international collaboration established. | 0 | 0 | 1 |

Rating of Project Progress towards Meeting Objective¹²

Please see background note for further guidance.

| | <i>2006 Rating (from 06 PIR if available)</i> | <i>2007 Rating (from 07 PIR)</i> | <i>2008 Rating</i> | <i>Comments¹³</i> |
|---|---|--------------------------------------|------------------------|--|
| National Project Manager/Coordinator | HS | S | S | Overall, the project is progressing according to plan and meeting its targeted outcomes. In many cases, the results have exceeded the targets. However, more effort is expected from project Component 3 to ensure that the final project objective would be achieved. |
| Government GEF OFP ¹⁴ (optional) | | | | |
| Executing Agency (optional) | | | | |
| UNDP Country Office | HS | S | S | The project met most the targets and progressing as planned. |
| UNDP Regional Technical Advisor | S | S | S | The magnitude of BIPV installed capacity and reduction of BIPV costs that were achieved during the PIR reporting period clearly manifest that the project is progressing satisfactorily towards achieving its objective. |

Action Plan to Address Marginally Unsatisfactory, Unsatisfactory or Highly Unsatisfactory Rating

Where a rating of MU, U or HU is noted above describe the actions to be taken to address this:

| <i>Action to be Taken</i> | <i>By Whom?</i> | <i>By When?</i> |
|---------------------------|-----------------|-----------------|
| N/A | | |

¹² Ratings: See instruction sheet for definitions of ratings. Use only: HS - Highly Satisfactory; S – Satisfactory; MS – Marginally Satisfactory; MU - Marginally Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory.

¹³ Comment on the rating for 2008 and also on any observable trends from 2006 – 2008.

¹⁴ In the case of a project involving more than 1 country, it is suggested that for simplicity only the OFP (optional) and Country Office Programme Manager from the lead country sign-off. If representatives from more than 1 country sign off, please add additional rows as necessary, clearly indicating the country name for each signature.

4. Progress in Project implementation

List the 4 key outputs delivered so far for each project Outcome:

| Project Outcomes | Key Outputs |
|---|---|
| Component 1: BIPV Information Services, Awareness and Capacity Building Programs | 1. MBIPV website (www.mbipv.net.my) is an important platform to disseminate information and has achieved more than 53,300 hit counts to date. |
| | 2. 192 media articles and 37 media advertisements have been published by local and international media publications that created significant awareness on BIPV technology, resulting in excellent response to MBIPV Project initiatives. |
| | 3. 44 public talks were delivered in various seminars and conferences, 10 seminars/workshops have been organized, to increase knowledge of local professionals and industry, resulting in better appreciation of BIPV technology and excellent response to MBIPV Project initiatives. |
| | 4. Grid-connected PV system training organized by MBIPV Project in PTM (Malaysia Energy Centre) received ISP accreditation, the first in ASEAN region. 3 trainings have been conducted with 36 participants, whereby 23 participants have passed the competency examination. |
| | 5. Malaysian PV Industry Association (MPIA) was registered on 5 th May 2006, and currently has 48 members to promote solar PV industry development, whereby 8 members have been registered as the Approved PV Service Providers. |
| Component 2: BIPV Market Enhancement and Infrastructure Development Program | 6. Malaysian Standard on Installation of Grid-Connected PV System (MS 1837) was published and launched in September 2005, and became as a quality reference and specification requirement for any BIPV project. |
| | 7. 213.12 kWp of installed BIPV capacity has been commissioned and connected to the power utility grid. |
| | 8. Incentives from the Suria 1000 Program has been awarded to 54 applicants for a total system capacity of 544 kWp, including 3 awards to property developers who are building solar BIPV homes. Through the program, public willingness to pay for the BIPV system has increased to 53% average. |
| | 9. UiTM was appointed in April 2007 to establish and operate 'PV Monitoring Centre' (PVMC) and is monitoring performance of 25 PV systems throughout Malaysia. |
| Component 3: BIPV Policies and Financing Mechanisms Program | 10. Net-metering scheme has been agreed with TNB (power utility) to allow electricity generated by BIPV system to be sold to power utility. |
| | 11. Fiscal incentives for renewable energy and energy efficiency applications have been enhanced in the National Budget 2008. |
| | 12. 30 BIPV systems have been registered with the Energy Commission in order to generate and supply electricity to the power utility grid. |
| Component 4: BIPV Industry Development and Technology Localization Program | 13. 2 pre-commercialize local inverters have been produced UM. |
| | 14. 4 international companies (First Solar, Renesola, Q-Cells, SunPower) have invested into Malaysia with a total foreign direct investment (FDI) value of almost RM12 billion. |
| | 15. 2 industry missions have been completed and 2 MoUs have been signed between local and international PV companies. |
| | 16. UTM was appointed as 'Inverter Quality Control Centre' (IQCC) and have signed a MoA with Arsenal Research. IKRAM was appointed as 'Mounting Structure Quality Control Centre' (MSQCC). |

Rating of Project Implementation¹⁵

Please see background note for further guidance.

| | <i>2006 Rating (from 06 PIR if available)</i> | <i>2007 Rating (from 07 PIR)</i> | <i>2008 Rating</i> | <i>Comments¹⁶</i> |
|--|---|--|------------------------|---|
| National Project Manager/Coordinator | S | S | S | The project continues to be well implemented whereby the actual outcomes have far exceeded the original targets, resulting in high interest in solar BIPV from the Government, public and industry sectors. |
| Government GEF OFP ¹⁷ (optional) | | | | |
| Executing Agency (optional) | | | | |
| UNDP Country Office | S | S | S | The project met most the targets and progressing as planned. All outputs were presented and endorsed in the NSC meetings. |
| UNDP Regional Technical Advisor | S | S | S | The planned levels of achievement of the outputs during the PIR reporting period were attained thereby satisfactorily contributing to the realization of the project outcomes. |

Action Plan to Address Marginally Unsatisfactory, Unsatisfactory or Highly Unsatisfactory Rating

Where a rating of MU, U or HU is noted above describe the actions to be taken to address this:

| <i>Action to be Taken</i> | <i>By Whom?</i> | <i>By When?</i> |
|---------------------------|-----------------|-----------------|
| N/A | | |

¹⁵ Ratings: See instruction sheet for definitions of ratings. Use only: HS - Highly Satisfactory; S – Satisfactory; MS – Marginally Satisfactory; MU - Marginally Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory.

¹⁶ Comment on the rating for 2008 and any observable trends from 2006 - 2008

¹⁷ In the case of a project involving more than 1 country, it is suggested that for simplicity only the OFP (optional) and Country Office Programme Manager from the lead country sign-off. If representatives from more than 1 country sign off, please add additional rows as necessary, clearly indicating the country name for each signature.

6. Risks¹⁸

Please ensure that those risks listed as critical are real risks (not potential) and have a high probability of occurring which would result in the project not meeting its objectives. The number of critical risks is used to determine whether the overall project is at risk.

1. Please annex to this report a print out of the corresponding Atlas Risk Tab (please use landscape format and only print the frame).
2. For any risks identified as “critical” please copy the following information from Atlas:

| Risk Type | Date Identified | Risk Description | Risk Management Response |
|------------------|----------------------------|---|--|
| Political | 30 th June 2006 | Government acceptance towards proposals to improve supportive frameworks for BIPV/RE promotions. | The launching of SURIA 1000 by the Prime Minister has provided a strong platform for project team to highlight the benefits of a developed BIPV market and industry to politicians and decision makers. The project team is continuing to support the policy makers in understanding the impact of BIPV market and the requirement to support a sustainable market growth. |
| Operational | 30 th June 2007 | Reduced motivation and commitment from the project team members due to high challenging barriers in implementing project activities | Streamlining project activities with focus on key priorities and making team members to complement each other. Also provide empowerment to each team members in order to create ownership in their activities while enhancing team spirit. |
| Financial | 30 th June 2007 | Reduced project budget from GEF fund by about 11% due to appreciation of local currency against US\$ | Reducing GEF budget requirement in implementing project activities whenever possible and spending in more prudent manner. Also prioritize expenditure from GEF Fund in the early part of the project period in order to reduce the impact of local currency appreciation. |

¹⁸ Note that having a “high risk” project is not a problem, it is how the risks are managed that are important and a well managed “high risk” project is better than a poorly managed “low risk” one.



UN Development Programme
Report ID: UNFMQTRR

Project Quarterly Progress Report

Page 1 of 4
Run Time: 03-09-2008 00:09:17

Business Unit: MYS10
Award Id: 00038180
Description: PIMS 2754 CC FP: Building Integrated Photovoltaic (BIPV)
Implementing Partner: 01933 National Execution
Award Start Date: 06/01/2005 Award End Date: 31/12/2009
Report Period From: 01/07/2007 Report Period to: 30/06/2008 Total Award Amount: 3,904,540.32

Section 1. Project Implementation

A. UPDATED PROJECT RISKS

| Type | Date | Description | Date | Manager Resp | Critical Status |
|---------------|------------|---|------------|--|-----------------|
| ENVIRONMENTAL | | No Record | | | |
| FINANCIAL | 09/07/2006 | Shortage of PV modules due to high world market price may affect the overall BIPV system price and the supply of PV modules for the BIPV project. | 09/07/2006 | MBIPV project is inviting its PV partners to provide guaranteed PV supply with committed price (within certain range and on bulk purchase), coupled together with open tender systems, in order to secure the best price for the PV modules. | N |
| FINANCIAL | 20/09/2007 | Reduced project budget from GEF fund by about 11% due to appreciation of local currency against US\$ | 20/09/2007 | Reducing GEF budget requirement in implementing project activities whenever possible and spending in more prudent manner. Also prioritize expenditure from GEF Fund in the early part of the project period in order to reduce the impact of local currency appreciation. | Y |
| OPERATIONAL | 20/09/2007 | Reduced motivation and commitment from the project team members due to high challenging barriers in implementing project activities | 20/09/2007 | Streamlining project activities with focus on key priorities and making team members to complement each other. Also provide empowerment to each team members in order to create ownership in their activities while enhancing team spirit. | Y |
| POLITICAL | 09/07/2006 | Government acceptance towards proposals to improve supportive frameworks for BIPV/RE promotions. | 20/09/2007 | The launching of SURIA 1000 by the Prime Minister has provided a strong platform for project team to highlight the benefits of a developed BIPV market and industry to politicians and decision makers. The project team is continuing to support the policy makers in understanding the impact of BIPV market and the requirement to support a sustainable market growth. | Y |

| | | | | | |
|------------|------------|--|------------|---|---|
| REGULATORY | | No Record | | | |
| STRATEGIC | 09/07/2006 | The ability and commitment of University Malaya (UM) to find suitable industry partners to commercialize the inverter. | 09/07/2006 | BIPV project team is monitoring and working closely with UM to identify future potential market prospect and match-make with suitable industry partners. Activities were planned to expose UM to existing inverter market status and exchange knowledge with existing inverter manufacturers. | N |
| X_OTHER | | No Record | | | |

7. Adjustments to Project Strategy

Please report any adjustments made to the project strategy, as reflected in the logical framework matrix, since the Project Document signature:

| | |
|--|----------------------------------|
| Changes have been reported in previous PIR and there are no additional changes to report | <i>Year reported: 2006, 2007</i> |
|--|----------------------------------|

| Change Made to: | Yes/No | Reason for Change |
|-----------------------------------|--------|-------------------|
| Project Objective | No | |
| Project Outcomes | No | |
| Project Outputs/Activities/Inputs | No | |

8. Adjustments to Project Time Frame

If the duration of the project, the project work schedule, or the timing of any key events such as project start up, evaluations or closing date, have been adjusted since project approval please explain the changes and the reasons for these changes.

| Change | Reason for Change | Scope of delay (in months) |
|--------|-------------------|----------------------------|
| N/A | | |
| | | |

9. Financial Information: cumulative since project started to 30 June 2008.

Please present all financial values in US\$ millions to 2 decimal places only (e.g. \$3,502,000 should be written as \$3.50m)

Note that this section must be fully completed and must match the project document.

| Name of Partner or Contributor (including the Private Sector) | Nature of Contributor¹⁹ | Amount used in Project Preparation (PDF A, B) | Amount committed in Project Document²⁰ | Additional amounts committed after Project Document finalization | Estimated Total Disbursement to 30 June 2007 | Expected Total Disbursement by end of project |
|---|---|--|--|---|---|--|
| GEF Contribution | GEF | \$0.13 | \$4.70 | | \$2.64 | \$4.70 |
| Cash Co-financing: UNDP Managed | | | | | | |
| UNDP (TRAC) | UN Agency | \$0 | \$0 | \$0 | \$0 | \$0 |
| Cash Co-financing: Partner Managed | | | | | | |
| Ministry of Energy, Water & Communications (MEWC) | Government | \$0 | \$1.01 | \$0 | \$0.30 | \$1.01 |
| Energy Commission (ST) | Government | \$0 | \$4.25 | \$0 | \$1.40 | \$4.25 |
| Government of Malaysia | Government | \$0.10 | \$2.06 | \$0 | \$0.49 | \$2.06 |
| Malaysia Electricity Supply Industry Trust Account (MESITA) | Industry sector | \$0 | \$0.92 | \$0 | \$0.92 | \$0.92 |
| Private sector and industry | Private and industry sector | \$0 | \$5.55 | \$0 | \$2.20 | \$5.55 |
| EC-ASEAN Energy Facility | Multilateral donor | \$0 | \$0 | \$0.12 | \$0.12 | \$0.12 |
| In-Kind Co-financing | | | | | | |
| Government of Malaysia | Government | \$0 | \$3.84 | \$0 | \$4.09 | \$3.84 |
| Private sector and industry | Private and industry sector | \$0.01 | \$2.63 | \$0 | \$3.75 | \$2.63 |

¹⁹ Specify if: UN Agency, other Multilateral, Bilateral Donor, Regional Development Bank (RDB), National Government, Local Government, NGO, Private Sector, Other.

²⁰ Committed amounts are those shown in the approved Project Document. These may be zero in the case of new leveraged project partners.

| | | | | | | |
|---------------------------|--|---------------|----------------|---------------|----------------|----------------|
| Total Co-financing | | \$0.26 | \$20.26 | \$0.12 | \$13.27 | \$20.38 |
| Total for Project | | \$0.26 | \$24.96 | \$0.12 | \$15.91 | \$25.08 |

Comments

Please explain any other significant changes in project financing since Project Document signature, or differences between the anticipated and actual rates of disbursement/co-financing:

- 1) Additional co-financing amounting to US\$ 0.12 million was received from EC-ASEAN Energy Facility to implement capacity development activities. The amount was approved after the Project Document was signed and was utilized in second half of year 2005.
- 2) Co-financing amount of US\$ 1.77 million committed by Government of Malaysia (via SIRIM Berhad) as indicated in the project document is no longer available due to unavailability of fund allocation to SIRIM under the 9th Malaysia Plan for that purpose. Nonetheless, the Government of Malaysia is substituting the fund with co-financing towards construction of buildings for BIPV installations, of equivalent or more amount than the earlier commitment. To date, about US\$ 4.2 million has been committed to construct the PTM-ZEO building with 92 kWp BIPV systems as an important showcase.

10. Procurement Data. DO NOT complete this section for projects or project components executed by UNOPs.

The following information has been requested by the donor countries to the GEF. Please report the US\$ value (in thousands, e.g. 70,000 = 70 / 2,000 = 2) of UNDP/GEF project funds in the amount of US\$2,000 or more used to procure personnel, sub-contract, equipment and training from GEF Donor Countries only. Please enter project expenditures accumulated from project start up to the date of this report.

| | <i>Personnel contracted that come from these countries (US\$ thousands)</i> | <i>Sub-contracts that are with groups based in these countries (US\$ thousands)</i> | <i>Equipment purchased outside of the project country from these countries (US\$ thousands)</i> | <i>Training²¹ with groups or individuals from these countries (US\$ thousands)</i> | <i>Total</i> |
|----------------|--|--|--|--|---------------------|
| Australia | 62.8 | | | | |
| Austria | | | | | |
| Belgium | | | | | |
| Canada | 12 | | | | |
| China | | | | | |
| Czech Republic | | | | | |
| Denmark | 81.6 | | | | |
| Finland | | | | | |
| France | | | | | |
| Germany | | | | | |
| Greece | | | | | |
| India | | | | | |
| Ireland | | | | | |
| Italy | | | | | |
| Japan | | | | | |
| Korea | | | | | |
| Luxembourg | | | | | |
| Mexico | | | | | |
| Netherlands | | | | | |
| New Zealand | | | | | |
| Nigeria | | | | | |
| Norway | | | | | |
| Pakistan | | | | | |
| Portugal | | | | | |
| Slovenia | | | | | |
| South Africa | | | | | |
| Spain | | | | | |
| Sweden | 24 | | | | |
| Switzerland | 96 | | | | |
| Turkey | | | | | |
| United Kingdom | | | | | |
| United States | | | | | |

²¹ Those not included under personnel and sub-contracts.

11. Additional Financial Instruments used in the Project

This section only needs to be completed if the project provides funds to any Financial Instruments such as: Trust Funds, Sinking Funds, Revolving Funds, Partial Credit Risk Guarantees, Microfinance services, Leasing or Insurance mechanisms. If this project does not use any Additional Financial Instruments you do not need to complete this section.

| <i>Financial Instrument</i> | <i>Financial Institution Responsible for Management</i> | <i>Basis for Selection of Financial Institution</i> |
|-----------------------------|---|---|
| NA | | |
| | | |
| | | |

For Each Financial Instrument please complete the following two tables:

Name of Financial Instrument:

| <i>Source of Funds (add rows for each source)</i> | <i>Funds Committed in Project Document</i> | <i>Amount Disbursed to Date</i> | <i>Issues or Comments</i> |
|---|--|---------------------------------|---------------------------|
| | | | |
| | | | |
| | | | |

Rating of Performance of Financial Instrument²²

| | <i>2006 Rating (from 06 PIR if available)</i> | <i>2007 Rating (from 07 PIR)</i> | <i>2008 Rating</i> | <i>Comments</i> |
|---|---|--|------------------------|-----------------|
| National Project Manager/Coordinator | NA | NA | NA | NA |
| Government GEF OFP (optional) | NA | NA | NA | NA |
| Executing Agency (optional) | NA | NA | NA | NA |
| UNDP Country Office | NA | NA | NA | NA |
| UNDP Regional Technical Advisor | NA | NA | NA | NA |
| Overall Rating²³ | NA | NA | NA | NA |

Action Plan to Address Marginally Unsatisfactory, Unsatisfactory or Highly Unsatisfactory Rating

Where a rating of MU, U or HU is noted above describe the actions to be taken to address this:

| <i>Action to be Taken</i> | <i>By Whom?</i> | <i>By When?</i> |
|---------------------------|-----------------|-----------------|
| NA | | |
| | | |
| | | |
| | | |

End of Project Situation

What is to happen to any funds remaining in the Financial Instrument at the end of the project?

| |
|----|
| NA |
|----|

²² For ratings, use only: HS - Highly Satisfactory; S – Satisfactory; MS – Marginally Satisfactory; MU - Marginally Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory.

²³ Overall rating can be determined as follows. For each rating assign the following figures to the rating: HS = 1, S = 2, MS = 3, MU = 4, U = 5, HU = 6. The total of these figures should be divided by the number of ratings given (maximum 5). Enter the final rating not figure (1 = HS, 2 = S, 3 = MS, 4 = MU, 5 = U, 6 = HU)

12. Good Practice in this reporting period.

Were any problems encountered? If so, how were they addressed?

| <i>Problem</i> | <i>Solution</i> |
|---|---|
| A project partner (UNIKL-BMI) failed to perform its duty in achieving ISP accreditation for its grid-connected PV training, resulting in termination of MoA between PTM and UNIKL. | MBIPV Project (PTM) undertook to organize and implement the training directly with support from Malaysian PV Industry Association to provide competent trainers. PTM successfully achieved ISP accreditation for its training and so far has organized 2 trainings. |
| Delayed and poor progress in setting up the PV Monitoring Centre by the appointed partner (UiTM). | MBIPV Project (PTM) appointed a short-term international consultant who is expert in the subject to assist UiTM, resulting in significant improvements on the web interface and 25 systems are being monitored with good reporting format. |
| PV Service Providers did not know how to adequately test and commission (T&C) the PV systems to be interconnected to the power utility grid, and power utility staffs were confused on PV meter readings. | Guideline was prepared and briefings were conducted to PV Service Providers and power utility staffs. MBIPV Project also guided PV Service Providers and power utility staffs during the initial T&C. |

General Comments:

Is there anything noteworthy/special/critical that was learned this year that is important to share with other projects so they can avoid this mistake/make use of this opportunity?

| |
|------|
| None |
|------|

What would you do differently if you were to begin the project again?

- | |
|--|
| <ol style="list-style-type: none"> 1) To reside the MBIPV Project in an organization that is organizationally stable and financially strong, such as the Ministry of Energy or Energy Commission but without the burden of bureaucratic process. Or to operate MBIPV Project independently as a vehicle by itself with full autonomy but guided by the National Steering Committee (function as a Board). 2) If MBIPV Project is resided in an organization, the project team members should be directly contracted by UNDP to prevent organizational conflict and to provide security of contract (employment) with clear terms and remuneration to the project team members. |
|--|

To what extent have UNDP GEF projects been relevant to national / local efforts to reduce poverty and/or enhance democratic governance and/or strengthen crisis prevention and recovery capacity and/or promote gender equality and empowerment of women? Please explain.

- 1) Half of the MBIPV Project team members are women and also one of the four component leaders is a woman, thereby promoting gender equality. In addition, the project team is made up of multi-racial members.
- 2) MBIPV Project directly enhances the local PV industry. This indirectly improves the quality, competency and cost of solar systems and services for the rural communities, thereby increasing their quality of life.

Has this project been able to generate global environmental benefits while also contributing to the achievement of national environmental management and sustainable development priorities? If yes, please elaborate.

Not applicable

13. Project Contribution to GEF Strategic Targets in Climate Change

Climate change projects are requested to report on their quantitative impacts to date. The metrics below are designed to measure and report on the level of achievement of a climate change project. It should be complementary to other qualitative achievement descriptions used as part of the APR/PIR reporting process. Projects may be unable to report data for some of the performance indicators listed below because the specific performance indicator may not be relevant to that project or data may not be available yet. Project managers are requested to complete the information in the “2008 Value” column at the portfolio-level and for the Operational Program and Strategic Objective to which the project belongs. An approach to retrofitting the GEF 4 indicators to projects prepared in accordance with GEF 3 strategic priorities (SPs) is provided in the PIR instructions.

Project Impact Metrics for Climate Change Indicators

| CC Performance Indicator | Impact Metric | 2008 Value |
|---|---|--|
| Portfolio-level (all CC projects) | | |
| Annual CO ₂ reduction | Emissions avoided (Mt CO ₂ /year) ²⁴ during PIR reporting period | 471.4 t-CO ₂ /year reduction (at 0.63 t-CO ₂ /MWh) from 818 kWp grid-connected PV systems installed capacity (213 kWp already commissioned). |
| Cumulative CO ₂ reduction | Emissions avoided (Mt CO ₂) ¹³ since start of project | 787.6 t-CO ₂ accumulated reduction (at 0.63 t-CO ₂ /MWh) since the start of the project, from 213 kWp BIPV systems in operation and additional 605 kWp BIPV systems awarded. |
| Market transformation | Number of markets that the project has influenced, developed or transformed | 129 BIPV projects (119 residential, 10 buildings) were created influencing 16 different PV companies directly. |
| OP 7: Low GHG Emitting Energy Technologies | | |
| Stakeholder interest in the new technology | Indicator 1: Growth in interest in the selected technologies, as measured by the number of stakeholders (public or private enterprises) indicating interest in procuring or supplying the technology. | 57 individuals directly applied for SURIA 1000 and Demonstration incentives, significantly large numbers of enquiries received to install BIPV at various buildings, to invest in PV manufacturing, and to become a PV service provider. Questions related to solar PV were also raised by members of Parliament, and several cabinet members. |

²⁴ Please refer to the GEF Methodology on CO₂ Reduction Calculations, available at

http://gef.undp.org/index.pl/climate_change_key_documents

| | | |
|--|---|---|
| Electricity generated from on-grid renewable sources | Indicator 2: Annual electricity production from grid-connected renewable energies that were installed under the influence of the project (MWh / year) | 982.02 MWh/year (at 1200 kWh/kWp/year) is to be produced from the PV systems that were installed under the project. |
|--|---|---|

Definition of Terms:

Project Objective: intended impact contributing to global environmental benefits via one or more development interventions.

Outcomes: The likely or achieved short-term and medium-term effects of an intervention's outputs (e.g. energy efficiency of existing heat and hot water supply companies in X city improved, new trust fund for the conservation of the PAs established, laws and bylaws approved to reduce impact of forestry practices on biodiversity)

Outputs: The products, capital goods and services which result from a development intervention relevant to the achievement of outcomes. (e.g. 10 staff trained to operate and maintain an early warning system, data capture in 5 regions of costal lowlands).

Acronyms:

| | |
|------|--|
| APR | Annual Performance Review |
| CO | Country Office |
| ERC | Evaluation Resource Center of UNDP |
| FSP | Full size project |
| MSP | Medium size project |
| OFP | Operational Focal Point |
| PIMS | Project Information Management System (UNDP GEF) |
| PIR | Project Implementation Review |
| PTA | Principal Technical Advisor |
| RCU | Regional Coordination Unit |
| RTA | Regional Technical Advisor |
| TPR | Tripartite Project Review |