

**Capacity Building for Development and
Implementation of Carbon Finance Projects in
Pakistan**

**Project Design Document
Training Workshop**

Workshop Report

March 17th & 18th Lahore; March 19th & 20th Karachi



Foreword

The Project Design Document (PDD) training activities, covering the sectors of Renewable Energy, Energy Efficiency and Solid Waste Management, were appreciated greatly by participants who attended the two day training sessions in Lahore and Karachi. The feedback received shows that participants, who came from industry, provincial and federal government departments and NGOs received important information and critical knowledge about how they can avail of carbon finance as they design new investments which have a potential to reduce greenhouse gas emissions. Participants gained sufficient expertise to assess if their planned investments are feasible to develop as CDM projects and the steps they need to take to make this happen. The Winrock team is following up with potential project developers on a one on one basis to develop Project Idea Notes (PINs) and PDDs for prospective CDM projects.

The Winrock team will take into account the specific comments and recommendations received from the participants to further improve future training. It is expected that in consultation with the Ministry of Environment additional PDD and PIN trainings and CDM awareness sessions will be scheduled during the project period in Islamabad as well as in all the provinces, AJK and Northern Areas.

The Winrock team is enormously grateful to DG Environment, Mr. Jawed Ali Khan, and Deputy Secretary Ms. Neelofur Hafiz of the Federal Ministry of Environment and Dr. Javaid Afzal of the World Bank Pakistan office for the support and encouragement provided in organizing the PDD training activities. In Lahore Mr. Sajjad Saleem Hotiana, Secretary Punjab EPD graced the Inaugural ceremony as Chief Guest and Dr. Shagufta Shahjehan, DG Environment Punjab EPD kindly assisted with on-the-ground organizational support. In Karachi, we were honored to have Honorable Provincial Minister for Environment and Alternate Energy, Government of Sindh, Mr. Askari Taqwi, as the Chief Guest at the Inaugural session. Extensive organizational support was kindly provided for the Karachi trainings by Mr. Preetam Rajani, Chief of Environment, Sindh P&D.

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1 Background

Pakistan is signatory to the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC), an agreement that binds industrialized Countries (Annex-I Countries) to reduce their emissions of Greenhouse Gases (GHGs) to below 1990 levels by 2012 and by developing Country Parties to voluntarily reduce their GHG emissions.

The Clean Development Mechanism (CDM) introduced under the Kyoto Protocol is a mechanism aimed at facilitating industrialized countries to cost-effectively achieve their emission reduction targets, while at the same time stimulating sustainable development in developing countries. GHG emissions are measured in terms of reduced CO₂ emissions, termed Certified Emissions Reductions (CERs). CERs generated by CDM projects in developing countries can be made available in return for investment or sold to industrialized countries, whereby bringing in investment, transferring technology and generating revenue for the host (developing) country.

This project aims at developing a strong pipeline of CDM projects in Pakistan as well as generating interest in CDM on a wider scale. The challenge for generating a strong pipeline of CDM projects is to identify a number of specific near term investment opportunities within each of the high potential GHG mitigation sectors, supported by credible project sponsor, and with available financing.

2 The Project

In order to address the need to develop a strong pipeline of CDM projects in the country, the Ministry of Environment, under the PHRD scheme of funding of the World Bank is implementing the project “Capacity Building for Development and

Implementation of Carbon Finance Projects in Pakistan”. The two main objectives of this project are: firstly, to increase Pakistan’s contribution to climate change mitigation through a robust pipeline of high quality carbon finance projects; and secondly, to build capacity at the local level to continue to add to this pipeline with good quality CDM projects. In this regard the Ministry, through a competitive bidding process hired Winrock International to implement this initiative.

The Winrock team is implementing this capacity building initiative over a period of 18 months. During this time the project’s team of sectoral experts will identify a number of investment opportunities within each of the high potential GHG mitigation sectors in the country. In order to generate investor interest, and stimulate an active pipeline of CDM projects, a series of CDM technical training activities will be undertaken across the identified sectors as part of the project. The trainings will mobilize interest, identify potential project sponsors, both in the public and private domain, and build capacity to develop CDM projects in the country.

The sectors selected for the purpose of this project across which trainings will be held include: Energy efficiency, renewable energy, and energy substitution; Solid waste management and methane capture; Fertilizers and other chemical industries; and Land use, agriculture and forestry.

The trainings will be focused on improving the capability of project developers to develop Project Idea Notes (PINs) and Project Development Documents (PDDs). A number of training sessions varying between 5 and 7, for PIN and PDD development, will be held across the country. Focused thematic trainings will be held for PDD development in the sectors stated above. Participants will be from the private, as well as public sector organizations which are most likely to develop attractive CDM projects. After the training, participants will be invited to submit their project specific PINs for consideration for submission to the World Bank Carbon finance unit.

3 Training Objective

The objective of this training event was to identify the most viable project ideas that have the greatest potential of being developed into viable CDM projects in the immediate future and then develop Project Idea Notes. The project team will subsequently, over the following months, work closely with the respective proponents, and expand upon these PINs into PDD document which would subsequently be submitted to the CDM Executive Board for registration proposes and to the World Bank for purchase of CERs.

4 Lahore Training Event

The first training event organized under the Project was a two day PDD training in Lahore on 17th & 18th of March 2009. The training was initially scheduled for 16th & 17th of March 2009, but could not be carried out due to the political instability and unfeasible law and order situation in the city of Lahore on those dates. The project organized the first Project Design Document (PDD) training event in Lahore on the 17th and 18th of March 2009, covering the areas of Energy Efficiency (for the Industry and Power sectors) and Solid Waste Management. Each of the sessions was further broken down into industry specific sub groups.

The postponement of the training and then its sudden re-organization was expected to take its toll on the number of participants however the keen and ardent interest of the participants in the training did not deter them from taking time out of their planned schedule and come for the event. Here it is worth mentioning how the team of Winrock International made their way from Islamabad to Lahore on a very short notice and imparted valuable training wholeheartedly.

4.1 *Inaugural Session*

The venue for the training was the Shalimar Hall, at the Pearl Continental Hotel, Lahore. Registration at the venue started at 9:30 in the morning. The response

was very heartening as all the participants who had confirmed their attendance for the training or for the inaugural session arrived at the venue on time. Officials of the Punjab Environment Protection Department (EPD), P&D Department and City District Government Lahore represented the government at the event.

Registration was completed by 10 am, the guests were formally seated and then the chief guest Mr. Sajjad Saleem Hotiana, Secretary Punjab EPD arrived; Other notable guests included Dr. Shagufta Shahjehan DG Environment Punjab EPD and Mr. Muhammad Rafiq Jatoi District Officer Planning. The proceedings started with recitation from the Holy Quran. This was followed by Welcome remarks given by Ms. Zehra Abbas, Training Coordinator Winrock International.

After the welcome remarks, Mr. Bikash Pandey, Country Representative Winrock International briefed the participants on the CDM Modality and its potential in Pakistan. Emphasis was laid on creating awareness regarding the importance of CDM.

The chief guest Mr. Sajjad Saleem Hotiana then addressed the gathering, he appreciated the Winrock team's efforts in organizing and conducting the training event in such tumultuous times. He briefed the participants about the efforts being undertaken by the EPD Punjab in collaboration with the Federal Ministry of Environment.

After the address by the chief guest Mr. Pandey concisely explained the context of the project. Mr. Pandey informed the participants about the project plan, the inception stage findings and the various phases of the project. This brought an end to the inaugural session of the training. The participants showed a keen interest in the topics discussed during the presentations and a brief general question and answer session followed, after which the inaugural session came to a close. A tea break of 30 minutes was taken and after the break the Technical Training session started.

4.2 Technical Session Day 1

Since this was the second training event, but first PDD training, the entire Winrock International team put in a huge effort in identifying and gathering the right people for training purposes. During the inception phase findings it was learnt that there existed potential, as well as need for developing projects for carbon finance in the two broad sectors of Energy Efficiency and Solid Waste Management in Punjab. The team of consultants at Winrock worked proficiently in identifying the companies that could benefit the most and were contacted. The response was splendid and 28 companies registered for training.

The participants were pre-divided into their respective categories and preceded towards their respective halls where two parallel sessions were organized. The methodology adopted for the training was same and the participants were provided the same material. However the facilitators present in the session were according to their field of expertise so that the best training could be imparted. The proceedings of the two technical sessions and their details are as follows.

ENERGY EFFICIENCY

Training for this session was held in Shalimar Hall “C”. The main facilitator in this session was Mr. Bikash Pandey, Team Leader Winrock International. The other team members present in this session were Mr. Saeed H. Kazmi and Mr. Saad Malik. The number of participants in this session was 28 representing a total of 17 organizations from across the Punjab. The list of participants is provided in **Appendix A**.

SOLID WASTE MANAGEMENT

Training for this session was held in Shalimar Hall “A”. The main facilitator in this session was Mr. Jan Van Dan Akker, Consultant Winrock International. The other team members present during this session were Ms. Zehra Abbas and Mr. Ahmed Imran Aslam. The number of participants in this session was 23

representing a total of 11 organizations from across the Punjab. In this session there was participation of Punjab government civic agencies. The list of participants is provided in **Appendix A**.

The first session started at 11:30 PM and lasted till 1 PM. The participants were handed over their Training Kits that included a Training Manual that was compiled by the Winrock team containing Information regarding CDM concepts, PIN & PDD formats and Methodologies for CDM Project activities. The Kit also included two separate guide books regarding CDM projects.

This was an introductory session which started with a discussion on the topics of Emission Reduction and Baseline Calculations. Then the participants were briefed about the basic concept of PDD development. The participants were given a brief overview of the procedure of PDD development. The participants were inquisitive about the information that was being provided. Their answers were well addressed by the facilitators. The session lasted for an hour. This session was followed by a one hour lunch break.

The next session started at 2 pm. This was more of a practical session where the participants were exposed to the PIN and PDD formats. Here the emphasis was laid on elaborating each and every step in the procedure of developments of these documents. The Winrock team members played a very important role by interacting closely with the participants and clarifying their problems. This was an extended session where a lot of learning took place. The session ended after an hour and was followed by a half hour tea break.

The tea break turned out to be a working tea as the participants were back on their working desks and a lot of discussion took place during the half hour. This showed the enormous interest of the participants towards the trainings. The final session was formally called in at 4pm in the evening. The participants were generally asked about their understanding of the training so far imparted and the queries were appropriately answered. The participants were then divided in to

sectorally divided Working Groups of six members each. The participants were given a set pattern on which they were asked to choose a sector on which they were to generate a PDD.

After the formation of groups the participants were briefed about the topic of emissions calculations. The discussion was aimed at enabling the participants to get the clear idea of how the emissions are to be calculated. Furthermore they got clear insight from the Winrock experts about the emission calculation methods in the specific sector they were representing. The session was finally called off at half past five in the evening, bringing an end to the first day of the training.

4.3 Technical Session Day 2

The second day started with a more informal session. The session was announced to start at 8:30 in the morning however the participants continued to arrive till 9am. The session was a review session as well as a refresher of the previous day's activities. The session enabled the participants to clarify their concerns and make corrections to the projects on which they were working. The session lasted till 10 am and a tea break was taken.

The final session of the training began at half past ten. The participants were in their respective halls and seated according to their groups. The discussion in this session focused on the three main topics of Additionality for CDM, Leakages, and Monitoring. These topics were again discussed with reference to the sectors that were chosen by the groups. The participants were facilitated by the Winrock team to get their PDD's crafted in the most appropriate manner.

Due to the revised training dates the training timings for the second day had also been revised. The lunch break was taken at 2 PM instead of 1:30 PM and the training was brought to a formal end before the lunch break. Hence the participants were asked to complete their presentations by 1:30 PM and the presentation session was held. Both the sessions were combined for a final presentation session and the participating groups presented their projects one by one. The Presentations prepared as group work are attached as **Appendix B**.

5 Karachi Training Event

After arranging two highly successful and very well attended trainings in Islamabad and Lahore the Winrock team moved to Karachi for conducting another PDD training under the project titled “Capacity building for development and implementation of carbon finance projects in Pakistan”. The two day PDD training in Karachi was organized on **19th & 20th of March 2009** at the Crystal Ball Room, Marriot Hotel Karachi. The format of the trainings was same as the trainings held earlier.

5.1 Inaugural Session

Registration at the venue started at 9:30 AM. Keen interest was clearly visible from the fact that participants who were unable to confirm their participation in the pre-registration also appeared to attend the event. The Sindh government was represented by officials of the P&D Department, City District Government Karachi, Environment and Alternate Energy Department. Registration was completed by 10 am. The chief guest of the event Honorable Provincial Minister for Environment and Alternate Energy, Government of Sindh Mr. Askari Taqwi arrived at the venue at 10am. The guests were formally seated and the honorable speakers took their seats on the stage.

The proceedings began with Winrock’s welcome remarks delivered by Ms. Zehra Abbas, she thanked all the guests and the dignitaries present on the occasion and briefed the audience on the efforts being undertaken by Winrock International in the field of CDM.

After the welcome remarks Mr. Jawed Ali Khan, DG Environment, Ministry of Environment was invited to speak. Mr. Jawed Ali Khan briefed the gathering about the role played by the Ministry of Environment for the promotion of CDM capacity building initiative.

Next was the address by Mr. Bikash Pandey, Country Representative Winrock International. Mr. Pandey briefed the participants about the CDM Modality and its potential in Pakistan. The emphasis was laid on creating awareness regarding the importance of CDM.

After Mr. Pandey's speech Mr. Arif Alauddin CEO AEDB (Alternative Energy Development Board) addressed the audience. Mr. Alauddin emphasized the importance of alternative energy as it has become the need of time in this era where the country is facing a huge energy crisis. Mr. Alauddin was appreciative of the interest being shown by various corporate concerns in utilizing alternate energy solutions and vowed support from the government.

Next was the address by Mr. Faridullah Khan, MD ENERCON, Ministry of Environment government of Pakistan. Mr. Khan emphasized the need to address the issues relating to energy efficiency across various sectors, in particular the power sector and industrial sectors.

Next was the address by Mr. Nazar Hussain Mahar, (ACS Dev) P&D Department Government of Sindh. Mr. Mahar briefed the audience about the environmental issues and the efforts being undertaken by the Sindh Government to address those issues appropriately, he said that the government of Sindh would support the Federal Ministry of Environment in its efforts to tackle these issues .

Finally the chief guest of the occasion the honorable provincial minister for Environment and Alternative Energy Mr. Askari Taqwi was called upon to address the audience. Mr. Taqwi appreciated the efforts of Winrock International in implementing the project. Mr. Taqwi spoke about CDM and stressed the need to create awareness of CDM among the concerned masses.

The address by Mr. Taqwi brought an end to the inaugural session of the training. A tea break of 30 minutes was taken and after the break the technical training session started.

5.2 Technical Session Day 1

The Karachi training was the third to be organized under the project. This training was also held on a large scale and the pattern was similar to that of the Lahore training. The team of consultants at Winrock identified the companies that could benefit the most and were contacted. The Sindh P&D Department also assisted in identifying many participants from the Public and Private sector in Sindh. The response was very good and a large number of companies registered for training.

The participants were pre-divided into their respective categories and proceeded to their respective halls where the two parallel sessions were organized. The methodology adopted for the training was same and the participants were provided the same material. However, the facilitators present in the session were according to their field of expertise so that the best training could be imparted. The proceedings of the two technical sessions and their details are as follows

ENERGY EFFICIENCY

The lead facilitator in this session was Mr. Bikash Pandey, Team Leader Winrock International. The other team members present in this session were Mr. Saeed H. Kazmi and Mr. Saad Malik. The number of participants in this session was 22 representing a total of 15 organizations from across the country. The list of participants is provided in **Appendix A**.

RENEWABLE ENERGY

The Lead facilitator in this session was Mr. Jan Van Dan Akker, Consultant Winrock International. The other team members present in this session were Ms. Zehra Abbas and Mr. Ahmed Imran Aslam. The number of participants in this session was 18 representing a total of 11 organizations from across the country. The list of participants is provided as **Appendix A**.

The first session started at 11:30 and lasted till 1pm. The participants were handed over their training kit that included a Training Manual that was compiled by the Winrock team containing Information regarding CDM concepts, PIN & PDD formats and Methodologies for CDM Project activities. The Kit also included two separate guide books regarding CDM projects.

This was an introductory session which started off with discussion on the topics of Emission Reduction and Baseline Calculations. Then the participants were briefed about the basic concept of PDD development. The participants were given a brief overview of the procedure of PDD development. The participants were inquisitive in nature regarding the information that was being provided. Their answers were well addressed by the facilitator. The session lasted for an hour. There was a lunch break for one hour.

The next session started at 2 pm. This was more of a practical session where the participants were exposed to the PIN and PDD formats. Here the emphasis was laid on elaborating each and every step in the procedure of developments of these documents. Here an important role was played by the team members of Winrock who were present in the hall and assisted the participants and clarified problems that hindered the learning of the participants. This was an extended session where a lot of learning took place. The session ended after an hour and half and a tea break for half an hour was taken.

The tea break was a working tea as the participant continued the discussion. This showed the enormous interest of the participants towards the trainings. The final session was formally called in at 4pm in the evening. The participants were generally asked about their understanding of the training so far imparted and the queries were appropriately answered. The participants were then divided in to groups of six members each. The participants were given a set pattern on which they were asked to choose a sector on which they were to generate a PIN.

After the formation of groups the participants were briefed about the topic of emissions calculations. The discussion was aimed at enabling the participants to get the clear idea of how the emissions are to be calculated. The session was finally called off at half past five in the evening bringing an end to the first day of the training.

5.3 Technical Session Day 2

The second day's session started at 9 in the morning. The first session was based on review of previous day's activities. This session enabled the participants to clarify their concerns and make necessary amendments to the projects on which they were working. The session lasted till 10 am and a tea break was taken.

The final session of the training began at half past ten. The participants were in their respective halls and seated according to their groups. The discussion in this session focused on the three main topics of Additionality for CDM, Leakages, and Monitoring. These topics were again discussed with reference to the sectors that were chosen by the groups. The participants were facilitated by the Winrock team to complete their PINs as discussed the previous day.

Once the training sessions were over and the participants were ready with their presentations a joint session was called in at 12:30 PM. All the participants gathered in one hall and a small concluding ceremony was held. The chief guest on this occasion was Brigadier Dr. Naseem A Khan, Vice Chancellor Hamdard University Karachi. Speaking on the occasion Brig. Naseem appreciated the efforts of Winrock team and the participants for their efforts. Brig Naseem stressed the importance of developing CDM projects in the country. After the speech participating groups started to present their projects. The Presentations prepared as group work are attached as **Appendix B**.

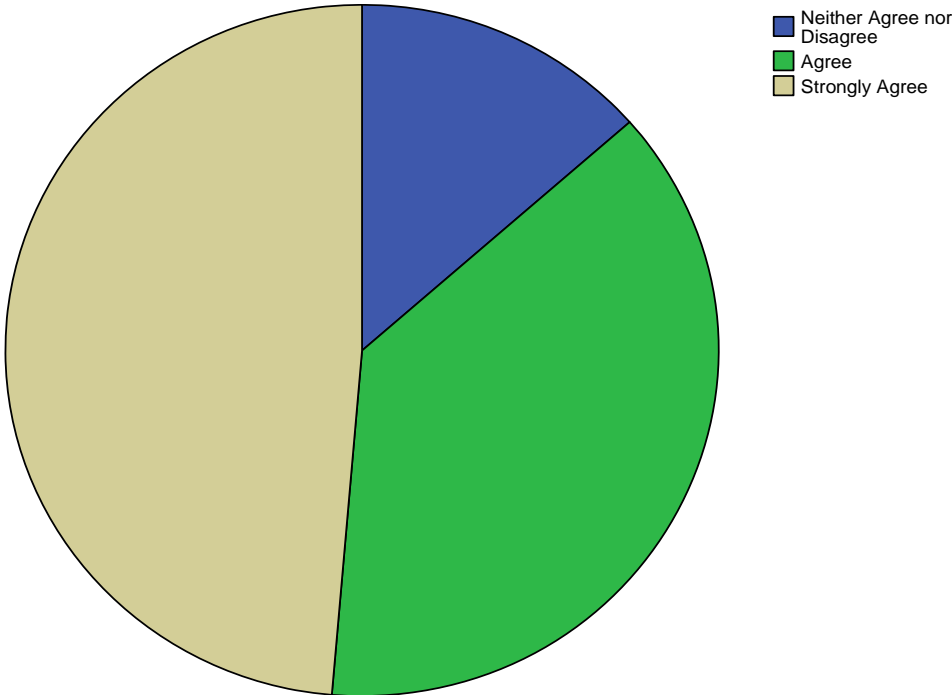
6 Training Feedback

After the training session was completed in Karachi the participants were asked to fill out “Training Evaluation” forms. The form was designed specifically to attain feedback from the participants regarding the training overall. The form contained questions requiring answers based on a scale. The second part of the questionnaire consisted of open ended questions where the participants had to write down their comments or suggestions and the feedback was qualitative. The form is annexed and the resultant output has been analyzed below.

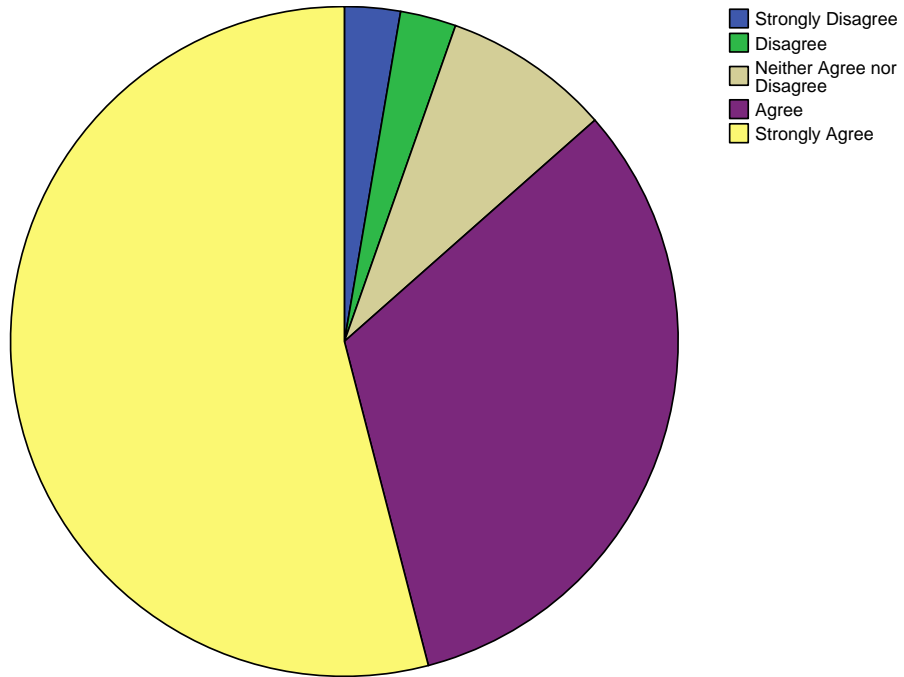
A total of 37 forms were dully filled in and returned. The close ended questions that were based on a scale have been analyzed in graphic form (Pie Charts). Here the result of six most important questions has been displayed only.

The Feedback form used to gauge he efficacy of the training event is attached as **Appendix C.**

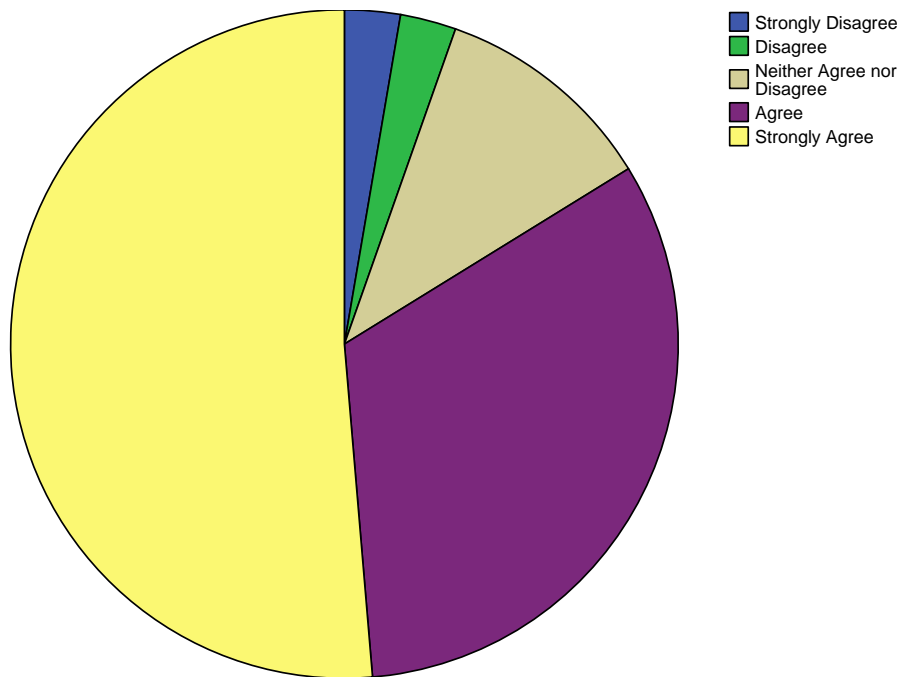
The Goals of the Training were Clearly Defined (N=37)



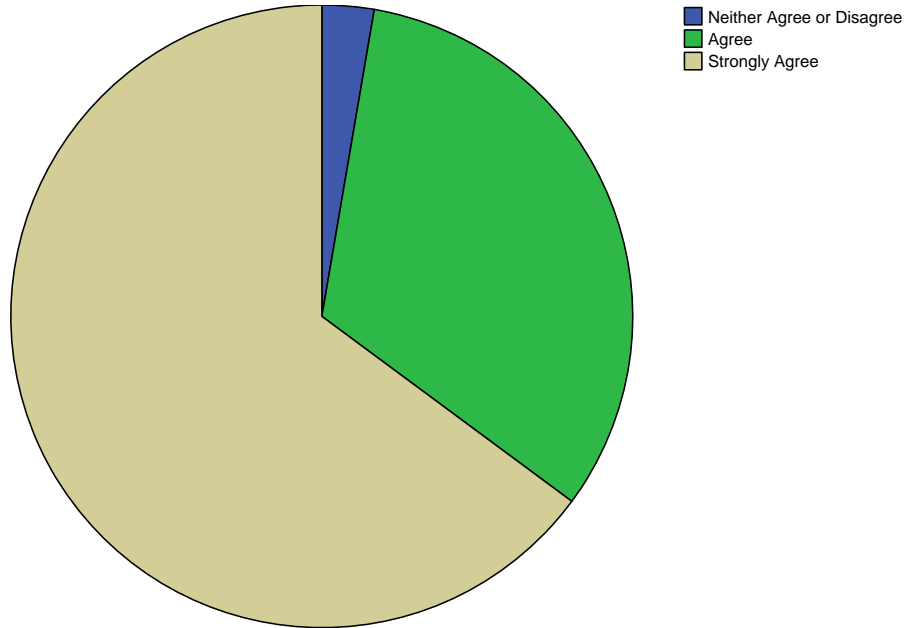
The Training Experience will be Useful for me in Future (N=37)



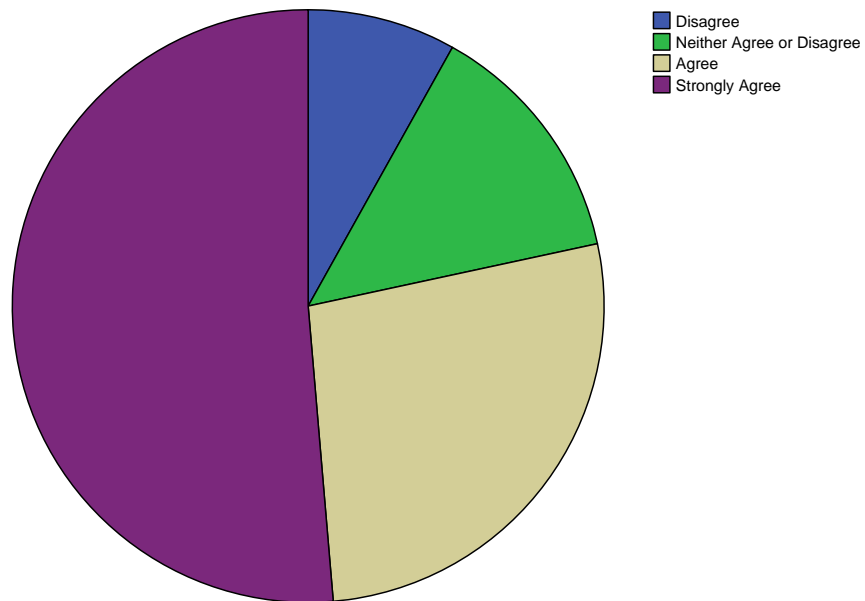
The Workshop Manual Provided was Helpful (N=37)



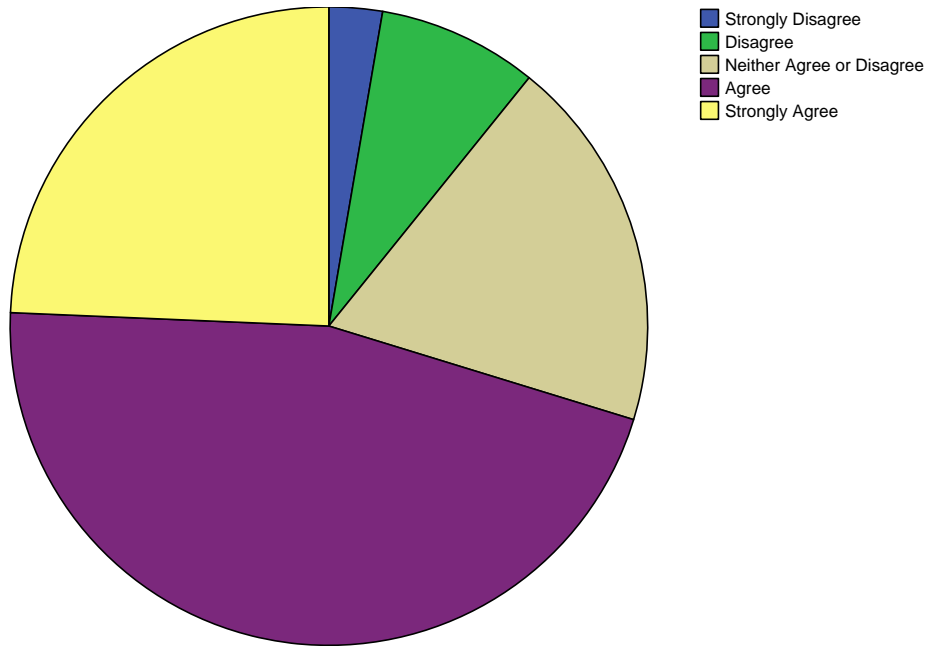
The Facilitators were Knowledgeable about the Topic (N=37)



The Meeting Room and Related Facilities Provided a Comfortable Setting for the Training (N=37)



Do you Think That the Information Conveyed is Sufficient for you to Come up With a CDM Project Idea (N=37)



6.1 Descriptive Questions

All the other descriptive open ended responses to the last five questions have been noted down and are shown as follows.

Do you have information about CDM for your company to participate?

1. Yes the information templates provided and the tools identified/indicated has given enough and adequate knowledge to proceed with a CDM POA. However continuous support from Winrock/World Bank is needed for a conclusive result
2. Yes
3. Yes, with the collaboration of industrial projects.
4. Yes, we will convey it to the management if such projects are carried out in future, company must consider CDM approach
5. Not at this stage, but from now on I will really work on it.
6. Yes
7. Yes
8. As we are working in EIA, IEE preparation which is mandatory for CDM projects.
9. Yes, we are working to do CDM in demand side area and supply side area of the company
10. Yes
11. Yes
12. Yes
13. Yes, after the training session.
14. Yes, we are already working on it
15. Yes
16. Yes, we are power generation/ cogen consultancy system designer, we are in contact/ interlinked with 100% industrial personnel and have good chance to give understanding of CDM
17. Yes I have enough information regarding CDM for participation to company
18. Yes
19. No
20. Yes through Websites
21. The detailed information will be attained from the UNFCCC CDM website
22. Yes, we as donor organization are working with partner organization in renewable
23. Yes, our company can participate in renewable energy
24. Yes
25. Yes
26. Before the workshop I had not any information but now it has cleared my vision and help me on to implement one in my organization
27. Yes
28. We are in the initial phase of the project
29. Our organization is not participating directly in terms of CDM-CER, however we engaged in provision alternative energy at community level as source clean energy
30. Yes, there is sufficient information to begin preliminary assessments of possible projects. Given the nature of WWF-P's Indus for all programs work, a bundled programmatic approach might be best.
31. We are planning effluent treatment, methane capture and bicomposte. Intend to club with other MES as the size of the project seems to be small.
32. Yes
33. Yes
34. Yes
35. I have learnt a couple of things in the training process which is going to help me in implementing CDM for my company.

Do you have a potential CDM project which you can now identify and begin to develop?

1. Yes, The CDM Programme for brick production sector in Pakistan is essentially required to overcome the technical and financial barriers in our way to implement their technical transfer program launched by SDC and being implemented by SKAT and our firm.
2. Yes
3. No comment
4. Still we need lot information about different steps of the governments involved and the contribution of locals. How we can be facilitated to make these projects come true.
5. Yes, I am well trained now
6. Not at the moment
7. Following projects: Wind power projects, Landfill gas recovery, Waste heat recovery boilers (WHRB)
8. We are planning to start CFL project.
9. Yes
10. Yes our factory (Matiari Sugar Mill) has a potential to be a CDM project by cogeneration of electricity.
11. Not right now, but we will go through 15 methodologies to calculate if we can come up with a CDM compliant project.
12. Not at the moment
13. We have two potential CDM projects in our company: Biogas power generation, and High pressure boiler installation with power generation.
14. Yes
15. Yes
16. Yes
17. Not yet, because we are in exploration phase.
18. No
19. Yes
20. Yes, KCR and KTS
21. Yes, Karachi circular railway and Karachi mass transit system
22. Yes, we are planning to carry out certainly
23. Yes, Project for Microhydel development, Solar lights and wind energy can be developed
24. Following projects maybe considered: Floating roofs inside petroleum product storage tanks to avoid GHG emissions, Vapor recovery system at product gantry area, Steam recovery
25. Yes, Setup of 50MW wind power (Power dispatch to national grid)
26. We are at a time in a process to install 50MW wind turbines at Jhampir
27. Yes, 50MW wind park at Jhampir (Lucky energy Pvt Ltd.)
28. Yes, in the initial phase
29. At the moment I don't have any idea as we are not preparing any proposal in order to earn CBR's
30. Yes, we are currently assessing our existing work on: Provision of solar energy, Provision of wind energy, and Biogas (At the village level in our program sites Thatta, Nawabshah, Sanghar)
31. Same as above
32. Yes, I will send a project to Winrock international after discussion with management.
33. Yes
34. Yes
35. Yes, Methane gas production by converting waste to methane which can further be converted to electricity.

What information and support would you need from the Consultants to develop your CDM project?

1. Consultants have provided enough information to begin work and develop a PIN on brick kiln sector. However thorough scrutiny by the consultants is essentially needed to prepare it professionally. POA in any case demands consultants active participation during its preparation.
2. Development of project, PINs, PDDs.
3. In supporting documentation and review of projects.
4. Will let you know when we are in the process of duration of the project. In other words they must advertise their role in CDM through different scenarios.
5. Right area and information.
6. Constant assistance
7. Carbon reduction calculations
8. Support and information may be required at some stage. We will contact you.
9. At the implementation phase and designing document stage information and supports will be required.
10. PDD for the project.
11. We will contact once our basic working is done.
12. We have gathered enough information but need consultants assistance in order to fill PDD documents.
13. To prepare PDD, and identification of DOE for validation and help in getting registered for the CERs as early as possible.
14. We are going to start three mega projects: 50MW wind power, Jatropha plantation on 1000 acres, Energy conservation, 5000 conventional threat tube 6/W notes to LED rods of 16W by saving 225KW and 500 roots. We need the complete support from your consultants.
15. How to calculate the carbon credits: Jatropha, Wind power energy
16. The manual is enough
17. It will depend on the result which we will find.
18. EIAs, PDDs, Baseline Assessments
19. To identify projects for CDM
20. Consultancy help would be required for CBC obtain for a project
21. Consultants help would be required unless CBC is obtained for a project
22. Some more facilitation for CDM in the form of some project specific workshops is required for more clarification
23. I will try to remain in contact with the consultants for continuous support
24. A training session for senior management on CDM projects development may be arranged.
25. Methodology and appropriate formats
26. We are in need of their kind guidelines to prepare our PDD's
27. We would like to get help from consultants in preparation of PDD
28. Support may be required at a later date
29. Not sure at this stage
30. Discussion on the bundled program approach, and how to optimize our village level work.
31. We need guidance of its procedure to get carbon credits for our projects.
32. It is possible at the time of feasibility of plant/project after approval.
33. Once we will get to that point definitely consultation will be required.
34. No Comment
35. Information regarding how to calculate CER actually.

What support would you need from Ministry of Environment to develop your CDM project?

1. The proactive and articulate approach as is seen is commendable. MOE must organize certified training courses to develop inland capacity with a view to catch up for the time already lapsed.
2. Approval
3. No Comment
4. Good, keep it up.
5. MOE should develop CDM projects in remote areas.
6. No Comment
7. Approval required.
8. Partnership to meet initial cost of the project.
9. Facilitate the CDM projects for approval.
10. Financial resources
11. MOE needs to ensure that the local process of approval (DNA) is transparent, guide, facilitate and without any bureaucratic red tape. If CDM has to be successful drive then MOE/ENERCON/AEDB needs to be aggressive and active in engaging industry via top leadership, rather than being passive and waiting for industry to come up with proposals.
12. We need encouragement and monetary and technical support
13. We do need the help of MOE for our upcoming CDM projects.
14. As mentioned above
15. No Comment
16. Quick reply, Easier communication
17. Need to organize more awareness and guideline session or seminars and develop a training mechanism for CDM.
18. The following are required from MOE: Information to be provided on MOE website, SOPs for LOA to be put on website, Contracts of CDM to be put on website, Helpdesk along with complaint line Email address to be put on website
19. We need both technical and advisory support
20. SOP for CDM project
21. MOE should prepare a SOP and publicize for taking CDM projects
22. Again some renewable energy project specific workshops
23. No Comments
24. Following support will be needed: Modus operandi of DNA to be forwarded to petroleum sector organizations,, Provincial EPA's need to be fully aware of DNA's approval methods, Approval methods/processes by DNA to be supplied/fastened
25. Relevant NFQ's for wind power project
26. No Comment
27. No Comment
28. No Comment
29. Not sure at this stage
30. Following will be needed: Information on proposed CDM activities, Possibility of participation in future planning, Discussion on scope of collaborative work on project execution
31. MOE should come forward and help our industry financially to take up such efficient projects.
32. We will request before installation of the project.
33. Some support will be required.
34. No Comment
35. We intend to collect physical waste, 10 miles north of Karachi. We would like MOE to help us in the collection mechanism.

Additional Comments

1. All relevant quarters, public or private, must provide a list of focal persons for continued professional development towards the subject, else for choice of systems the participants will be different for each sector. Planning commission of Pakistan and similarly P&D division/department of all provinces/FATA must have dedicated CDM consultants to evaluate potentials of each project before it is sanctioned or approved.
2. Great
3. No Comment
4. No Comment
5. No Comment
6. No Comment
7. No Comment
8. No Comment
9. Very useful workshop, but very late, it should have been done three years before.
10. No Comment
11. No Comment
12. One and half day for this training session was less. It should be a three days complete training for completing the PDD and other documents.
13. No Comment
14. No Comment
15. No Comment
16. We are very happy to see the government is taking interest for environment and CDM
17. No Comment
18. Cluster of industries through their associations or chamber group to be tapped.
19. We appreciate more session on related subject
20. The training was useful and very beneficial in respect of CDM
21. The training was useful and need to be more elaborative in future
22. No Comments
23. No Comments
24. No Comments
25. The timing of this training session is very appropriate
26. After two days workshop I realize without CDM no any project is viable, but to appoint consultant for preparing the documents is also a big cost. No one emphasizes on it. To save our precious money, local guides must be provided to prepare the documents in house.
27. No Comment
28. No Comment
29. The training should have duration of 3 to 4 days. However manual and material provided would greatly help is use the skills learned for preparation of CDM project.
30. No Comment
31. No Comment
32. It could be beneficial for our country, Winrock arrange more workshops for installation of projects.
33. Good rather excellent job done and highly professional and challenging environment has wanted to provide as much as one can grasp knowledge. Great work.
34. Overall the training is helpful technically covered and knowledgeable.
35. No Comments

6.2 Conclusion

On the whole the training was appreciated and the participants found it useful, for those who were not aware of the CDM modality, the training was a means of raising their awareness to this opportunity. The consultants' team will now be interacting with the individual potential developers and will be developing PINs and PDDs.

Appendix A

Lists of Participants

**Launch of CDM Capacity Building Project & PDD Training at PC Hotel
Lahore on 17th & 18th March 2009**

ENERGY EFFICIENCY

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			Westridge – I, Rawalpindi	
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**Launch of CDM Capacity Building Project & PDD Training at PC Hotel
Lahore on 17th & 18th March 2009**

SOLID WASTE MANAGEMENT

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**Launch of CDM Capacity Building Project & PDD Training at Marriot Hotel
Karachi on 19th & 20th March 2009**

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RENEWABLE ENERGY

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Appendix A

Presentation of Group Work

**Group Work Presentations
Lahore**

Presentation No. 1

Project Title:

- I. Co-Generation in a Sugar Mills
- II. High Pressure Boiler
- III. Bagasse as Fuel

Baseline Methodology: AMS – 1D (10MW)

Project Boundary:

- I. Ashraf Sugar Mill – Bahawalpur
- II. Adjacent to Existing Power Plant

Baseline: 22/24 Bar Boilers

Additionality:

- I. 84 Sugar Mills
- II. Only one with High Pressure Boiler
- III. Technical Problems (One Season Lost)
- IV. 150 days of working
- V. Owners Reluctant

Emission Reduction Calculation:

Avoided Emission = 16770 tCO₂ Per year
Amount = Rs. 13.4 Million

Monitoring:

- I. Energy meter online supplying to grid
- II. Total Energy Produced, consumed by grid

Cost of Project:

Export = 10MW
Total Gen = 15MW
Total Cost = Rs. 90 Crore

Presentation No. 2

NISHAT MILLS LIMITED LAHORE

Project Title: Power Generation (Self Consumption)

Project Size: 10 MW (Running) / 12.5 MW (Installed)
H.F.O Engines, Make: Mak German

Technology: Switching of Fossil Fuel

Methodology: AMS – III B

GEN:	87,600 MW/Year
Fuel:	19,272 Tons/Year
CO₂ Baseline Emission:	59,923 Tons/Year
Project Emission:	52,467 Tons/Year
Emission Abatement:	7,449 Tons/Year

Project Boundary: Power Plant

Monitoring:

- I. Electronic Meters
- II. Energy, Fuel, Gas Log Sheets Available

Crediting Period: 21 Years

Additionality:

- I. Investment
- II. Technology, Manpower training
- III. First of its kind in the Country

Presentation No. 3

Project Title: Establishment of Compost Plant at Haripur, NWFP

Description:

- I. Solid Waste Management
- II. Area Population = 700,000
- III. Garbage Generated = 350 Tons/Day
- IV. Plant Capacity = 50 Tons/Day

Project Boundary: Composting Plant Site

Crediting Period: 7 Years

Baseline Emissions: 4.704 Tons CO₂ Emitted/Year

Project Emissions: Electricity Consumption

Leakages: 2.62 Tons CO₂ Emitted/Year

Group Work Presentations Karachi

Presentation No. 1

Project Description: Replacing low pressure (23 bar) and low temperature (350 C) boiler by high pressure (85 bar) and high temperature (530 C) baggase to be used as fuel.

Baseline Methodology: ACM– 0002(10MW)

Technology: Conversion of bio-mass into Electricity

Size: 18 MW (150 Operating Days)

Location: Shakarganj, Jhang, Punjab

Project Benefits: Avoid 30190 tons of CO₂/Year

Project Duration: Ten years

Leakage Prevention:

- I. Existing boiler to be kept as standby
- II. No additional logistics

Monitoring Mechanism:

- I. Flue Gas analysis
- II. Metering – Power generation
- III. Bills of power sold
- IV. Financial audited report for fossil fuel

Additionality:

	IN VS	= Rs. 800 Million
	INT Rate	= 18%
Without CER:	NPV	= Rs. 181 Million
	IRR	= 11%
	P.B	= 8.2 Years
With CER:	IRR	= 17%
P.B	= 5.2 Years	

Presentation No. 2

Project Description:

Ethanol waste water is acidic in nature with heavy loads of organic matters.

Project Description:

COD : 100,000 mg/L
BOD : 50,000 mg/L
Volume: 100,000 mg/L

Project Situation:

Installation of five digests each to treat 20 mg/L waste water

Emission Reduction:

Baseline:	41454
Project Situation:	8290
Reduction:	33163

Leakage:

Zero

Crediting Period:

10 Years

Presentation No. 3

VS BK CLUSTERS, EEBP - PAKISTAN

Project Title: Power Generation (Self Consumption)

Programme Phases:

- Phase – I** End of April 2009
3x Demonstrative kilns
Baseline studies on Environment, Economic Analysis
- Phase – II** Technical services for EPs
Number of units: 12 to 18
Punjab: 12
NWFP: 4
AJK: 2

Additionality:

- IV. Technical Barriers
- V. Investment Barriers
- VI. Inertia to change

Emission Calculation:

Emission BTK per Brick:	0.349 Kg
Emission VSBK per Brick:	0.170 Kg
Reduction:	0.179 Kg
Production by 18 Units:	18249 Tons of CO ₂ /Year

Participants:

- III. Buyer
- IV. Technical Transfer Company SKAT
- V. Energy Company/ NGO
- VI. EPs

Crediting Period: 10 Years

Presentation No. 4

<u>Project Title:</u>	Forging furnace exhaust waste heat recovery
<u>Project Type:</u>	Waste heat recovery/ Energy efficiency
<u>Technology:</u>	Combined Cycle
<u>Location:</u>	Bin Qasim
<u>Crediting Period:</u>	21 Years (7 x 3 Terms)
<u>Location:</u>	Bin Qasim
<u>Project Boundary:</u>	Factory
<u>Methodology:</u>	AM0014
<u>GHG Reduction:</u>	4000 Tons CO ₂ /Year. (Per Unit)
<u>Additionality:</u>	Desalination

Presentation No. 5

Project Title: 100 KW micro hydro electric power plant in village Ovrík Garamchashma, Chitral

Baseline:

- I. Karosine oil usage, uneconomical and health hazardous.
- II. Wood usage is increasing deforestation and pollution.
- III. Petrol and diesel generators are expensive as transportation cost is very high.

Crediting Period: Starting Date: July 2009
Date of Operation: July 2010
CER to be issued: In 2010
Crediting Period: 10 Years

Additionality:

- I. Hydro generation is not a common practice I the area, as the existing sources of power are relatively cheaper like wood
- II. Electronic load controller (ELC) is being currently imported

Monitoring: Measurement of gross generation of electricity on daily basis

Leakage: Zero, as the electricity is transmitted within project boundaries

Emission: Total KW-hr Generation = 876 MW-hr/Year
Emission Factor = 1.3 (assuming replacement of diesel generators)
Emission Reduction = 1138.8 Tons CO₂/Year

Appendix C

Training Feedback Form



We are interested in your assessment of the training provided and would like to ask you to complete the form.

RESPONDENT PROFILE

Name: _____

Organization: _____

Designation: _____

Email: _____

Phone (mobile): _____

Session Attended: Energy Efficiency

Solid Waste Management

Workshop facilitator in your session: _____

- Rating Scale:**
- 1. Strongly Disagree
 - 2. Disagree
 - 3. Neither Agree nor Disagree
 - 4. Agree
 - 5. Strongly Agree

Categories	Check your response				
	1	2	3	4	5
Preparation					
The invitation for the training stated the goals clearly					
I was given enough information to prepare for the training					
Content Delivery					
The goals of the training were clearly defined					
The topics covered were relevant					
Each session stated the objectives clearly					
There was sufficient opportunity for interactive participation					
The format allowed me to get to know the other participants					
The training was too technical and difficult to understand					
The training experience will be useful for me in the future					
I got most of my questions answered during the training					
The materials were delivered at the right level					
The materials for the training were helpful					
The schedule for the training provided sufficient time to cover all of the proposed activities					
The workshop manual provided was helpful					
Facilitator:					
The facilitators were knowledgeable about the topic					
The facilitators were well prepared for the session					
The facilitators encouraged active participation					

The facilitators answered questions in a complete and clear manner					
The facilitators used variety of training methods					
The facilitators were respectful of the different skills and values presented by the participants					
The facilitator modeled cross-sector collaboration					

Facility	1	2	3	4	5
The meeting room and related facilities provided a comfortable setting for the training					
The location for the training was convenient for me					
The refreshments and food provided were of good quality					
The tools and equipments during the sessions worked well					
The sessions lasted about the right amount of time					
Understanding of CDM					
Do you have a clear idea about CDM					
Do you think that the information conveyed is sufficient for you to come up with a CDM project idea					
Do you feel you have a clear understanding of how to complete the main parameters required for PINs and PDDs					

Do you have information about CDM for your company to participate?

Do you have a potential CDM project which you can now identify and begin to develop?

What information and support would you need from the Consultants to develop your CDM project?

What support would you need from Ministry of Environment to develop your CDM project?

Additional Comments
