2013 Annual Project Review (APR)

Project Implementation Review (PIR) OF UNDP Supported GEF Financed Projects

PIMS 740 - Project Title: Removal of Barriers to Biomass Power Generation in India, Phase I

Focal Area	Climate Change - Mitigation
Lead RTA	Butchaiah Gadde
Lead Country(ies)	(IND) India
Revised Planned Closing Date	28-Feb-2014

Name of National Project Coordinator:, NPC

(a) National Project Director (NPD) – Mr Alok Srivastav, Joint Secretary, Ministry of New & Renewable Energy (MNRE), and National Project Director (NPD); srivastava.alok@nic.in
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(e) UNDP CO- Dr SN Srinivas, sn.srinivas@undp.org

Project Review & Evaluation:

1) Has the project mid-term review been finalized? Yes, in 2010
   If no, when will it be finalized? Month/Year
2) Has the project terminal evaluation report been finalized? The Terminal Evaluation has not been planned yet.
   If no, when will it be finalized? Month/Year NA
   Project is likely to be extended further till 2016 March. Accordingly Terminal evaluation plan is November 2015.

UNDP-GEF Technical Advisor's Comments

Explanation for change to Overall DO Rating or Overall IP Rating:

The project is in operation since 22nd September 2006, with an initial planned closing date of 21st September 2009. Since then, it has received a number of extensions so far and it is further looking at an extension until 2016. The CDR of the project as on 30 June 2013 is at US$ 2,165,148 against a grant amount of US$ 5,650,000. That means the project has used only 38% of the grant amount. Based on the criteria for DO rating, the project is expected to achieve its major global environmental objectives with major shortcomings. Therefore, the DO rating of the project is Marginally Unsatisfactory (MU).

The following are some of the recommendations to improve the project performance.

(a) It was learnt that project results framework is being revised based on MTR recommendations. It shall realistically define activities, fix targets based on realistic assessment.
(b) The project progress is quite slow. Since the PMU is well-staffed and fulltime national project manager is in place, it shall expedite the process of activities completion using revised results framework.
(c) Project supervision is quite poor in terms of conducting PSC meetings and taking actions towards expediting the required approval processes and for practicing adaptive management.
(d) The project team shall maintain a dynamic risk log and keep it updated on quarterly basis.
(e) The project has not yet overcome complex and lengthy state procedures for the approval of MIPs. A number of clearances are required for projects implementation in India which are related to grid connection, required permissions and documentation let alone the sanction of term loans by FIs. From the lessons learnt under the project so far, it can be summarised that the time required for obtaining 8-10 statutory approvals / clearances, signing of PPAs and sanction of term loans by FIs – it needs at least 18-24 months and for installation and commissioning of the project it would need another 12-15 month timeline. To completely showcase and achieve meaningful results through MIPs under the project, the project shall need to revise the results framework with closing date extended up to March 2016.

The overall progress of activities under the project during this reporting period has been very slow and not to the pace as expected. The project has started demonstrating adaptive management through revisiting project results framework, but the progress has been quite slow. Therefore, based on the criteria for IP rating, the project implementation progress can be rated Marginally Unsatisfactory (MU).

The following are some of the recommendations to improve the project annual performance.

(a) Use the revised results framework; prepare AWPs which can realistically assess the project activities and related budgets. Get AWPs signed on-time.
(b) The project team shall maintain a dynamic risk log and keep it updated on quarterly basis. It is advised that PSC meetings shall be conducted on regular basis and review the risk log in such meetings.
(c) Targeted efforts to implement as many MIPs as possible.

Is this the terminal PIR that will serve as the final project report?

NA

If the mid-term review (MTR) OR the terminal evaluation (TE) was started but not completed this reporting period, please explain how these are progressing and note if any delays are expected:

NA

If the mid-term review (MTR) OR the terminal evaluation (TE) was completed this reporting period, or if this is the final APR/PIR, please address the following points here:

NA

UNDP Country Office's Comments

If the mid-term review (MTR) OR the terminal evaluation (TE) was started but not completed this reporting period, please explain how these are progressing and note if any delays are expected:

Not Applicable

If the mid-term review (MTR) OR the terminal evaluation (TE) was completed this reporting period, or if this is the final APR/PIR, please address the following points here:

Not Applicable

Dates of site visits to project this reporting period:

Four site visits.

- 4 Sept 2013. Visit to Universal Power, Muktsar, Punjab
- 23 Sept 2013 Visit to SLS Power, Nellore, Andhra Pradesh
- 20 Dec 2013 Visit to Biomass division, General Electric, Bangalore
- 3 April 2013 Visit to Sankheda 1.2 MW power plant, Gujarat

Dates of Project Steering Committee / Board meetings during reporting period (30 June 2012 to 1 July 2013):

Project Executive Committee, July 3, 2012

PROGRESS TOWARD DEVELOPMENT OBJECTIVES

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
Objective	Objective: To accelerate the adoption of environmentally sustainable biomass power technologies for captive and distributed biomass materials in niche areas, through demonstration of Model Implementation Projects and establishment of sustainable business/support services network and undertaking enabling activities for removal of the key barriers.	Rate of commercial adoption of sustainable biomass power technologies in 7 states in India	No. Model Investment Projects exist	By the end of Phase 1, 7 MIP's contracted covering co generation, gasification and combustion technologies in 3-5 different states in India	The original target was to install biomass power of about 30 MW capacities through 7 MIPs in 3-5 states. However, since the time of project conceptualization the biomass power scenario in India has changed significantly with the tariff system having been set up subsequently, which favored large size biomass power projects. In light of this new development, the PMU commissioned a number of studies and assessments to facilitate revision of project strategy. Based on the findings of these, the project strategy was revised as follows - (1) include focus on	There has been deviation to this target. Firstly, number of MIPs is open, not restricting to 7 nos. Secondly, the state where MIPs are envisaged is open to all states in India. Thirdly, in addition to new biomass power plants (green field plants), fuel linkage to existing biomass power plant is added as that could help increase PLF of the plant and thereby economic viability and sustainability. Tenders were floated in 2010 inviting green field MIPs and MIPs for fuel linkages. In all, 34 DPRs were shortlisted. 28 biomass projects totaled to an installed capacity of 141.2 MW and are under consideration as Model Investment Projects (MIP). MIPs which are in advanced stage (approvals and payments are on from the project) are as given: 1. Support for Fuel linkages (i) MPPL - Muktsar – Biomass Combustion, 7.5 MW; (ii) Panduranga Sugar - Solapur - Cogeneration, 9 MW (Sugarcane trash)	No new MIPs were taken up. Progress monitoring was carried out on the following on-going MIPs; 1. MIPs to demonstrate Fuel linkages - (i) Universal Biomass Energy Pvt. Ltd, Muktsar, Punjab, 14.5 MW; (ii) SLS Power Ltd., Nellore, Andhra Pradesh, 6 MW; 2. Greenfield installations: (i) Ankur Scientific Energy Technology Pvt. Ltd, Sankheda, Gujarat (support to 1.2 MW power plant based on biomass gasification) – commissioned and functioning (ii) Ruchi Soya Industries Ltd. (RSIL), 1 MW fluidized bed biomass gasification plant is planned to be set up Washim, Maharashtra – preparatory activities to establish the plant have been carried out. 3. Following MIPs were completed: (i) MPPL - Muktsar – Biomass Combustion, 7.5 MW; (ii) Panduranga Sugar - Solapur

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
					small scale (1-2 MW) project as they still need a lot of support; (2) geographical scope expanded beyond 3-5 states to pan India with selection to be based purely on merit; (3) total number of MIPs may go beyond 7 therefore highly likely that more than 30 MW of installed biomass power capacity; (4) support to large MW projects to continue in the context of strengthening fuel supply linkages (e.g. use of sugarcane trash in case of cogeneration technology models). The subsectors supported are as follows: a) Fuel supply linkages b) 2 MW Cogen	(iii) Universal Biomass Energy Pvt. Ltd, Muktsar, Punjab, 14.5 MW (support to fuel supply linkages); (iv) SLS Power Ltd., Nellore, Andhra Pradesh, 6 MW (support to fuel supply linkages); 2. New installations: (i) Ankur Scientific Energy Technology Pvt. Ltd, Sankheda, Gujarat (support to 1.2 MW power plant based on biomass gasification) – commissioned and functioning (ii) Ruchi Soya Industries Ltd. (RSIL)-A 1 MW fluidized bed biomass gasification plant is planned to be set up Washim, Maharashtra. The plant will be executed by M/s Thermax Ltd., Pune based on the technology acquired by them from the Energy Research Centre (ECN) and M/s Dahlman of the Netherlands A separate chapter on Biomass Mission was incorporated in the 12th five year plan of the Ministry which is currently under approval. Details of it are given in the Basic Data tab - general comments.	- Cogeneration, 9 MW;

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					through Combustion technology based Models c) 1-2 MW gasification based Models d) 8-10 MW Biomass Combustion Power Plants e) Cogeneration at Sugar Mills with capacities 1250 TCD Under the revised project strategy, 87 applications have been received by the PMU of which 34 have been shortlisted. DPRs are being prepared for all 34 and comfort letters have been issued to all 34 expressing commitment to support, provided they are able to obtain all the required statutory clearances. First installments have		

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
					been released to three of these projects - (i) M/s Universal Biomass Energy Pvt. Ltd, Muktsar, Punjab, 14.5 MW (suppor to fuel supply linkages); (ii) M/s SLS Power Ltd., Nellore, Andhra Pradesh, 6 MW (support to fuel supply linkages); (iii) M/s Ankur Scientific Energy Technology Pvt. Ltd, Sankheda, Gujarat (support to 1 MW power plant based on biomass gasification). M/s Malwa Power Ltd, Muktsar, Punjab and Shree SSK Pandurang Pvt. Ltd, Solapur, Maharashtra were supported under the earlier project strategy and no additional support will be provided to them.		

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
Outcome 1	Outcome 1: Technology package benchmarking and validation for different biomass power technologies, including feasibility of energy plantation.	Status of manufacturing capacities and standards for different biomass power technologies.	Poor reliability and inadequate information of biomass power technologies, both captive and distributed and on projects available to the major stakeholders.	By the end of phase 1, the parameters and technical standards for the efficient biomass power technologies targeted by the project have been finalized.	To develop the efficient biomass power technologies through gasification, the benchmark norms for material specifications, performance standards and procedure for empanelment of manufacturers for gasifier systems were revised and finalized. Inputs were provided to the Central Electricity Regulatory Board for revision of the guidelines for determination of the normative tariff for Biomass power and Cogeneration projects which has taken care of the possible regulatory and tariff related barriers to Biomass based power generation technologies.	A plant of 1 MWe capacity based on advance fluidized bed gasification technology is being set up at M/s Ruchi Soya Industries Ltd. (RSIL) at Washim, Maharashtra as one of the MIP. The plant will be executed by M/s Thermax Ltd., Pune based on the technology acquired by them from the Energy Research Center (ECN) and M/ s DAHLMAN of the Netherlands. The proposed gasification system is claimed to have a higher conversion efficiency (>95%) as compared to 80-85 % of the existing gasification systems and also has an advance gas clean up system.	1. No activities undertaken on technology package benchmarking. 2. 1.2 MW biomass gasification based power generation at Sankheda, Gujarat, was commissioned and started its operation. In the last few months it has logged about 40% PLF. This is expected to stabilize and improve PLF significantly. The stable operation will be recorded for validation. 1 MWe capacity advance fluidized bed gasification technology approved to be set up at M/s Ruchi Soya Industries Ltd. (RSIL) at Washim, Maharashtra by Thermax. This will also be validated once established and stabilized. 3. No progress on feasibility of energy plantation.

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Outcome 2	Outcome 2: Enhanced capacities and confidence of project promoters, financial institutions, regulators, policy makers, SNAs, other stakeholders through effective information development & dissemination program, along with capacity building initiatives.	Enhanced capacities of key stakeholders involved in the facilitation and implementation of selected biomass power technologies	Wide variation in policy and regulatory environment and inadequate information on various aspects of BPP and bagasse cogeneration in sugar industries, to project developers and other key stakeholders.	By the end of phase 1, pilot portfolio of project profiles developed, model formats/agreements established for the targeted biomass technologies (on fuel supply, energy purchase, project development and management) and promotional material and awareness raised significantly in pilot states	(1) The following workshops were organized under the project: (a) Two One- Day Workshops on the 'Build Own Operate Transfer' model for Cooperative sector Sugar Mills in Maharashtra and Northern states in Pune and Chandigarh; (b) A one Day Awareness Program on sugar mill cogeneration was held in Vadodra, Gujarat; (c) Two One day workshops on Biomass power Generation for Rural Application were organized in Andhra Pradesh and Karnataka; (d) One Day training program on cogeneration was held in Tamil Nadu. (2) A quarterly	The agreements are ongoing case by case at present. Development of model agreements will be taken up subsequently. The following national workshops were organized under the project with the aim to create awareness and support the MIPs: i) One day Workshop was organized in September 2011 on 'Biomass Power- Potential, Issues & Challenges' which was attended by over 100 participants from State Nodal Agencies, Project Developers. ii) Another workshop was organised in May 2012 to discuss issues related to state approvals / clearances and tariff with the Secretaries of state governments and Chairman of Regulatory Commissions. The outcome was key recommendations for regulatory commissions - central & state, and state governments & nodal agencies. The list of recommendations is given in Basic data tab - general comments.	To raise awareness and enhance capacities of key stakeholders across Indian states, programmes to date that have been organized are: i) Two one- Day workshops on the 'Build Own Operate Transfer' model for Cooperative sector Sugar Mills; ii) Two one-day Awareness and Training Programs on sugar mill cogeneration; iii) Two One day workshops on Biomass power Generation for Rural Application; iv) One day Workshop organized on 'Biomass Power- Potential, Issues & Challenges'; v) A workshop "Biomass Power – Issues and Challenges" was organized at Shimla to discuss issues related to state approvals / clearances and tariff. The workshop was lead by Secretary, MNRE and attended by Chairman of Regulatory Commissions. It highlighted the following - State Nodal agencies were unable to bring about the issues related to biomass power

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					magazine on Biomass Energy is being published under the project since 2009 and till date 7 issues have been published. The magazine focuses on Biomass power technologies, policy and regulatory issues and best practices and is regularly uploaded on the MNRE website. (3) A study was conducted by Deloitte and DSCL on 'Review of Performance of Grid connected Biomass Power Plants in India'. It was found out that such projects fall under the category of Non polluting industry. Based on this, a proposal was submitted to Ministry of Environment and	Three issues of the Magazine - Bioenergy India were published and uploaded on MNRE and UNDP websites.	development and issues related to tariff etc. Key recommendations were, (i) tariff setting to consider different biomass (at present, all biomass are considered at 4000 kcal/kg). They at least be categorized into woody biomass, residual biomass. (ii) normative guidelines to be formulated by Forum of Regulators on off grid tariff; (iii) off grid biomass power to get priority sector status; (iv) capital cost to include biomass linkage and processing costs in providing financial support, incentives, and calculating tariff support, (v) old projects with tariffs at that time, if get into a situation of prices not feasible should be allowed to come out of the PPA, etc. Proceedings of the workshop was prepared and sent by MNRE to SERCs for consideration. It appears this has resulted in Forum of Regulators (FOR) taking up off grid subject for discussions. During the current reporting period, the following programmes were conducted:

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					Forests to exempt Environment Impact Assessments for Biomass Power Projects having capacity up to 15 MW which in normal course takes about a year to get completed. Accordingly a notice for exemption was issued. (4)A Model Power purchase agreement was developed to aid project promoters.		i) Four 2-day Sensitization Workshops to create awareness in potential investors in biomass power in sub-megawatt scale. Two were conducted in Bangalore by Indian Institute of Science and two were conducted by consortium of The Energy and Resources Institute and University of Petroleum & Energy Studies at Dehradun. Nearly 80 people attended, and about 10 expression of interest have been generated. IISc and TERI are expected to support potential investors to prepare DPRs. ii) Two 10-day skill development workshops were conducted by IISc and TERI benefiting about 41 participants. The training was focused on skill development in O & M of sub megawatt range biomass power production. A total of 41 participants, from ITI [Indian Technical

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
							Institutions], gasifier manufacturing units and power producers attended the workshop. In addition to classroom sessions, hands-on training was also given. iii) A two-day workshop on "Promoting adoption of biomass power technologies and identification of pipeline projects" was organised. About 70 delegates representing existing and potential biomass power producers, sector experts and regulators participated in the workshop. A Working group has been constituted to look into Barriers and Challenges in the Promotion of Biomass Power. The Group is Chaired by the NPD and has the NPC as the Member Convener. The objectives of the Working Group are to Review barriers and challenges faced by the sector and identify key areas related to tariff, financing, secured fuel supply which could

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
							be worked upon, suggest suitable policy interventions, suggest actions required at regular intervals for re-validation of Biomass Resource Atlas and also initiate studies on fuel pricing. As a result of the efforts and suggestion given by the Working Group, following progress have taken place; • Central Electricity Regulatory Commission (CERC) revised the tariff for biomass power plants and issued new Tariff Guidelines for Gasifiers. • The Working Group has also provided inputs to the on 'Performance/ Viability of biomass based plants operating in India, including prevailing prices'.
Outcome 3	Outcome 3: Development of business, commercial and	Definition and implementation of biomass power	Inadequate Institutional Framework at National,	By the end of phase 1, the appropriate biomass power	As per the revised project strategy, the geographical scope of the project has	At present five MIPs supporting fuel linkages and one green field project have been commissioned. The	Five MIPs supporting fuel linkages and one greenfield project have been commissioned. Learning from

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	support services networks in focused States.	business dissemination models in the project pilot states.	Regional and Local Levels for large scale multiplication of biomass power technology and projects.	business models have been widely disseminated and established in the initial pilot states	been expanded to make it pan India. So far, the projects are expected to be supported in the following states - Haryana, Gujarat, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Madhya Pradesh and Andhra Pradesh. State nodal agencies and financial institutions were issued letters apprising them of the UNDP-GEF Biomass Power project to facilitate the project promoters and to help these agencies build confidence and enough knowledge that can help in expediting the process statutory clearance, approvals for Power Purchase Agreements and term loan sanction.	learning's will be compiled and the business models developed as case studies subsequently. However, time taken for approvals, commissioning is delaying the project. A detailed study to document the complete cycle for setting up the MIPs was undertaken and it was concluded that the time required for obtaining 8-10 statutory approvals / clearances, signing of PPAs and sanction of term loans by FIs is at least 18-24 months, and for installation and commissioning of the project – 12-15 months.	these projects will emerge and be documented as business models.

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
Outcome 4	Outcome 4: Creation of fund for contingent financing	Contingent financing fund with initial deal flows in operation through designated financial institutions	Inadequate skills, experience and commitment to provide finance to biomass power projects	By the end of phase 1, 7 MIP's successfully facilitated by the contingent financing facilities made available through the selected financial institutions, together with the full design of a non-financial institutions specific guarantee mechanism	This outcome targets that MIPs are successfully facilitated by contingent financing facilities made available through the selected financial institutions, together with the full design of a non-financial institutions specific guarantee mechanism. However, a study was undertaken on 'Development of Financial Models for MIPs, Identification of Financial Institutions for Operation of Fund for Contingent Financing' by Ernst & Young revealed that 18-20 banks were willing to provide term loans to the projects and therefore contingent financing made available through	With respect to Contingent financing for MIPs, a study was undertaken and it revealed that 18 - 20 banks were willing to provide term loans to the projects. Therefore, it is recommended that contingent financing is not needed from the project and shall discontinue developing this further.	In view of the finding that banks are ready to finance, the recommendation to discontinue contingent funding is under review.

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
					the project may not be required. The findings of this report were presented in the 11th meeting of Project Executive committee and a decision remains to be taken on this issue.		
Outcome 5	Outcome 5: Model Investment Projects (MIPs)	Model investment projects (MIP) commissioned and implementation started.	Models for implementing BPP do not exist either for captive or distributed biomass resources.	By the end of phase 1, 7 model investment projects will have been successfully commissioned and have started initial implementation in 3-5 states demonstrating the 3 different biomass power technologies targeted.	Under the revised project strategy, 87 applications have been received by the PMU of which 34 have been shortlisted. DPRs are being prepared for all 34 and comfort letters have been issued to all 34 expressing commitment to support, provided they are able to obtain all the required statutory clearances. First installments have been released to	The project is considering and pursuing all the three technologies proposed under the project namely, biomass combustion, cogeneration and biomass gasification. A brief update on the progress is as follows; There are a total of 28 biomass projects under consideration with a total capacity of 141.2 MW as MIPs under the project - (i) fuel supply linkages - 6 power plants with a total capacity of 62.5 MW (ii) 2 MW grid connected combustion based - 20 power plants with a total capacity of 20 MW (iii) gasification based - 5	The MIPs that have been supported under the project are: 1. Support for Fuel linkages – A. On-going: (i) Universal Biomass Energy Pvt. Ltd, Muktsar, Punjab, 14.5 MW; (ii) SLS Power Ltd., Nellore, Andhra Pradesh, 6 MW; B. Completed: (ii) MPPL - Muktsar – Biomass Combustion, 7.5 MW; (ii) Panduranga Sugar - Solapur - Cogeneration, 15 MW; 2. Greenfield installations: (i) Ankur Scientific Energy

	Description	Description of Indicator	Baseline Level	Target Level at end of project	Level at 30 June 2011	Level at 30 June 2012	Level at 30 June 2013
					three of these projects - (i) M/s Universal Biomass Energy Pvt. Ltd, Muktsar, Punjab, 14.5 MW (support to fuel supply linkages); (ii) M/s SLS Power Ltd., Nellore, Andhra Pradesh, 6 MW (support to fuel supply linkages); (iii) M/s Ankur Scientific Energy Technology Pvt. Ltd, Sankheda, Gujarat (support to 1 MW power plant based on biomass gasification). M/s Malwa Power Ltd, Muktsar, Punjab and Shree SSK Pandurang Pvt. Ltd, Solapur, Maharashtra were supported under the earlier project strategy and no additional support will be provided to them.	power plants with total capacity of 8.2 MW (iv) 8 to 10 MW combustion based - 6 power plants with total capacity of 50.5 MW Support committed from the project during the reporting period was: 1. Fuel Linkage M/s Loknete Baburao Patil Sahakari Sakhar Karkhana Ltd, Solapur – Mill has proposed to collect 25000 MT of cane trash to use as support fuel in its 8 MW cogeneration plant and expected to extend its off season operation by 60-80 days. The total project cost is INR 700 lakh, out of which INR 200 lakh is the financial support from the project. 2. Advance Fluidized Bed Gasification M/s Ruchi Soya/Thermax Ltd., Nagpur, Maharashtra- A project of 1 MWe capacity based on fluidized bed gasification technology was sanctioned in May 2012. The plant will be executed by M/s Thermax Ltd. based on the technology acquired by them	Technology Pvt. Ltd, Sankheda, Gujarat (support to 1.2 MW power plant based on biomass gasification) – commissioned and functioning The 27 projects are in pipeline. The Fuel Linkage project committed to M/s Loknete Baburao Patil Sahakari Sakhar Karkhana Ltd, Solapur has been withdrawn by the Project Developer. In the current reporting period, a meeting was organized in collaboration with Haryana Chamber of Commerce and Industries [HCCI] for generating Expression of Interest from potential biomass power producers in the state. 30 members from HCCI, most of them from rice mills participated. These EoIs in turn would be evaluated for MIP support. However, though biomass comes as by-product to rice mills, the cost of power from grid appears to be a cheaper option to them. The grid power costs about Rs 5.30 per kWh, however, cost of

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						from the Energy Research Center, the Netherlands. The total cost of the project is INR 1350 lakh out of which INR 180 lakh is the financial support from the project.	power from 1 to 2 MW power plant exceeds these prices. In the present scenario, it does not look very attractive to them.

RATINGS OF PROGRESS TOWARD MEETING DEVELOPMENT OBJECTIVES

DO Rating: Please review the Development Objective Progress page of this APR/PIR and then answer the questions below. A DO rating will be generated based on your answers.	
1 Please rate the cumulative progress being made toward achieving the end-of-project targets as reported in the project results framework in the DO page of this APR/PIR	
2 Please rate the likelihood that the project will deliver environmental and social benefits for an extended period after project completion?	
3 Please rate the likelihood that social or political risks may threaten the sustainability of project outcomes	
Project Manager/Coordinator: Is the person managing the day to day operations of the project.	
MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country or regional projects where appropriate.	
Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.**
3.	**Fully explain the critical risks that have affected progress.**
4.	**Outline action plan to address projects with DO rating of HU, U or MU.**
Overall 2009 Rating	S
Overall 2010 Rating	HS
Overall 2011 Rating	S
Overall 2012 Rating	HS
2013 Rating	HS
Comments	The project is extremely relevant in the energy scenario in India. The project has contributed significantly in building capacities and raising awareness about the Biomass Power sector in India. The 1.2 MWe MIP that has been supported in Sankheda has also generated considerable learning on regulatory, tariff and operational issues of running a Biomass power plant.
UNDP Country Office Programme Officer: Is the UNDP programme officer in the UNDP country office who provides oversight and supervision support to the project.	
MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country.	

Not necessary for regional or global projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.	
1.	**Explain why you gave a specific rating, for example, if your rating differs from the rating provided by the project manager please explain why.**
2.	**Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.**
3.	**Fully explain the critical risks that have affected progress.**
4.	**Outline action plan to address projects with DO rating of HU, U or MU.**
Overall 2009 Rating	MS
Overall 2010 Rating	MS
Overall 2011 Rating	MU
Overall 2012 Rating	MS
2013 Rating	MS
Comments	Outcome 1 of the project aimed at technology package bench marking and validation for different power technologies. A biomass mission plan has been developed for five years and ten year duration. This was well, discussed, uploaded on MNRE website for comments. However, this is yet to be implemented. Project is yet to take up work on outputs - technology improvement and upgrade need to be identified, including objective assessment of capabilities of Indian technology and equipment suppliers, technology performance and evaluation benchmarks for MIPs and the long-term perspective plan for utilization of wasteland and biomass resources for power generation are yet to be taken up. Thus the progress with reference to this outcome has not yet reached satisfactory level. Outcome 2 aims at enhancing capacities and confidence of project promoters, fiscal institutions, regulators, policy makers, state nodal agencies, other stakeholders through effective information development and dissemination programmes, along with capacity building initiatives. The project has done two to three key actions under this, namely a meeting with regulators and the review committee lead by NPD which has resulted in some tangible action in off-grid, some action in CERC revising guidelines, especially for biomass gasifiers. One of the key issues with biomass power projects is the number of approvals and time taken which also has an impact on sustained interest and relevance of business. Nine approvals are required and it often takes about 15 months for these approvals. A study conducted under the project indicated that there is no need for an Environmental Impact Assessment study for biomass power projects upto 15 MW and the concerned ministry has awarded an exemption. This is helpful to biomass developers in reducing the time required for approvals. A ‘discussion paper on biomass power’ has been developed which is yet to be placed for

	discussions. However, a number of outputs, activities as envisaged in the prodoc have not yet been taken up. Though newsletter bioenergy has been launched, few issues released, since over a year, no issues have been published. Three agencies were engaged to create interest in potential biomass developers and support them to establish biomass power plants namely, Zenith, IISc, and TERI. However, these are yet to converge to MIPs. Zenith focused on Megawatt scale units while IISc, TERI focused on sub-megawatt scale. On this outcome, the project has just reached a level of satisfactory, but lot more actions can still be taken up. Outcome 3 envisaged to develop business, commercial and support service networks in focused states. In a Project Steering Committee, a decision was taken to expand it to all states and encourage all interested biomass developers. One of the output 'preparation of master plan for creation of dynamic and sustainable institutional framework' which is yet to be taken up. On this outcome, progress has not reached satisfactory level. Outcome 4 focus on Creation of fund for contingent financing. A study commissioned by PMU, indicated that banks are prepared to provide finances to biomass power plant establishment, provided the projects are bankable. In light of this, the outputs, activities under this outcome need to be reviewed. The progress on this outcome is yet to reach satisfactory level. Outcome 5 focus on Model Investment Projects. It envisaged to implement 7 MIPs, one in cogeneration of 16.73 MW, 1 or 2 [5 MW] captive biomass, 4 or 5 [5 MW] Distributed biomass. However, since cogeneration has become a economically viable option owing to a reasonable feed in tariff, this is not included for project support. A call for expression of interest resulted in a number of proposals of 1 to few megawatts. Comfort letters were issued to about ten proponents. But only one 1.2 MW gasifier based biomass power plant has come up in Sankheda. However, this demonstrated the open access of power sale for the first time at a small scale power generation system. 1 MW fluidized bed gasifier has been approved to be established at Ruchi soya by Thermax has not yet started operations since last one year. Thus of the total target of about 30 MW, only 1.2 MW has been established. However, this is added by demonstration of fuel linkage support to existing biomass power plants. Four power plants namely, MPPL, Pandurangi, Universal and Nellore were supported. While MPPL, Pandurangi is completed, other two are in various stages of completion. Documentation of lessons, best practices is yet to be done. Replication strategy is yet to be taken up. The progress with this outcome has not reached satisfactory level. Further the project envisaged to set up on-line data base generation for information analysis, skill upgrades for SEBs, FIs, etc. establishment of agencies for testing, certification, etc. But these are not yet taken up. The project started in 2006 with a approved duration of 3 years. Despite two extensions, the progress has been slow. Now there has been significant change in situation. For example, when project was conceptualized, there was no feed in tariff. In all it has managed to initiate some actions and resulted in (i) reducing the need for EIA - one of the approval process, [ii] establish one green field MIP, [iii] support four fuel linkage, [iv] revise tariff guidelines on biomass gasifier power generation. However, the cumulative progress in last

	7 years is not significant. Hence, a rating of Marginally Satisfactory is given.
Project Implementing Partner: Is the representative of the executing agency (in GEF terminology). This would be Government (for NEX/NIM execution) or NGO (for CSO Execution) or an official from the Executing Agency (for example UNOPS).	
RECOMMENDED but NOT MANDATORY for projects under implementation in one country and regional projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.**
3.	**Provide recommendations for next steps.**
Project Implementing Partner	
Overall 2009 Rating	
Overall 2010 Rating	
Overall 2011 Rating	
Overall 2012 Rating	
2013 Rating	
Comments	
GEF Operational Focal point: Is the government representative in the country designed as the GEF operation focal point.	
HIGHLY RECOMMENDED but NOT mandatory for projects under implementation in one country. Not necessary for regional or global projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.**
3.	**Provide recommendations for next steps.**
GEF Operational Focal point	
Overall 2009 Rating	

Overall 2010 Rating	
Overall 2011 Rating	
Overall 2012 Rating	
2013 Rating	(MU) Marginally Unsatisfactory
Comments	• The project started in 2006 and most of the crucial activities to be undertaken by this project like technology package bench marking and validation for different power technologies, preparation of master plan for creation of dynamic and sustainable institutional framework, creation of fund for contingent financing, the progress made under Model Investment Units, setting up of on-line data base generation for information analysis, skill upgrades requires significant amount of work. • The time taken by the project team to finalize their Annual Work Plans is huge. • There is a need to provide focused attention to this project to achieve the approved national and global environmental benefits.
Other Partners: For jointly implemented projects, a representative of the other Agency working with UNDP on project implementation (for example UNEP or the World Bank).	
RECOMMENDED but NOT MANDATORY for jointly implemented projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.**
3.	**Provide recommendations for next steps.**
Other Partners	
Overall 2009 Rating	
Overall 2010 Rating	
Overall 2011 Rating	
Overall 2012 Rating	
2013 Rating	
Comments	
UNDP Technical Adviser: Is the UNDP-GEF Technical Adviser.	
MANDATORY RATING MUST BE PROVIDED for all projects.	

Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.	
1.	**Explain why you gave a specific rating (do not repeat the project objective).**
2.	**Note trends, both positive and negative, in achievement of outcomes as per the updated indicators provided in the DO sheet.**
3.	**Fully explain the critical risks that have affected progress.**
4.	**Outline action plan to address projects with DO rating of HU, U or MU.**
UNDP-GEF Technical Adviser	
Overall 2009 Rating	(U) Unsatisfactory
Overall 2010 Rating	(MU) Moderately Unsatisfactory
Overall 2011 Rating	(MU) Moderately Unsatisfactory
Overall 2012 Rating	(MS) Moderately Satisfactory
2013 Rating	(MU) Moderately Unsatisfactory
Comments	The project is in operation since 22nd September 2006, with an initial planned closing date of 21st September 2009. Since then, it has received a number of extensions so far and it is further looking at an extension until 2016. The CDR of the project as on 30 June 2013 is at US$ 2,165,148 against a grant amount of US$ 5,650,000. That means the project has used only 38% of the grant amount. It is evident that the biomass energy market dynamics shifted the project pace and most of the activities and its related outputs need revision as per the changed circumstances. Accordingly, the MTR had also recommended amending the project results framework with more targeted indicators that defines the project success. Therefore, during this reporting period, the project has initiated the process to revise project Results Framework (project planning matrix) in view of the MTR recommendations. The project in parallel is trying to initiate the project extension taking into account the emerging changes in the biomass sector. This would make the activities more relevant in the current scenario. Since the revision of results framework is still under progress, nothing much could be said here. However, some of the recommendations provided here shall be taken on board while finalising the results framework. In the outcome 1, technology package benchmarking for gasifiers has been notified so far. For rest of the biomass energy technologies as well it shall come up with benchmarking which can be expressed in terms of INR/kW (technology learning curve or cost curve), levelised cost of electricity generation expressed in terms of INR/kWh. It is advised not to touch upon plantations at this stage of project implementation. Though MNRE is aiming to come up with long term plan for utilization of wasteland for dedicated energy plantations for power generation, no substantial results can be achieved within revised project duration (by the yeay 2016). Therefore, it is not advised to focus on plantations and similarly for biomass hybrid (solar thermal, biogas,

	etc) technology packages as there were no proven examples which can be scaled up in MW capacity. Activities under outcome 2 are progressing reasonable in terms of capacity building activities, awareness raising workshops and enhance capacities of key stakeholders across Indian states. Due to some of the interventions under this outcome, Central Electricity Regulatory Commission (CERC) revised the tariff for biomass power plants and issued new Tariff Guidelines for Gasifiers. The Working Group formulated has also provided inputs to the on “Performance/ Viability of biomass based plants operating in India, including prevailing prices”. Though it was recommended to create a project specific website, so far there is not progress on this as MNRE prefer to post the project outputs within its own website. There is no substantial progress that can be reported under outcome 3. Since the project has not yet met its targets in terms of MIPs (as well as capacity), it is good to continue the efforts and take forward developments under ongoing demonstrations to yield interest from potential investors. The lessons learnt from Biomass power project have helped in the preparation of the Biomass Mission document by MNRE. A separate chapter on biomass mission plan has been developed for five years and ten year duration, which is yet to be implemented. Under outcome 4, the contingent financing for MIPs will not be realised under the project. There are many biomass power projects that were implemented so far in India has received loans from banks. It is important to note that 80% of the 40 sanctioned biomass power projects with a total capacity totalling 200 MW and worth 800 crores (US$ 1.6 million), are non-performing assets (NPAs) at the moment. Since there was breakthrough in the revision of tariff for biomass power, it may generate renewed interest among investors to revive some of the projects. The revised results framework shall aim to amend contingent financing Outcome to most needed and relevant activities. It is important that PSC takes a decision to allocate budget accordingly to those activities. In the outcome 5, the project has a target to install a capacity 30 MW biomass power through MIPs. So far it could be able to install only 1.2 MW of biomass gasification plant at Sankheda village in Gujarat by Ankur Scientific Energy Technology Pvt. Ltd. Another 1 MW fluidized bed biomass gasification plant is planned to be set up Washim, Maharashtra by Ruchi Soya Industries Ltd. (RSIL). Apart from these, the project showcased fuel supply linkages at two biomass power plants (1) Universal Biomass Energy Pvt. Ltd, Muktsar, Punjab, 14.5 MW; and (2) SLS Power Ltd., Nellore, Andhra Pradesh, 6 MW. The project is still in the process of identifying Model Investment Projects (MIPs) in view of the 30 MW target. The project shall look at initial proposals received for 141.2 MW (28 biomass projects). Review those proposals once again and see how different they are when compared with normal biomass power projects. Consider then only those fast moving ones where project developers are interested to move ahead with implementation. Because of load shedding in India, certainly, captive power generation is being practiced by many companies. The project shall look at those innovative captive generation biomass energy systems and embed monitoring, reporting and verification (MRV) aspects. It was learnt that only 2 to 3 projects are active with a totalled capacity of 6 to 7 MW. The sanctioned 1 MW biomass power plant based on the technology acquired by Thermax from the Energy Research Center, the Netherlands is not moving forward. Overall there is not much progress in terms of meeting 30 MW capacity target. It was understood that revised results framework is aiming to amend this

	target from 30 MW to 12 MW without any rationale. Eventually, with the influence of midterm review, the project has started demonstrating adaptive management through revisiting project results framework, but the progress has been quite slow. The project has not managed risks that well. Historically, this project is facing serious financial delivery. Based on the criteria for DO rating, the project is expected to achieve its major global environmental objectives with major shortcomings. Therefore, the DO rating of the project is Marginally Unsatisfactory (MU). The following are some of the recommendations to improve the project performance. (f) It was learnt that project results framework is being revised based on MTR recommendations. It shall realistically define activities, fix targets based on realistic assessment. (g) The project progress is quite slow. Since the PMU is well-staffed and fulltime national project manager is in place, it shall expedite the process of activities completion using revised results framework. (h) Project supervision is quite poor in terms of conducting PSC meetings and taking actions towards expediting the required approval processes and for practicing adaptive management. (i) The project team shall maintain a dynamic risk log and keep it updated on quarterly basis. (j) The project has not yet overcome complex and lengthy state procedures for the approval of MIPs. A number of clearances are required for projects implementation in India which are related to grid connection, required permissions and documentation let alone the sanction of term loans by FIs. From the lessons learnt under the project so far, it can be summarised that the time required for obtaining 8-10 statutory approvals / clearances, signing of PPAs and sanction of term loans by FIs – it needs at least 18-24 months and for installation and commissioning of the project it would need another 12-15 month timeline. To completely showcase and achieve meaningful results through MIPs under the project, the project shall need to revise the results framework with closing date extended up to March 2016.
Highly Satisfactory (HS)	**Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as 'good practice'.**
Satisfactory (S)	**Project is expected to achieve most of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.**
Marginally Satisfactory (MS)	**Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.**
Marginally Unsatisfactory (MU)	**Project is expected to achieve its major global environmental objectives with major shortcomings or is expected to achieve only**

	some of its major global environmental objectives.
Unsatisfactory (U)	**Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.**
Highly Unsatisfactory (HU)	**The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.**

PROGRESS IN PROJECT IMPLEMENTATION

Outcome 1- Key Outputs this Reporting Period: Outcome 1: Technology package benchmarking and validation for different biomass power technologies, including feasibility of energy plantation.
No activity undertaken during the current reporting period.
Outcome 2- Key Outputs this Reporting Period: Outcome 2: Enhanced capacities and confidence of project promoters, financial institutions, regulators, policy makers, SNAs, other stakeholders through effective information development & dissemination program, along with capacity building initiatives.
1. IISc and TERI were engaged to mobilize interest by potential investors in sub-megawatt power generation, and to conduct pilot programme to develop skill in operational aspects of such plants. 2. Zenith was engaged to mobilise at least 5 Model Investment Projects and support the potential investors to secure required approvals. A two-day workshop on "Promoting adoption of biomass power technologies and identification of pipeline projects" by Zenith was organised at Vadodara in this regard. 70 persons participated. 3. Working Group created under the projects provided inputs based on which, Central Electricity Regulatory Commission (CERC) revised the tariff for biomass power plants and issued new Tariff Guidelines for Gasifiers. The Working Group has also provided inputs to the on 'Performance/ Viability of biomass based plants operating in India, including prevailing prices'. 4. A discussion paper was commissioned by the project that has highlighted the following issues regarding biomass power; [i] lack of capabilities of consultants for preparing biomass assessment reports appears, [ii] lack of time-bound single-window clearance/approvals, [iii] lack of consistent procedure in different states, [iv] lack of favourable policies provided by SNAs on allotment of license for developers, based on the availability of surplus biomass, instead of 75-km radius that exists at present, [v] non inclusion of fuel collection and processing mechanisms and their costs as part of a biomass power project, [vi] inadequacy of policy flexibility for fuel price adjustment mechanism in the tariff , [vii] lack of uniform tariff policy for all states, [viii] lack of exiting the Power Purchase Agreement, [ix] reluctance of financial institutions such as IREDA to fund biomass projects,[x] lack of clear tariff policy by states (except Gujarat) for grid-connected biomass gasifiers.
Outcome 3- Key Outputs this Reporting Period: Outcome 3: Development of business, commercial and support services networks in focused States.
1. Two potential developers expressed interest in installing few 100 kW to a MW scale gasifier in the event organized in collaboration with Haryana Chamber of Commerce and Industries [HCCI] at Karnal with majority of the 30 participants from Rice Mills
Outcome 4- Key Outputs this Reporting Period: Outcome 4: Creation of fund for contingent financing: No activity was undertaken during the reporting period.
Outcome 5- Key Outputs this Reporting Period: Outcome 5: Model Investment Projects (MIPs)
No activity was undertaken during the reporting period.

IMPLEMENTATION PROGRESS RATING

IP rating: Please review the Implementation Progress page of this APR/PIR and then answer the questions below. An overall IP rating will be generated based on your answers.	
1 Please rate the progress in delivery of outputs. For example, do the annual outputs represent sufficient progress in order to achieve the project outcomes (see DO page of this APR/PIR)?	
2 Please rate the efficiency in delivery of outputs. For example, in this reporting period are budget resources being spent as planned? (i.e. is project delivery on target?)	
3 Please rate the quality of risk management. For example, in this reporting period were project risks managed effectively?	
4 Please rate the quality of adaptive management. For example, in this reporting period were actions taken to address implementation issue identified in the APR/PIR last year?	
5 Please rate the quality of monitoring and evaluation. For example, in this reporting period were sufficient financial resources allocated to project monitoring and evaluation	
Project Manager/Coordinator: Is the person managing the day to day operations of the project.	
MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country or regional projects where appropriate.	
Please justify your rating and address the following points in your comments. Please keep word count between 500 words minimum and 1200 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Summarize annual progress and address timelines of projec output/activity completion in relation to annual workplans.**
3.	**Outline the general status of project expenditures in relation to annual budgets, the effectiveness of project management units in guiding project implementation, and the responsiveness of the project board in overseeing project implementation.**
Overall 2009 Rating	(S) Satisfactory
Overall 2010 Rating	(HS) Highly Satisfactory
Overall 2011 Rating	(S) Satisfactory
Overall 2012 Rating	(HS) Highly Satisfactory
2013 Rating	(HS) Highly Satisfactory
Comments	The project has contributed significantly in building capacities and raising awareness about the Biomass Power sector in India. It has also provided a common platform to key stakeholders for dialogue on the problems faced by the Biomass Power sector in India.

	The 1.2 MWe MIP that has been supported in Sankheda has also generated considerable learning on regulatory, tariff and operational issues of running a Biomass power plant.
UNDP Country Office Programme Officer: Is the UNDP programme officer in the UNDP country office who provides oversight and supervision support to the project.	
MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country. Not necessary for regional or global projects.	
Please justify your rating and address the following points in your comments. The QORs and delivery data in the ERBM portfolio project monitoring report should inform your rating. Please keep word count between 500 words minimum and 1200 words maximum.	
1.	**Explain why you gave a specific rating. If your rating differs from the rating provided by the project manager please explain why.**
2.	**Summarize annual progress and address timeliness of project output/activity completion in relation to annual workplans.**
3.	**Outline the general status of project expenditures in relation to annual budgets, the effectiveness of project management units in guiding project implementation, and the responsiveness of the project board in overseeing project implementation.**
Overall 2009 Rating	(MS) Moderately Satisfactory
Overall 2010 Rating	(MS) Moderately Satisfactory
Overall 2011 Rating	(MS) Moderately Satisfactory
Overall 2012 Rating	(MS) Moderately Satisfactory
2013 Rating	MU
Comments	It is relevant to mention here, that a discussion paper commissioned by the project highlights the following issues regarding biomass power; [i] lack of capabilities of consultants for preparing biomass assessment reports appears, [ii] lack of time-bound single-window clearance/approvals, [iii] lack of consistent procedure in different states, [iv] lack of favourable policies provided by SNAs on allotment of license for developers, based on the availability of surplus biomass, instead of 75-km radius that exists at present, [v] non inclusion of fuel collection and processing mechanisms and their costs as part of a biomass power project, [vi] inadequacy of policy flexibility for fuel price adjustment mechanism in the tariff , [vii] lack of uniform tariff policy for all states, [viii] lack of exiting the Power Purchase Agreement, [ix] reluctance of financial institutions such as IREDA to fund biomass projects,[x] lack of clear tariff policy by states (except Gujarat) for grid-connected biomass gasifiers. All these and many more may have created lack of interest in new MIPs. The project should address above constraints and create conducive atmosphere for biomass power generation.

	However, the project made a budget for 1,000,600 USD for year AWP 2012 [Jan to Dec]. But, this was downsized to about 519,500 considering the constraints the sector is facing. Only 118,015 USD [23%] was spent, indicating very low financial delivery. Only some of the activities planned were taken up during the year but initiated late. Many activities planned during the year were not taken up. Further PMU decided that the following year AWP 2013 will be prepared only after revising the project results matrix in line with Mid term review. Though the mid-term was concluded a year before the reporting period, where revision of project planning matrix was recommended, it was only taken up during the later part of 2012. Till 30 June 2013, AWP 2013 was not prepared. During the year few workshops were conducted to mobilize expression of interests in biomass power. But these have not yet converged to implementable projects. Thus 'Marginally Unsatisfactory' rating is given on Implementation Progress.
Project Implementing Partner: Is the representative of the executing agency (in GEF terminology). This would be Government (for NEX/NIM execution) or NGO (for CSO Execution) or an official from the Executing Agency (for example UNOPS).	
RECOMMENDED but NOT mandatory for projects under implementation in one country or regional projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative.**
3.	**Provide recommendations for next steps.**
Overall 2009 Rating	
Overall 2010 Rating	
Overall 2011 Rating	
Overall 2012 Rating	
2013 Rating	
Comments	
GEF Operational Focal point: Is the government representative in the country designed as the GEF operation focal point.	
MANDATORY RATING MUST BE PROVIDED for projects under implementation in one country. Not necessary for regional or global projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.	

1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative.**
3.	**Provide recommendations for next steps.**
Overall 2009 Rating	
Overall 2010 Rating	
Overall 2011 Rating	
Overall 2012 Rating	
2013 Rating	(MU) Marginally Unsatisfactory
Comments	• The project started in 2006 and most of the crucial activities to be undertaken by this project like technology package bench marking and validation for different power technologies, preparation of master plan for creation of dynamic and sustainable institutional framework, creation of fund for contingent financing, the progress made under Model Investment Units, setting up of on-line data base generation for information analysis, skill upgrades requires significant amount of work. • The time taken by the project team to finalize their Annual Work Plans is huge. • There is a need to provide focused attention to this project to achieve the approved national and global environmental benefits.
Other Partners: For jointly implemented projects, a representative of the other Agency working with UNDP on project implementation (for example UNEP or the World Bank).	
RECOMMENDED but NOT mandatory for jointly implemented projects.	
Please justify your rating and address the following points in your comments. Please keep word count between 200 words minimum and 500 words maximum.	
1.	**Explain why you gave a specific rating.**
2.	**Note trends, both positive and negative.**
3.	**Provide recommendations for next steps.**
Overall 2009 Rating	
Overall 2010 Rating	
Overall 2011 Rating	
Overall 2012 Rating	
2013 Rating	

Comments	
UNDP Technical Adviser: Is the UNDP-GEF Technical Adviser.	
MANDATORY RATING MUST BE PROVIDED for ALL projects.	
Please justify your rating and address the following points in your comments. The QORs and delivery data in the ERBM portfolio project monitoring report should inform your rating. Please keep word count between 500 words minimum and 1200 words maximum.	
1.	**Explain why you gave a specific rating. If your rating differs from the rating provided by the UNDP Country Office Programme Officer and/or the Project Manager please explain why.**
2.	**Summarize annual progress and address timelines of project output/activity completion in relation to annual workplans.**
3.	**Outline the general status of project expenditures in relation to annual budgets, the effectiveness of project management units in guiding project implementation, and the responsiveness of the project board in overseeing project implementation.**
UNDP Technical Adviser	
Overall 2009 Rating	(U) Unsatisfactory
Overall 2010 Rating	(MS) Moderately Satisfactory
Overall 2011 Rating	(MS) Moderately Satisfactory
Overall 2012 Rating	(MS) Moderately Satisfactory
2013 Rating	(MU) Marginally Unsatisfactory
Comments	The risk log in ATLAS is not being updated regularly. However the mentioned critical risks in the PIR/APR 2013 shall be reflected in the ATLAS risk log. Only one Project Executive Committee (PEC) meeting was conducted during last reporting period and no single PSC meeting was conducted during last reporting period. This shows the casual approach in terms of project supervision and NPD/NPC should take appropriate actions to conduct at least two PSC meetings once a year. Since the project supervision is quite poor, it is important that the project team shall maintain a dynamic risk log and keep it updated on quarterly basis. When analysed the project from ERBM, the annual targets were entered into ATLAS. The status of progress towards these annual targets is being monitored on quarterly basis. The project financial delivery is poor during last reporting period, especially during last two quarters of 2012, which is at 23%. Whereas the project financial is better during the first two quarters of 2013 and it is expected that it would improve further as PMU is fully staffed as per the project requirement. During this reporting period, the project has demonstrated the following outputs under outcome 2 and 3. Apart from this, there is no progress

	under rest of the outcomes. (1) IISc and TERI are continuing their efforts to mobilise potential investors in sub-megawatt power generation, and piloted trainings to improve skills in the operational aspects of biomass power plants especially gasification. (2) Zenith was engaged to mobilise 5 MIPs (3) Working Group formulated under the project provided inputs to CERC to revise tariff for biomass power plants which is under implementation. (4) In a business network meet that was organised in collaboration with Haryana Chamber of Commerce and Industries, two potential developers expressed their interest to install few 100 kW to a MW scale gasifier at Karnal. The overall progress of activities under the project has been very slow and not to the pace as expected. The project has not yet developed a website and no action was taken towards uploading of all the material that is generated under the project as on date (biomass resource mapping, information on setting up of the MIPs, possible commissioning date, proposed suitable changes in policies based on the operation of MIPs, regulatory mechanisms etc.) at a centralised location. The project has started demonstrating adaptive management through revisiting project results framework, but the progress has been quite slow. Therefore, based on the criteria for IP rating, the project implementation progress can be rated Marginally Unsatisfactory (MU). The following are some of the recommendations to improve the project annual performance. (d) Use the revised results framework; prepare AWPs which can realistically assess the project activities and related budgets. Get AWPs signed on-time. (e) The project team shall maintain a dynamic risk log and keep it updated on quarterly basis. It is advised that PSC meetings shall be conducted on regular basis and review the risk log in such meetings. (f) Targeted efforts needed to implement as many MIPs as possible.
Highly Satisfactory (HS)	**Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as 'good practice'.**
Satisfactory (S)	**Project is expected to achieve most of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.**
Marginally Satisfactory (MS)	**Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.**
Marginally Unsatisfactory (MU)	**Project is expected to achieve its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.**

Unsatisfactory (U)	**Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.**
Highly Unsatisfactory (HU)	**The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.**

ADJUSTMENTS

Adjustments to Project Milestones, Project Strategy and Risk Management

Key Project Milestones

Have significant delays occurred in the project start, inception workshop, Mid-term Review, Terminal Evaluation or project duration?

If yes, were these changes reported in a previous APR/PIR?

Key project milestone	**Scope of delay (in months)**	**Briefly describe change or reason for change**	**Briefly describe the implications or consequences this has had on project implementation**
Project Start (i.e. project document signature date)	NA	NA	NA
Inception Workshop	NA	NA	NA
Mid-term Review	NA	NA	NA
Terminal Evaluation	24 months	The project is proposed to be extended for 24 months, till March 2016.	NA
Project Duration (i.e. project extension)	24 months	The project MTR recommended that the project be extended to March 2016, in order to meet the overall project objectives and completion of key activities.	The revision of the Results Framework and the consequent extension to the project duration enables to take into account the emerging changes in the biomass sector. This would make the activities more relevant in the current scenario.

Adjustments to Project Strategy

Has the project made any changes to its strategy (i.e. logframe/results framework) since the Project Document was signed?

Yes

If yes, were these changes reported in a previous APR/PIR?

Yes

Change Made to	**Yes/No**	**Briefly describe the change and the reason for that change**
Project Objective	No	NA

Project Outcomes	Yes	The project Outcome 4 - 'Creation of fund for Contingent Financing' is proposed to be dropped and the budget available under this will be reallocated to other project components/outcomes [yet to be approved in PSC]
Project Outputs/Activities	Yes	Output 1.1 – 'Technology improvement and upgrade needs identified, including objective assessment of capabilities of Indian Technology and Equipment Suppliers' has been dropped. Activity 2.1.1 – Create online database for biomass projects promotion and development in focus states has been subsumed under the Development of Knowledge Portal. Activity 2.1.2 (e) –Develop Project Management & Information System has been dropped. Activity 2.2.5: Support for fellowships/ participation in National/International events has been dropped Output 3.1 – Biomass activities mainstreamed into existing Institutional Framework – NGO, Women/SHG, Micro lending institutions/ intermediaries has been dropped. Output 3.2 – Preparation of Master Plan for creation of dynamic and sustainable institutional framework has been dropped. Output 5.1: Commissioning and stabilization of MIPs has been revised. These are yet to be approved by Project Steering Committee.

Risk Management

List number of critical risks as noted in the ATLAS risk log and briefly describes actions undertaken this reporting period to address each critical risk.

# of Critical Risks (type/description)	**Risk management measures undertaken this reporting period**
Complexities involved in Power Purchase Agreements (PPA) (Regulatory)	Low tariff for Biomass based power plants under Power Purchase Agreements (PPA) with Distribution Companies No exit options available in PPA to producers
Fuel supply for continued operation of biomass power plants (Operational)	Unreliable availability of biomass for plant operations due to: • Competitive uses of biomass in process industry • Seasonal variation of biomass The uptake of Biomass projects has been low in the recent

	years due to the above factors that have been making projects unviable. Financial Institutions are also not interested in supporting any Biomass power projects in the last two years. Of the existing projects supported by various Financial Institutions, about 60% are under the category of Non-Performing Assets.
Organizational	NA

Adjustments general comments:

The existing Project Results Framework is being revised in view of changed environment and economic scenario, and in keeping with the recommendations of the Mid Term Evaluation. The revised framework will set realistic targets for MIPs as well as reallocation of project funds in order to achieve project outputs with meaningful results and lessons learned for future. The revision is being done based on analysis of prevailing biomass power sector market in the country, policies, regulations, past experience in project implementations, emerging niche markets for biomass power and the mid-term evaluation report.

The major factors that were considered while revising the Projects Result Framework included:

- Project extension till March 2016 i.e. for a period of two years to implement the revised activities;
- Reduced target of cumulative installed capacity of MIPs with enlarged geographical horizon;
- Targeting quickly implementable MIPs, preferably models that have captive biomass supply, and in advanced stages of obtaining statutory approvals;
- Providing additional incentive in the form of generation based incentives for attracting new MIPs and ensuring operation;
- Focus on capacity building of key stakeholders at the state level and assistance in overcoming regulatory, tariff, and operational barriers;
- Generating and sharing knowledge products, which can be helpful for expansion and sustainability of biomass sector.

Finance: cumulative from project start to June 30 2013

DISBURSEMENT OF GEF GRANT FUNDS

How much of the total GEF grant as noted in Project Document plus any project preparation grant has been spent so far? (e.g. PPG + MSP or FSP amount. Do not break down by PPG or project budget.)

Estimated cumulative total disbursement as of 30 June 2013. (i.e. CDR information up to 20 June 2013)	2,165,148.00
Add any comments on GEF Grant Funds	NA

DISBURSEMENT OF CO-FINANCING

How much of the total Co-financing as noted in Project Document has been spent so far? Co-financing is the amount committed in the project document for which co-financing letters are available

Estimated cumulative total co-financing disbursed as of 30 June this year. Please breakdown by donor.	1,620,000.00
Add any comments on co-financing including other types and amounts of additional co-financing such as in-kind, private sector, grants, credits and loans.	NA

ADDITIONAL LEVERAGED RESOURCES

These additional resources can be from the same donors or new donors.

Estimated cumulative leveraged resources as of 30 June 2013	711,000.00
Add any comments on Leveraged Resources.	The above mentioned amount is the equity share of Ankur Scientific Pvt. Ltd. in the Sankheda MIP.

Other Financial Instruments

Does the project provide funds to other Financial Instruments?	NA
If yes, please discuss developments that occurred this reporting period only.	NA

Communications and KM

Tell the Story of Your Project and What has been Achieved this Reporting Period

The project is extremely relevant and useful to accelerate the adoption of environmentally sustainable biomass power technologies in India. The project is envisaged to utilize technical assistance to remove technical, regulatory and institutional barriers to widespread use of biomass power.

During the current reporting period the project focused on developing awareness to create interest in potential investors in biomass power and skills at the regional levels to manage Biomass Power Generation. Four regional workshops were organized in the North and South regions for Sensitization on Biomass Power Generation for sub megawatt level power plants. 80 people attended in four sensitisation workshops which are expected to generate 10 proposals. 41 persons from ITI, operators of gasifier based power plant attended the 10 day skill development programme. The program covered working principle of technology, an understanding of specifications for different technology package, Gasifier testing Protocol, performance guarantee to be tested; exposure to O & M, troubleshooting; Minimum instrumentation to test gasifier on-site etc. In addition to classroom sessions, hands-on training was given at laboratory facilities. Capacity building modules for Operators and Technicians were developed under this programme and these documents will be made available for wider dissemination and use through the UNDP website.

To support MIPs, a consulting firm, Zenith has been engaged to identify pipeline projects that can be supported as MIPs. They conducted a two-day workshop on “Promoting adoption of biomass power technologies and identification of pipeline projects” on 2 and 3 April 2013 at Vadodara, Gujarat. Existing biomass power producers/sector experts presented case studies on the past experience, challenges faced and strategies. The sessions and discussion captured the issues on approvals, funding and technological options for establishing MIPs. The significant focus was on the process of statutory approvals required for commission Biomass Power Plants and time required for the process. Finance available to project developers was also discussed in details. The workshop identified low tariff and assured fuel supply as the major constraints to growth of biomass power sector. 70 delegates representing various stakeholders participated in the workshop.

A site visit the 1.20 MW Biomass Gasifier Plant at Sankheda, set up by Ankur Scientific Technologies Pvt. Ltd. was organized in the afternoon of Day 1. The plant is one of the MIPs supported by the project. The plant does third party sale through open access, which is the unique feature at this scale of operations. It also has set up a supply chain for fuel linkages with active involvement of the local farmers and youths. The local farmers also use the bio-char, generated as residue from the plant, as fertilizer in their fields.

A discussion paper was commissioned by the project that highlights the following issues regarding biomass power; [i] lack of capabilities of consultants for preparing biomass assessment reports appears, [ii] lack of time-bound single-window clearance/approvals, [iii] lack of consistent procedure in different states, [iv] lack of favourable policies provided by SNAs on allotment of license for developers, based on the availability of surplus biomass, instead of 75-km radius that exists at present, [v] non inclusion of fuel collection and processing mechanisms and their costs as part of a biomass power project, [vi] inadequacy of policy flexibility for fuel price adjustment mechanism in the tariff , [vii] lack of uniform tariff policy for all states, [viii] lack of exiting the Power Purchase Agreement, [ix] reluctance of financial institutions such as IREDA to fund biomass projects,[x] lack of clear tariff policy by states (except Gujarat) for grid-connected biomass gasifiers. All these and many

more may have created lack of interest in new MIPs. The project is examining the above constraints, plans/facilitate to address them and create conducive atmosphere for biomass power generation.

Adaptive Management this Reporting Period

NA

Lessons Learned

1. The investment in the Biomass power sector will not be substantial or sustained unless the issues regarding low tariff and unreliability of fuel supply are addressed.
2. The central and state Regulatory Commissions and the state Distribution Companies need to be engaged in active dialogue to revise the existing low tariff structures.

PARTNERSHIPS

Civil Society Organisations/NGOs

NA

Indigenous Peoples

NA

Private Sector

The major partnership of the project is with the private sector entities, in the form of project developers for the Model Investment Projects.

GEF Small Grants Programme

NA

Other Partners

NA

PROGRESS IN ADDRESSING GENDER EQUALITY

Has a gender or social needs assessment been carried out?

No

If a gender or social assessment has been carried out what are the findings?

NA

Does this project specifically target women or girls as direct beneficiaries?

No

Have there been any changes in specifically targeting women or girls as direct beneficiaries this reporting period?

No

If yes, please explain:

NA

Please discuss any of the points above further or provide any other information on the project's work on gender equality undertaken this reporting period

Some points to consider: impact of project on daily workload of women, # of jobs created for women, impact of project on time spent by women in household activities, impact of project on primary school enrolment for girls/boys, increase in women's income etc. Be as specific as possible and provide real numbers (e.g. 100 women farmers participating in sustainable livelihoods programme).

1. The Model Investment Project that is being implemented by Ankur Scientific Pvt. Ltd in Sankheda in Gujarat has involved the local farmer community in the fuel supply chain management of the project. The project collects cotton/toor stalk and agriculture residues from the farmers, collected in villages. The benefits accrued to the local community as a result of this intervention are as follows:
    a. local youth have been involved as local champions for collection and transportation of the agro residues from the farmers to the plant. This has given employment opportunity to these local youths.
    b. The amount earned by the farmers by selling the agro residue, which earlier was burnt, covers about half of the labor cost incurred in agriculture.
    c. The local farmers use the bio-char generated by the plant as a residue as fertilizer in the fields.

ENVIRONMENTAL OR SOCIAL GRIEVANCE

What environmental or social issue was the grievance related to?

NA

What is the current status of the grievance?

NA

How would you rate the significance of the grievance?

NA

Please describe the on-going or resolved grievance noting who was involved, what action was taken to resolve the grievance, how much time it took, and what you learned from managing the grievance process (maximum 500 words). If more than one grievance was addressed this reporting period, please explain the other grievance (s) here:

NA