March 2011

# Sri Lanka National Interim Policy on Clean Development Mechanism

## 1. Preamble

The Sri Lanka National Policy on Clean Development Mechanism (NPCDM) represents a component of the National Climate Change Policy of Sri Lanka (NCCP).

The Clean Development Mechanism (CDM) introduced under the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) allows developing countries to benefit by implementing Greenhouse Gas (GHG) emissions reduction projects. These reductions in GHGs earned through CDM activities, can be traded as "Certified Emissions Reductions" (CERs), or "Emission Removal Units" (ERUs). The CERs and ERUs thus generated can be used as additional financial sources for project activities.

Even though Sri Lanka is a Non Annex I country with a low per capita emission of GHG, it is the objective of the Government of Sri Lanka to encourage private and pubic sector investments in climate-friendly development activities, while contributing to the ultimate objective of the UNFCCC.

All CDM projects should meet sustainable development criteria in terms of their contribution to improvement of the quality of life of the community, alleviating poverty, improving equity, facilitating transfer of technology, conserving local resources, improving health and in using renewable energy sources.

NPCDM provides direction and guidance in terms of institutional, legal, financial, capacity building and technology in facilitating development of CDM projects.

## 2. Goal

Minimize GHG emissions through introduction of CDM projects that support sustainable development of the country.

## 3. Objectives of the CDM Policy

3.1 To facilitate Sri Lankan private and public sector institutions to participate in CDM project activities.

3.2 To promote transfer of appropriate technology that would contribute to GHG emission reductions.

3.3 To enhance national capacity for CDM Project development.

3.4 To ensure that CDM projects contribute towards the achievements of national goals on sustainable development.

## 4. Guiding Principles

4.1 CDM Policy will be guided by the Climate Change Policy and the National Environmental Policy, and will be in line with existing sectoral policies.

4.2 All CDM project shall comply with national development priorities and sustainable development criteria.

4.3 CDM projects should be developed and implemented on voluntary participation of stakeholders.

4.4 CDM Policy will be used with the view to fulfill the objectives of the United Nations Framework Convention on Climate Change (UNFCCC).

## 5. Policy Statements

5.1 The Ministry to which the Environment portfolio is assigned shall be responsible for granting host country approval for CDM projects and development of policies and regulations relating to CDM.

5.2 Encourage domestic project proponents including Coordinating and Managing Entities (CMEs) to initiate CDM projects in the country.

5.3 Establish institutions that could facilitate developments of CDM projects.

5.4 Ensure all CDM projects conform with the provisions under the National Environmental Act and other relevant rules and regulations as applicable in Sri Lanka.

5.5 Strengthen legal and regulatory framework to promote CDM activities.

5.6 Ensure availability, accessibility and sharing of information related to CDM across all sectors.

5.7 Create awareness and build capacity on CDM project development among relevant stakeholders

5.8 Promote and encourage public and private sector institutions to actively look into possibilities of reducing emissions through CDM projects, and/or by enhancing carbon sinks.

5.9 Encourage and recognize public, private and social partnerships in climate-friendly development activities.

5.10 Establish appropriate financial mechanisms to facilitate development of CDM projects.

5.11 Engage financial sector institutions, both local and foreign, in the development of CDM projects.

5.12 Promote GHG emission reduction technology for CDM investments.

# RECOMMENDATIONS REGARDING THE OPERATION STRATEGY AND PLAN OF SRI LANKA CARBON FUND (16 SEPTEMBER 2011)

## 1 Background

The Sri Lanka Carbon Fund Ltd. (SLCF) was established as a state owned private company with the intention of the Government being the majority share holder with 51% of the equity. The balance share capital is to be raised from the private sector and multi lateral agencies. The Cabinet has also given approval to release Rs. 100 million from the treasury as the initial capital of the SLCF. However so far funds have not been released

The main role of SLCF is to promote CDM project development by providing financial and technical assistance to prospective CDM projects.

The objectives of SLCF are

a) To provide technical and financial assistance to the CDM Project developers for the preparation of project documentation.

b) To facilitate bundling of small CDM projects.

c) To facilitate access to capital funding for CDM projects through commercial banks.

d) To provide investment capital for CDM project

e) To engage in Carbon Trading through purchasing and subsequent sale for Carbon Credits

Specific activities to be done under SLCF

a) Establish links with multilateral financial institutions and other relevant stakeholders
b) Fill the financial and technical gaps among the stakeholders and project developers
c) Awareness creation and capacity building among stakeholders
d) Facilitate liaison between the project developers and the government sector clearing agencies

## 2 Proposed action plan

In 2008, SLCF commissioned Ernst & Young as a consultant to prepare a Corporate Strategy. The activities SLCF can engage in relation to the objectives of SLCF as indentified in this Corporate Strategy are as follows:-

| Objective of SLCF | Activities | Revenue source |
|---|---|---|
| (a) To provide technical and financial assistance to the CDM Project developers for the preparation of project documentation | • Assist in project identification, formulation and provide CDM knowledge<br>• Assist in structuring projects and project development<br>• Assist Projects up to registration, (preparation of Pins, PDDs)<br>• Assist validators during validation stage<br>• Provide financial assistance to Prepare PDD's and Validation (if necessary) | No charges are envisaged for providing this service<br>Facilitation fees<br>Interest charges for any advances |
| (b) To facilitate bundling of small scale CDM projects | • Indentify suitable projects for bundling and pCDM<br>• Provide technical advice and information on Bundling and pCDM<br>• To function as the coordinating and management entity for bundling and pCDM activities | Facilitation fees & Service charges |
| (c) To facilitate access to capital funding for CDM projects through commercial banks. | • Offer assistance to banks especially SME oriented Banks in appraising CDM aspects of projects<br>• Offer technical information to Banks<br>• Possibility of providing guarantees against CERS for CDM projects registered with UNFCCC | • No charges are envisaged for providing these services<br>• Guarantee fees form CDM Project developers |
| (d) To provide investment capital for CDM project | To invest in CDM projects by way of ordinary and preference shares, convertible debentures, etc | |
| (e) To engage in Carbon trading through purchasing and subsequent sale for Carbon credits | Engage in Brokering and trading on Carbon credits by identifying buyers, negotiating on behalf of sellers and assist in structuring ERPAs | Brokering fees<br>Sale of CERs |

This Corporate Strategy recommends that SLCF engages in activities falling under the objectives of (a), (b), (c) and (e) through SLCF itself, but conduct the investments activities falling under objectives (d) through a separate Trust Fund managed by SLCF.

The reasons for recommending setting up of a separate Trust Fund for the purpose of investments in CDM projects are

a) Requirement of a large capital outlay
b) Sharing of risks
c) Model for attracting private sector equity from Sri Lankan as well as from foreign sources.

A detailed explanation of a Trust Fund and its operation are given in the Annex 1 (a) and (b)

### 2.1. Investment by GOSL in the equity of SLCF

The original plan envisaged that the Government of Sri Lanka (GOSL) invests Rs 100 million (51% of equity) in SLCF initially and the balance equity to be raised from the private sector. Even with a government investment of Rs 100 million, it will be difficult for SLCF to obtain private equity without a track record and an active project pipeline. Further, with the initial investment is now reduced to RS 50 million, it will not be prudent for SLCF to engage in investments activities in CDM projects.

### 2.2. Implementation plan

In order to attract private sector investment and make an effective contribution to the CDM project development process in Sri Lanka, it is recommended that SLCF develop its operation in two Phases.

Phase I – Commence activities such as carbon trading, brokering and providing technical advisory services as described in (a), (b), (c) and (e). Engaging in these activities will enable SLCF to develop strong technical competencies and generate a steady cash flow.

During this phase SLCF could also consider providing financial assistance in the form of advances or loans for PDD development and Validation process of selected projects. SLCF could enter into agreement with project developers to recover such advances through CERs

Thus with a strong CDM project portfolio, established track record, and a good operational structure SLCF could launch the 2nd Phase to attract private investment.

Phase II – Engage in investment activities of CDM projects through equity and debt instruments either on its own (by SLCF) or through a "Trust Fund" (as recommended in the Corporate strategy) with the participation of the private sector and MLA. With a strong track record, a good operational structure, and a brand name, private sector will

have the confidence to invest either in SLCF or in the Trust Fund managed by SLCF. It is envisaged that SLCF could commence this Phase after about one year of operation.

*It is to be noted that E&Y has only made a recommendation. The decisions whether to set up a separate fund to conduct investment activities or whether to conduct investments under SLCF should be made by board of Directors of SLCF after a careful evaluation*

### 2.3. Organization structure and Staff Requirements

The full organization structure as envisaged in the Corporate strategy is given in Annex 2. However in order to commence Phase I, it is recommended that the following staff are recruited

a) To recruit two executives, Executive, CDM Services and Executive, Finance and Admin immediately

b) To recruit an Executive Carbon Trading and a Marketing Executive three months after recruiting the previous staff

c) The two consultants, CDM Project Development Expert Dr Lalani Samarappuli and Carbon Fund Development Expert, Sudarshan Senaratne who are currently employed by JICA, to handle the technical and the operational aspects respectively.

   It is to be noted that the two consultants working in these positions will be available only up to September 2011. Therefore two managers need to to be recruited for these positions from September onwards. These two managerial positions have already been identified in the Corporate Strategy as well as in the letter submitted by SLCF to the Director General, Management Services Department, Ministry of finance Planning on 21st October 2008.

d) To recruit a CEO or appoint one of the above two Consultants as a temporary /acting CEO for a period of about three months in order to commence SLCF operations.

The detailed requirement of the staff and the organisation structure is given below.

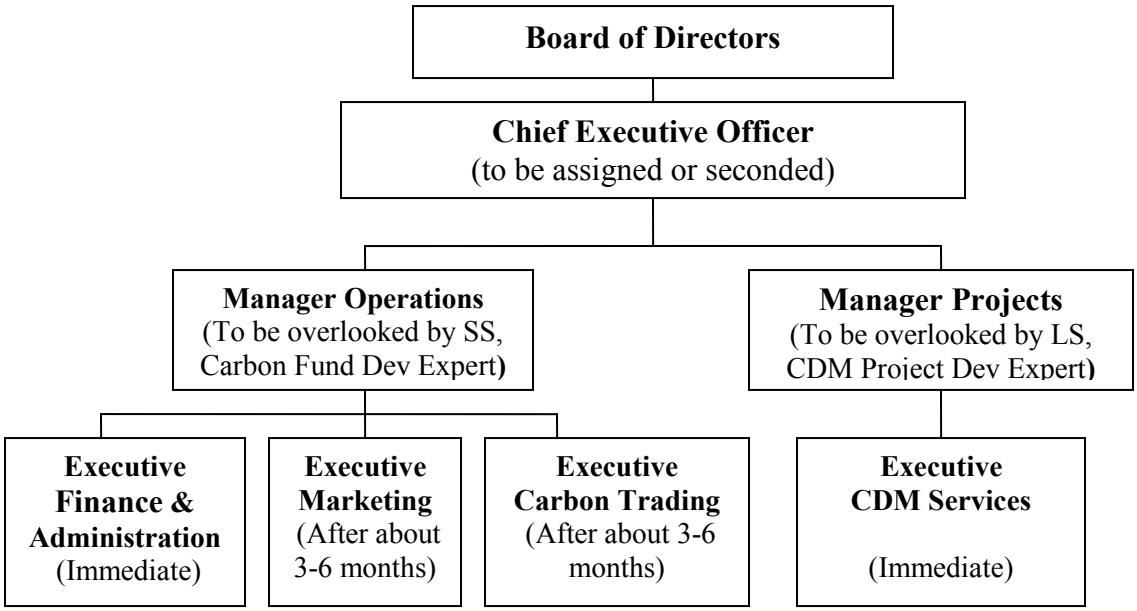
| Staff | Main Role | Profile |
|---|---|---|
| Executive CDM services<br><br>(Immediate requirement) | To follow up with projects (current and projects to be implemented) and assess the situation with regard to availability of CERS<br><br>Also requires to asses the type of assistance needed to each of these projects | An Engineering or Science graduate with 3 years experience in project development. Preference to be given to those with CDM knowledge<br><br>Salary proposed Rs 40,000 p.m. |
| Finance and Admin Executive | To maintain all financial transactions and accounts of SLCF Fund and also to attend to administration functions initially | A graduate or a professional with full or part qualification and experience in both public and private sector<br><br>Salary proposed Rs 40,000 p.m. |

| | | |
|---|---|---|
| Executive Carbon trading | To indentify buyers and establish build contacts with foreign carbon buyers and to monitor and negotiate prices | A graduate/professional with a background and experience in financial and export marketing<br>Salary proposed between Rs 40,000–60,000 p.m. |
| Marketing Executive | To identify prospective CDM project developers and market the services of SLCF | A graduate/professional with marketing experience and some knowledge in CDM<br>Salary proposed Rs 40,000 – Rs 60,000 p.m. |
| Managers | | |
| Manager Operations | To replace and take over the function of the present Carbon Fund Development Expert, Sudarshan Senaratne | This role subsequently to be developed as the Manger Fund & Marketing described in the Corp Strategy |
| Manager Projects | To replace and take over the functions of current CDM Project Development Expert Dr Lalani Samarappuli | As described under the Corporate strategy |

NOTE - During the discussion with Mr Sugimoto, the Mr Samaratunga, Secretary, Ministry of Environment expressed the view that the uncertainty of the continuation of the Kyoto protocol in the current format beyond 2012 may impact the nature of future operations of SLCF. As a result the secretary was of the view that there could be a risk in recruiting permanent staff for SLCF. Accordingly the Secretary suggested that some of the positions especially the operational positions be filled with staff seconded from the government service while for the specialized areas SLCF recruit consultants on Contract basis.

### 2.4. Proposed Organization Chart for the Phase I

The organisation chart required to conduct the fully-fledged operation of SLCF as developed in the Corporate strategy is given in Annex II. However, during the Phase I the organisation structure required to handle the operation of SLCF with the above staff is given below




### 2.5. Budget for Phase 1

**The proposed budget for SLCF during the Phase 1 is given below**

Although it is expected that fees are to be earned during this stage, such revenues could be very marginal and therefore not taken into account.

| **Budget Item** | **Rs** |
|---|---|
| Revenue expenditure ( see note below for details) | 4,500,000 |
| Capital expenditure ( see note below for details) | 1,000,000 |
| Advance and Loans to be provided for PDD and validation | 20,000,000 |
| Provision to Purchase CER stocks for trading activities | 24,500,000 |
| **Total** | 50,000,000 |

Although it is expected that fees are to be earned during this stage, such revenues could be very marginal and therefore not taken into account.

**Details of Revenue and Capital Expenditure**

| **Capital Expenditure** | **Rs 000** | **Basis** |
|---|---|---|
| Computers & office equipments | 600 | 6 computers @ 75,000+Printeres, servers etc |
| Furniture | 400 | 6 tables and chairs, Cupboards etc |
| **Total capital expenditure** | **1000** | |
| | | |
| **Other Expenses Annual** | | |
| Two Managers | 900 | Based on organization structure for stage 1 |
| Staff Salary+ Benefits | 2,300 | Proposed organization structure for stage 1 |

| | | |
|---|---|---|
| Rent | 200 | Rs 35,000 per month from July 2011 onwards |
| Electricity and Utilities | 150 | Rs 25,000 per month from July 2011 onwards |
| Travelling | 300 | Rs 30,000 per month from Mar –Dec 2011 |
| Stationery | 150 | Rs 15,000 per month from Mar onwards |
| Telephone & Internet | 150 | Rs 15,000 per month from Mar -Dec 2011 |
| Postage & Office Maintenance | 100 | Rs 10,000 per month from Mar -Dec 2011 |
| Marketing & Promotion | 250 | RS 25,000 per month from Mar- Dec 2011 |
| Total Revenue expenditure | 4,500 | |
| Total Operational Budget | 5,500 | |

## 3 Recommendations

It is recommended that the SLCF obtain the approval of the board of directors for the following

a) To approve the above Operational Plan especially to commence operations of Phase I by providing Facilitation, Brokering and Carbon Trading.

b) To obtain an investment of Rs 50 million in SLCF from the Government of Sri Lanka in order to commence operations

c) Approved the recruitment of the following staff

   To recruit the following with immediate effect

   - Executive CDM services
   - Finance and Administration Executive

   To recruit the following within about 3 -6 months depending on the progress

   - Executive Carbon trading
   - Marketing Exec

d) To appoint the two consultants, CDM Project Development Expert Dr Lalani Samarappuli and Carbon Fund Development Expert, Sudarshan Senaratne who are currently contracted by JICA, to handle the technical and the operational aspects respectively up until recruitment are made for these positions.

e) To Appoint a CEO to conduct the affairs of the SLCF.

   However, as this process could take another 3 months, during the interim period one of the two consultants currently mentioned above could be appointed to the SLCF on a temporary basis.

**Sudarshan Senaratne**
**Carbon Fund Development Expert, JICA**
**23rd February 2011**

## ANNEX 1

## SETTING UP OF A TRUST FUND TO CONDUCT INVESTMENTS IN CDM PROJECTS

The Corporate Strategy recommends that the proposed investment activities of SLCF are conducted through a separate Trust Fund managed by SLCF. The functional structure of the proposed Trust Fund is given in the Annex 1 (b)

One of the reasons for slow growth of CDM projects in Sri Lanka is the lack of capital available for investments and financing of CDM projects. One of the main functions of SLCF is to fill this gap. However in order to invest in a portfolio of CDM projects, SLCF will require a very large capital outlay. It will not be possible for SLCF to make investments in several CDM projects with an equity capital of Rs 50 million. As it will also be difficult to get private sector investments at this stage, the risk exposure for SLCF will be very high.

**The Operations of the Trust Fund**

This Trust Fund will invest in CDM projects in the form of equity, (ordinary and preference shares), convertible debentures, and loans and will be managed by SLCF. It is also proposed that the investment decisions will be made by an Investment Committee of SLCF. The Trust Funs will have a board of trustees who will approve the investment decisions based on the recommendation of the Investment Committee of SLCF.

**The Investment Structure**

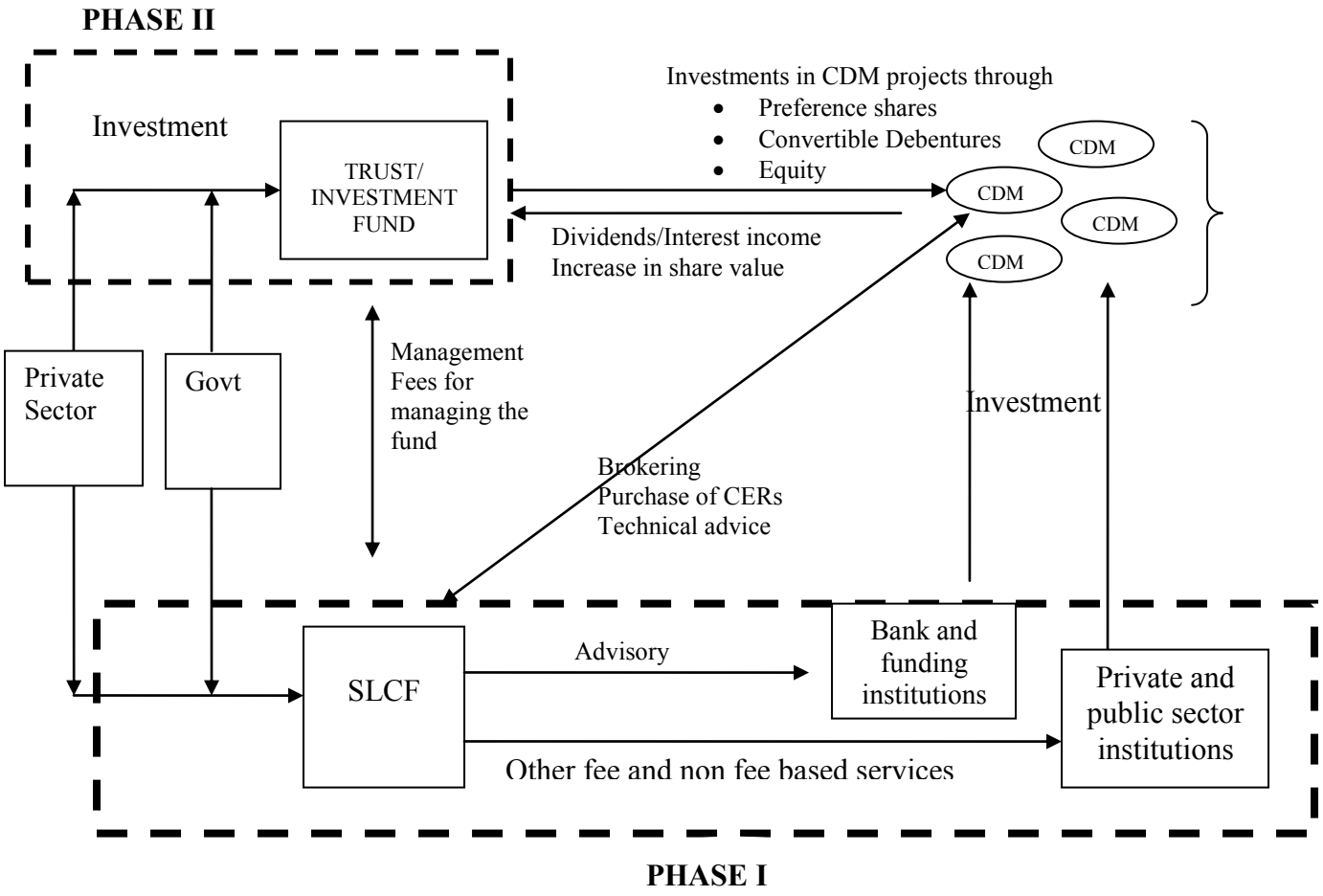
The trust fund will offer units for potential investors. It is proposed that the Carbon fund will invest RS 50,000 million of its funds in the Trust fund. In addtion, the Trust Fund can issue units to the private sector investors and MLAs. The trust fund will receive an income through investment activities in CDM Project in the form of dividends and interest. In addition the unit/share holders can also benefit from the appreciation of the value of the equity investments in projects.

**The advantage of setting up of a Trust fund for investments in CDM projects**

a) Through the Trust Fund the government/SLCF will be able to mobilse private sector and MLA equity in large scale. Although this arrangement could increase the share of the private sector investment in the trust fund more than 50%, SLCF can still have the management control of the fund through an appropriate agreement.

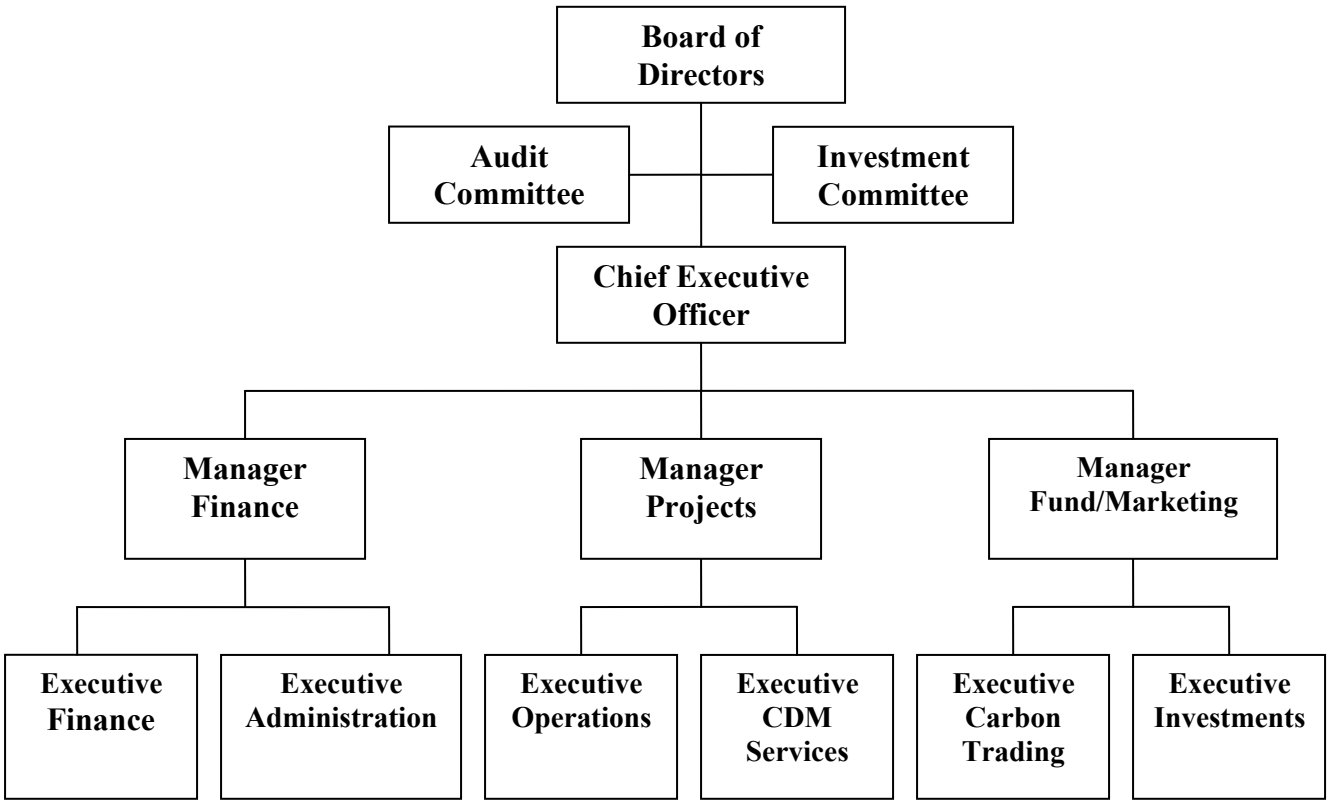
b) The risks associated with the investments can be fairly high. However under this arrangement, SLCF's will the flexibility to engage in much large scale operation by sharing the risks. Further any such risks will not affect its other fee based operations.

## FUNCTIONAL STRUCTURE OF TRUST FUND



**ANNEX II**

## ORGANIZATION CHART FOR PHASE II (PROPOSED UNDER THE CORPORATE STRATEGY)




Note - The positions indicated above are described in detail under the corporate strategy

**Implementation schedule**

| | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Appoint CEO & other managers | | | | X | | | | | | | | | |
| Recruit following staff - | | | | | | | | | | | | | |
| - Executive CDM services | | | | | X | | | | | | | | |
| - Finance and Admin exec | | | | | X | | | | | | | | |
| - Executive Carbon trading | | | | | | | X | | | | | | |
| - Marketing Exec | | | | | | | X | | | | | | |
| Manager Operations (*) (to replace the current Carbon Fund Development Expert) | | | | | | | | | | X | | | |
| Manager Projects (*) (to replace the current CDM Project Development Expert) | | | | | | | | | | X | | | |
| Training of staff | | | | | X | X | X | X | | | | | |
| Follow up on data base on CDM projects, offer SLCF services and assess availability & delivery of CER | | | | | | x | x | x | x | x | x | x | x |

## ANNEX III: POTNETIAL OPPORTUNITY FOR SRI LANKA CARBON FUND

The updated status of the projects which are registered and are under validation is given below.

| CDM projects | Number | Estimated CER ($tonCO_2/yr$) |
|---|---|---|
| **1. Registered CDM projects (currently in operation** | **7** | **210,168** |
| (1) CER buyer identified (with ERPA) | 6 | 196,684 |
| (2) CER buyer not identified | 1 | 13,484 |
| **2. Projects under validation** | **16** | **387,592** |
| (1) Final phase of validation | 4 | 48,761 |
| (2) In process for VER acquisition | 5 | 106,737 |
| (3) Others (under validation) | 7 | 232,094 |
| **Total** | **23** | **597,960** |

- There are 4 projects at the final stage of validation, looking for the buyers (approx. 50,000tonCO2 or 450,000EURO)
- The total number of CDM projects currently under validation is 16 (approx. 400,000tonCO2 or 3,600,000EURO)

According to the above list there are 7 projects which have been registered. Of these, 6 have already entered into sales agreements with buyers to sell CERs. Only the "Adavikanda, Kuruwita Division Mini Hydro Power Project" (6.5MW), which was registered in August 2010, has not yet identified any buyers. This project has the potential to generate about 13,500 CERS.

Of the CDM projects that are under validation, the following projects are nearing completion of validation and are expected to register with UNFCCC over the next three months. Most of them have started construction pending UNFCCC registration.

| Start date of validation | Project Title | Estimated CER ($tonCO_2/yr$) |
|---|---|---|
| Feb. 2009 | Somerset Upper Neluwa and Palmerston Small Scale Hydropower CDM Project in Sri Lanka (4.45MW by 3 units) | 13,118 |

| | | |
|---|---|---|
| May 2009 | Mampuri Wind Power Project (風力: 10MW with 8 wind turbines) | 18,771 |
| Aug. 2009 | Gantuna, Udagama, Ethamala Ella and Sheen Small Scale Hydropower Project in Sri Lanka (3.76MW by 3 units) | 9,564 |
| Sept. 2010 | Branford Mini Hydro Power Project (2.5MW) | 7,308 |
| | **Total** | **48,761** |

None of the above projects has got any buyers still and therefore they are interested in identifying buyers for their CERs. Further, these project developers do not have sufficient knowledge about the selling process and to how to negotiate prices.

As one of the primary objectives of the Sri Lanka Carbon fund (SLCF), is to assist project developers to engage in carbon trading, these projects provide and ideal opportunity for SLCF to commence operation by identifying buyers and negotiate suitable prices on behalf of these companies.

The JICA team could advice SLCF on possible options, make appropriate recommendations with regard to pricing and help identify and negotiate buyers.

Accordingly it is recommended that SLCF recruit or assign/second a suitable officer from the CCD to the SLCF so that he /she can work with the JICA team to understudy the trading process and the pricing mechanism.

# ANNEX IV: ROLE OF CARBON FUND IN CER TRANSACTIONS

## 1. Market prices for CERS

After peaking above 20 Euros per unit, the average spot price for CERs dropped drastically as a consequence of the 2008 financial crisis which led energy demand to fall. CER spot price finally bottomed just above 7 Euros in February 2009 and has since then partially recovered, as illustrated by Figure 1 below.


Figure 1: Daily fluctuations for EUA and CER prices since April 2008
Source: State and trends of Carbon market 2010- World Bank

A few US States or single countries have implemented a cap and trade system (e.g. California or New Zealand) but the European Union Emission Trading Scheme (EU ETS), which applies to the entire European Union, remains from far the biggest and the most constraintful system to date. As a result, not only 75 % of the global carbon transactions involves EU ETS companies but also CER and EUA prices tend to fluctuate in similar directions.

Price offered for CERs depends on numerous factors and may vary significantly from one project to another. While CDM project characteristics represent an important factor in price setting (e.g. N2O and HFC projects tend to attract less buyers than renewable energy or forestry projects but forestry projects usually offer lower return than renewable energy due to the non-permanency issue. Similarly, projects developed in China are not as valuable as projects developed in Least Developed Countries), client self preferences as well as purchase agreement clauses tend also to influence the price offered for CERs.

## 2. Main steps of CERs sales transactions

CERs' final users, located in Annex I countries, rarely trade directly with CDM project owners based in non-Annex I countries. There are two main reasons to explain this

transaction structure involving one or several intermediaries: first, this enables, from a final user perspective, to limit the transaction risk (e.g. default of project owner, risks associated with registration failure and/or risk of mischief in conducting monitoring activities...); second, in case of small-scale projects, this enables the intermediary firm to gather CERs from several projects to reach final user's volume requirements. CERs will then be used by the final user to offset its CO2 emissions.

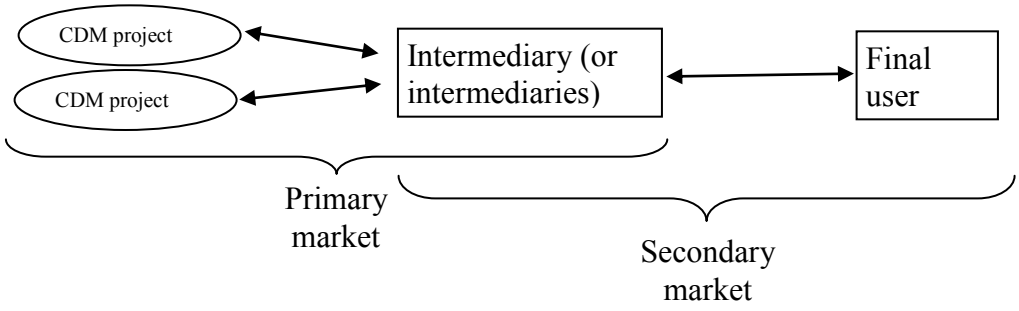



Figure 2: A standard CER transaction involving intermediaries

In a standard transaction, as showed by Figure 2, one or several intermediaries gather CERs from several CDM projects. For CERs are bought directly from project owners, the transaction are called "primary purchase". This primary intermediary may send either to other intermediaries or directly to the final user. As this transaction consists in re-selling CERs previously purchased, it is called "secondary transaction".
With regard to Sri Lanka projects, it looks necessary to use at least two intermediaries, as CER volume for each project is particularly low. Hence, a first intermediary would be in charge to gather CERs by purchasing CERs from several project owners. However, as the total amount gathered, estimated at less than 50,000 mt per year, makes any transaction between this first intermediary and a final user rather unlikely. In order to transact with a final user, a second intermediary is expected to purchase the CERs from the first intermediary and then aggregate them with other CERs purchased from other places in the world to increase the volume and reach the volume required for transacting with final user.

It is worth noting that a few market places exist for CERs around the world. The biggest with regard to exchange volume is currently the ECX (European Climate Exchange). However, all these market places are barely accessible to non-financial firms, as financial deposits are commonly required to cover liabilities that may occur through trading activities. This deposit equals several million dollars in case of the ECX. Furthermore, guarantees are required by the market place with regard to volume and delivery date. Overall, it looks impossible for small project owners in Sri Lanka to sell their CERs on market places like ECX. This is the reason why most of the primary transactions are concluded over the counter.

## 3. Opportunity for SLCF

As highlighted in both the corporate strategy and business plan, one of the primary functions of SLCF consists in assisting Sri Lankan CDM project developers to market and sell their CERs. The concerned CDM projects are listed below. All of them are to be registered by the UNFCCC shortly:

| Start date of validation | Project Title | Estimated CER ($tonCO_2/yr$) |
|---|---|---|
| Feb. 2009 | Somerset Upper Neluwa and Palmerston Small Scale Hydropower CDM Project in Sri Lanka (4.45MW by 3 units) | 13,118 |
| May 2009 | Mampuri Wind Power Project (Wind: 10MW with 8 wind turbines) | 18,771 |
| Aug. 2009 | Gantuna, Udagama, Ethamala Ella and Sheen Small Scale Hydropower Project in Sri Lanka (3.76MW by 3 units) | 9,564 |
| Sept. 2010 | Branford Mini Hydro Power Project (2.5MW) | 7,308 |
| | **Total** | **48,761** |

As indicated before, it may be really challenging for individual project owners to contract on their own with final user, due to volume issues and transaction risk. It is advisable to treat the four projects' CERs as a basket and to seek a bargaining position with potential buyers. This is called "Layering", an umbrella agreement that includes several potential projects at a single site and/or are managed by single project entity, in this case SLCF.
SLCF is expected to facilitate the sale of these single owners' CERs by:

- gathering the whole CERs to reach attractive size;
- providing an access to international buyers;
- negotiating with international buyers to make sure that the price offered is consistent with international standards;
- developing and overviewing legal documents;
- providing financial guarantee required by international buyers (which impacts significantly on the purchase price offered by international buyers).

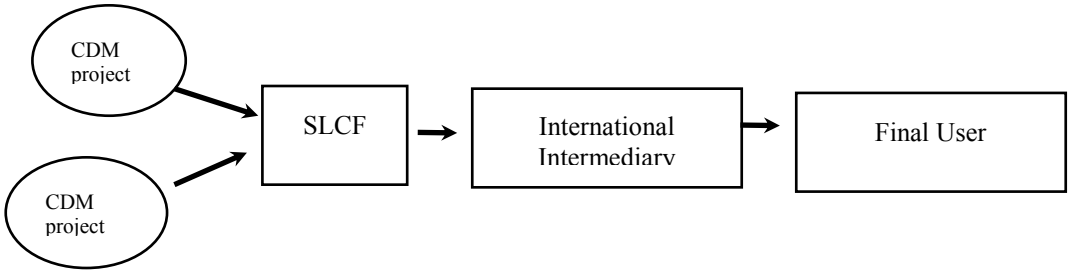



Figure 3: A possible transaction scheme involving SLCF.

As exhibited in section 1 of this note, the CER prices are largely driven by EUA's demand and supply balance. Price for secondary CERs are discounted about 30% with reference to spot price (i.e. secondary price) in order to reflect issuance and project default risks. In other words, the average price offered to CDM project owner is about 30 % lower than the price paid on a spot basis by the final user. Hence, for instance, if the spot price equals 12 euros, CDM project owner are expected to sell each of their CERs for about 8.4 euros.

Indexing the sale price on the spot price (e.g. 70 % of spot price) is the most common technique, as it enables to limit risk for both parties. A floor price is also usually attached to this price structure to enable the project owner to recover the total costs related to CER issuance. This floor price is generally around 3 euros and simply aims to avoid loss in case of market crash. This floor price does not aim to lock a profit.

However, it is worth underlining here that purchase structure may further influence the price offered on the primary market. For instance, if the project owner requires a fixed price (i.e. he will sell the whole issued credits at a fixed price throughout the entire crediting period), the price offered, assuming a spot price of 12 euros, would definitely be lower than 8.4 euros, and more probably around 7.5 euros, as the intermediary as then to bear some significant price fluctuation risk.

## 4. ERPA- Emission Reduction Purchase Agreement

Whatever the market considered (primary or secondary), it is necessary for the buyer and the seller to enter into an agreement called Emission Reduction Purchase Agreement (ERPA). Some standard form has been provided by the International Emissions Trading Association but it is worth highlighting that only really few international buyers are using such a standard which is much too incomplete.
The areas covered under the ERPA are given in the Annex 1.

## 5. Options available for SLCF

It appears that SLCF has two options:

a) LAYERING: SLCF purchases CERs from each project owner, using ERPA, and then contract under his own name with an international intermediary for the 48,000 CERs. Typically, SLCF would purchase CERs from the project owners at a price of about 70 % of the spot price and sell them to the international intermediary firm at a price of about 80 % of spot price. The expected margin equals 8 % of the spot price (i.e. 0.96 euros per mt if the spot price equals 12 euros).

b) BROKERAGE: SLCF is granted a mandate from the CDM project owners to sell the whole issued CERs. SLCF can then gather the credits and negotiate the transaction with the international buyer. However, the ERPA will be signed between each project owner and the international buyer. For such a service, a brokerage fee of about 4 % of the total transaction amount can be expected. This amount shall be discussed with the CDM project owners.

The key points, advantages and disadvantage of the two options are given below:

| OPTION | Key Points | Advantages | Disadvantages & Risks |
|---|---|---|---|
| LAYERING | SLCF needs to sign ERPA with each individual seller and another ERPA with the international buyer | Better negotiation power with both sides, as SLCF becomes the owner of the credits<br><br>Profit more attractive than brokerage | May need to allocate funds up to about Rs 50 million to purchase CERs<br><br>May be risky if SLCF buys at a fixed price and sell at indexed price |
| BROKERAGE | SLCF facilitates the negotiation and assist project owners in ERPA signature<br><br>SLCF needs to sign a separate agreement with each of the sellers to charge a brokerage fee /commission. Needs to collect such fees when the seller receives money from the buyer | Risk is lower as SLCF is not the owner of the credits<br><br>Commission fluctuates with market price but no risk of loss | Hard for buyers to justify the position if the negotiation prolonged<br><br>Will need to follow up with seller to collect fees /commissions |

## 6. Pricing options

The following table summarises the price and commission, in euros, that could be expected by each party according to both scenarios (assuming a CER spot price of 12 euros):

| OPTION | Price for the seller (per CER) | | SLCF margin (per CER) | |
|---|---|---|---|---|
| | Fixed price for CERs | Spot indexed price for CERs | Fixed price for CERs | Spot indexed price for CERs |
| LAYERING | 7.5 | 8.4 | 0.96 | 0.96 |
| BROKERAGE | 7.5 | 8.4 | 0.48 | 0.48 |

The indicative prices indicated above represent AN AVERAGE. Fluctuations (+/- 10%) may occur according to project specificities. For instance, projects with the largest amount of CERs are expected to get slightly more than smaller projects.

On the above basis SLCF, the gross margin for SLCF will be

| OPTION | SLCF margin | | |
|---|---|---|---|
| | (per CER) euro | For total CERs (48,000) | |
| | | Euro | RS |
| LAYERING | 0.96 | 46,080 | 7,050,240 |
| BROKERAGE | 0.48 | 24,040 | 3,525,120 |

1euro = Rs 153

## 7. Recommendations & way forward

At present, JICA Expert team is in a position to identify potential buyers. Preliminary conversation with potential buyers turned out to be positive with both project features and SLCF's involvement in transaction. It should, however, strongly took into account that CER is a commodity product and unavoidable its highs and lows. It is also true that buyers have wide selections of credits to compare with Sri Lankan offer.

Therefore relatively small Sri Lankan projects have to face fierce competition with larger and economically efficient projects from neighboring countries. Under the market situation like this, it is difficult for Sri Lankan project to draw buyer's attention. It is therefore important to initiate collective action through SLCF, now, to assist the Sri Lankan project to stand out in the market.

In order to engage in trading the above CERS, SLCF needs to follow the step given below

a) Determine types of transaction commitment of SLCF, either buyer or broker.

b) As a buyer

- SLCF to sign a MOU with the seller to appoint SLCF ; i) to negotiate with potential buyer and ii) give SLCF its priority to negotiate with the seller
- SLCF to negotiate with the potential buyer and obtain the offer prices
- Based on this offer SLCF to make a formal offer for CER subject to signing of ERPA and a validity period for the prices
- If the offer is accepted by the Seller, SLCF to prepare and sign the ERPA with the Seller
- Simultaneously SLCF should also sign an ERPA with the Buyer

c) As a broker

- SLCF to sign a separate contract the Sellers for brokerage services and
- Assist the seller to negotiating with buyers for signing of ERPA directly with the buyer.

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THE PROJECT FOR CAPACITY DEVELOPMENT OF CDM

# CDM PORTFOLIO

# SRI LANKA

MINISTRY OF ENVIRONMENT

JAPAN INTERNATIONAL COOPERATION AGENCY

[Registered]

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 26 | Hydro power | Magal Ganga Small Hydropower Project | Eco-Power (pvt) Ltd. | Dr. Romesh Bandaranaike<br>Chief Executive Officer<br>Eco-Power (pvt)Ltd.<br>No.2, Gower Street,<br>Colombo 05, Sri Lanka<br>Tel: +94-11-4513470~2<br>Email:<br>ecopower@itmin.com | Registered | Started operation | 1-Jan-2004 | 10 years | 34,179 |
| 27 | Hydro power | Alupola and Badulu Oya Small Hydropower Project | Eco-Power (pvt) Ltd. | Dr. Romesh Bandaranaike<br>Chief Executive Officer<br>Eco-Power (pvt)Ltd.<br>No.2, Gower Street,<br>Colombo 05, Sri Lanka<br>Tel: +94-11-4513470~2<br>Email:<br>ecopower@itmin.com | Registered | Started operation | 1-Jan-2003 | 10 years | 31,327 |
| 28 | Hydro power | Hapugastenna and Huluganga Small Hydropower Project | Eco-Power (pvt) Ltd. | Dr. Romesh Bandaranaike<br>Chief Executive Officer<br>Eco-Power (pvt)Ltd.<br>No.2, Gower Street,<br>Colombo 05, Sri Lanka<br>Tel: +94-11-4513470~2<br>Email:<br>ecopower@itmin.com | Registered | Started operation | 1-Jan-2002 | 10 years | 44,842 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 30 | Hydro power | Adawikanda Kuruwita division Mini Hydropower Project | Alternate Power System Pvt.Ltd., Mitsubishi UFJ Securities Co., Ltd | Mr. Russell De Zilva<br>Jt. Chief Executive Officer<br>Alternative Power Systems Pvt. Limited<br>27-02 East Tower, World Trade Center<br>Colombo, Sri Lanka<br>Tel: +94-773635326<br>E-mail: russell@vallibel.com | Registered | Started operation | 21-Jan-2008 | 7yrs (with renewal up to 21yrs) | 13,484 |
| 96 | Hydro power | Sanquhar and Delta Small Hydropower Projects | Hydro Power Free Lanka (pvt) Ltd. | Mr. AlexisGoybet<br>Project Director<br>Hydro Power Free Lanka (pvt) Ltd.<br>No.228, Havelock Rd.<br>Colombo 05, Sri Lanka<br>Tel: +94-11-4516903/4516904<br>E-mail hpfl@sltnet.lk | Registered | Started operation | 4-Jan-2001 | 7yrs (with renewal up to 21yrs) | 5,489 |
| 114 | Biomass | Coconut Shell Charcoaling and Power generation at Badalgama, Sri Lanka | Recogen Limited, Japan Carbon Finance, Ltd. | Mr. Balaratharajah Bremen<br>Project Manager<br>Recogen Limited<br>400, Deans Road,<br>Colombo 10, Sri Lanka<br>Tel: +94-112-683961, 677362<br>Fax: +94-112-699630, 699299<br>Email: bb@haycarb.com | Registered | Started operation | 1-Apr-2009 | 10 years | 43,265 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 122 | Biomass | 10MW Biomass Power Generation Project - Tokyo Cement, Trincomalee | Tokyo Cement Company (Lanka) Ltd, Japan Carbon Finance Ltd. | Mr. Christopher Fernandot<br>Chief Executive Officer<br>Tokyo Cement Company (Lanka) Ltd.<br>469 1/1, Galle Road,<br>Colombo 03, Sri Lanka<br>Tel:+94-11-2500466 / 2587619<br>Fax:+94-11-2500897<br>Email: tokyogm@sltnet.lk | Registered | Started operation | 8-Sep-05 | 7yrs (with renewal up to 21yrs) | 43,800 |

**[Validation]**

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 2 | Biomass | Ansell Biomass Boiler Project in Colombo Sri Lanka | Ansell Lanka (Pvt) Ltd | Mr.Rodzali Abdul Raman<br>Ansell Lanka (Pvt) Ltd.<br>Biyagama Export Processing Zone<br>Colombo, Sri Lanka<br>Tel:<br>Fax:<br>Email: | Validation | Started operation | 1-Jan-2011 | 7yrs (with renewal up to 21yrs) | 17,423 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 4 | Biomass | Programmatic CDM of Biomass (Gliricidia) Utilisation for Thermal Energy to Be Used at Industrial Facilities | Biomass Energy Association, EX Corporation | Ai Kawamura<br>EX Corporation<br>Tel: +94-776762658<br>Fax:<br>Email: kawamura@exri.co.jp | Validation | Planning | 1-May-2011 | 10 years | 13000 |
| 5 | Biomass | Biomass Thermal Energy CDM project at Valaichchenai Paper Mills in Sri Lanka | Nature Solutions Pvt. Ltd. | | Validation | Started operation | 1-Feb-2012 | - | 21,264 |
| 25 | Hydro power | Somerset Upper Neluwa and Palmerston Small Scale hydropower CDM project in Sri Lanka | Hayleys Industrial Solutions Ltd. | Mr.Anura De Silva<br>General Manager<br>Hayleys Industrial Solutions Ltd.<br>Tel/Fax: +94-11-2674573<br>E-mail: anura.desilva@infrastucture.hayleys.lk | Validation | Started operation | 1-Jun-2009 | 7yrs (with renewal up to 21yrs) | 13,118 |
| 41 | Hydro power | Kithulgala Small Scale Hydropower CDM Project in Sri Lanka | Kithulgala Hydro Power (Pvt) Ltd.<br>Vallibel Lanka Pvt. Ltd.<br>Nature Solutions | Mr.Aruna Dheerasinghe<br>Kithulgala Hydro Power (Pvt.) Ltd.<br>27/2, East Tower, World Trade Centre<br>Colombo 01, Sri Lanka<br>Tel: +94-112381111<br>Fax: +94-112381115<br>Email: aruna@vallibel.com | Validation | Planning | Expected date of civil construction is 1st January 2012 | 7yrs (with renewal up to 21yrs) | 20,765 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 43 | Hydro power | Ethamalla Small Scale Hydropower CDM project in Sri Lanka | Vidullanka PLC | Mr.Chamil Suranga Silva<br>Manager<br>Vidullanka PLC<br>278, Union Place,<br>Level 4, Access Towers,<br>Colombo 02, Sri Lanka<br>Tel: +94-773028756, +94-114-4760000<br>Fax: +94-114760076<br>Email: chamils@lankaeuuities.com | Validation | Started operation | 1-Nov-2008 | 7yrs (with renewal up to 21yrs) | 10,530 |
| 60 | Methane avoidance/recovery/utilization | Avoidance of methane production through composting | Aroma Agro Based Products (Pvt) Ltd<br>Research & Development International Consultants (Pvt.) Ltd.<br>Asia Carbon (Pvt.) Ltd | Mr. N.Sooriyarachchci<br>Director<br>Research & Development International Consultants Pvt Ltd<br>No.04, E.D. Dabare Mawatha, Narahenpita,<br>Colombo 05, Sri Lanka<br>Tel: +94-114518331-3<br>Email: researchdeve@sltnet.lk | Validation | | 1-Mar-08 | 7yrs (with renewal up to 21yrs) | 40,483 |
| 109 | Methane avoidance/recovery/utilization | Forced methane extraction from organic wastewater and power generation by Greenergy Power Pvt. Ltd at Sevenagala | Greenergy Power (Pvt) Ltd.<br>Research & Development International Consultants Pvt Ltd<br>Asia Carbon Pvt Ltd | Mr. N.Sooriyarachchci<br>Director<br>Research & Development International Consultants Pvt Ltd<br>No.04, E.D. Dabare Mawatha, Narahenpita, Colombo 05, Sri Lanka<br>Tel: +94-114518331-3<br>Email: researchdeve@sltnet.lk | Validation | | 8-Mar-08 | 7yrs (with renewal up to 21yrs) | 38,792 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 116 | Wind power | Mampuri Wind Power Project | Senok Wind Power (Pvt) Ltd | Mrs Pancherine Dias<br>Senok Wind Power (Pvt) Ltd.<br>No 3, R A de Mel Mawatha<br>Colombo 5, Sri Lanka.<br>Tel: +94-11- 259 3343<br>Fax: +94-11- 258 0022<br>Email: dias@senoksl.com | Validation | Started operation | 5-Jun-2010 | 7yrs (with renewal up to 21yrs) | 18,767 |

**[PDD]**

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 29 | Biomass | Small Scale Dendropower Project in Buttala | Nature Solutions Pvt. Ltd. | Thamali Jayawickrama<br>Nature Solutions (pvt) Ltd<br>No.70/5,Melder Place,Nugegoda<br>Tel: +94-112823970<br>Fax: +94-112823970<br>Email: info@naturesolutions.org | PDD | Planning | 1-Jan-2013 | - | 27,648 |
| 31 | Biomass | 2 No. Biomass Based Thermal Energy Generation Small Scale CDM Project for Lalan Rubbers (Pvt) Ltd in Sri Lanka | Lalan Rubbers(Pvt)Ltd | Mr.Justin Seneviratne<br>18, Nawala Road, Nugegoda<br>Sri Lanka<br>Tel: +94-114-311-200<br>Fax: +94 114 311 222<br>Mob +94 716 810 386<br>Email: seneviratne@lalangroup.com | PDD | | Mapa Lalan 2010/07/21 Central Rubber 2010/07/29 | 7yrs (with renewal up to 21yrs) | Mapa Lalan - 5994 Central Rubber 5788 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 34 | Biomass | Biomass Based Thermal Energy Generation Small Scale CDM project for Star Packaging (Pvt.) Ltd. | Star Packaging (Pvt.) Ltd. | Mr.R.S.G.Punchihewa<br>Star Packaging (Pvt.) Ltd.<br>Avissawella Road, Nawagamuwa,<br>Ranala, Kaduwela, Sri Lanka<br>Tel:<br>Fax:<br>Email: | PDD | | 2009 | - | 5,428 |
| 36 | Biomass | Dehiattakandiya Paddy Husk Fuelled Power CDM Project | Vidul Biomass (Pvt) Ltd. | Mr. Chamil Silva<br>Vidul Biomass (Pvt) Ltd.<br>Tel: +94-11-476-0000<br>Fax: +94-11-4770076<br>Email: chamils@lankaequities.com<br>URL: www.vidullanka.com | PDD | Planning | 1-Sep-2011 | 7yrs (with renewal up to 21yrs) | 9,334 |
| 38 | Biomass | 10MW Biomass Power Project at Tunkama, Embilipitiya with plantation development | Nelson Nagasinghe Lanka Bio Energies (Pvt) Ltd<br>Chinese collaborators | Nelson Nagasinghe<br>Faxiang Lanka Bio Energies (Pvt) Ltd.<br>Tel: '+94-(0)2907831<br>Fax: +94-(0)2905196<br>Email: bioenergies@sltnet.lk | PDD | Planning | 1-Aug-2011 | - | 60,000 |
| 46 | Energy efficiency | CFL Programmatic CDM | J-Power | Hachiro Ida<br>DPM Consulting, Inc.<br>Tel: +94-11-720 3677<br>Fax: +94-<br>Email: h-ida@plum.plala.or.jp | PDD | Planning | - | - | - |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 56 | Hydro power | Raththota small scale hydro power CDM project in Sri Lanka | AOSB Hydropower (Pvt.) Ltd. | Mr.Aruna Dheerasinghe<br>AOSB Hydropower (Pvt.) Ltd.<br>27/2, East Tower, World Trade Centre<br>Colombo 01, Sri Lanka<br>Tel: +94-112-381-111<br>Fax: +94-112-381-115<br>Email: Aruna@vallibel.com | PDD | Planning | Expected date of civil construction is March 2012 | 7yrs (with renewal up to 21yrs) | 3,072 |
| 59 | Hydro power | Kirikoswala small scale hydro power CDM project in Sri Lanka | Bogo Power Pvt Ltd | Dr. Abdul Gaffar<br>Mr. Chrysanth Jesuthasan<br>Bogo Power Pvt Ltd<br>833 Srimavo Bandaranaike Mawatha<br>Sri Lanka<br>Tel: +94-112524734<br>Email: gaff@eureka.lk | PDD | | 1-Jun-2009 | 7yrs (with renewal up to 21yrs) | 9,594 |
| 61 | Hydro power | Kiriwaneliya Mini Hydro Power Project | Aroma Agro Based Products (Pvt) Ltd<br>Research & Development International Consultants (Pvt.) Ltd.<br>Asia Carbon (Pvt.) Ltd | Mr. Russell De Zilva<br>Jt. Chief Executive Officer<br>Alternative Power Systems Pvt. Limited<br>27-02 East Tower, World Trade Center<br>Colombo, Sri Lanka<br>Tel: +94-773635326<br>E-mail: russell@vallibel.com | PDD | Underconstruction | PO : 22 March 2010 | 10yrs | 11,900 |
| 62 | Hydro power | Waverly small scale hydro power CDM project in Sri Lanka | Waverly Power Pvt Ltd | Mr. A.M.S. Kulasekera<br>Waverly Power Pvt Ltd<br>Tel: +94-112382138<br>Fax: +94-112381513<br>Email: engsunil@lankemplantations.lk | PDD | Underconstruction | 1-Sep-2009 | 7yrs (with renewal up to 21yrs) | 4,844 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 110 | Hydro power | Branford Mini Hydro Power Project | Branford Hydropower (Pvt.) Ltd. | Mr.Devan de Mel<br>Project Development Manager<br>Level 8, Aitken Spence Tower 11<br>315, Vauxhall Street,<br>Colombo 02, Sri Lanka<br>Tel: +94-112-308308<br>Fax: +94-112-345132 | PDD | | - | | 7,308 |
| 132 | Hydro power | Denawaka Ganga Mini Hydro Power Project | Country Energy (Pvt) Ltd.<br>Mitsubishi UFJ Securities Co. Ltd | Mr.Aruna Dheerasinghe<br>Country Energy (Pvt) Ltd<br>27/2, East Tower, World Trade Centre<br>Colombo 01, Sri Lanka<br>Tel: +94-112381111<br>Fax: +94-112381115<br>Email: aruna@vallibel.com | PDD | Under Construction | Effective date of contract for mechanical equipment : 16th August 2010 | 7yrs (with renewal up to 21yrs) | 14,936 |

[PIN]

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 9 | Afforestation & Reforestation | Reforestation of Degraded Forest Lands of Intermediate Zone with African Mahogany in Sri Lanka | Re-greening Lanka Private Limited | Dr.L.M.K.Tilakeratne<br>Re-greening Lanka Private Limited<br>No.181/23, Polhengoda Road<br>Colombo 05, Sri Lanka<br>Tel: +94-71-4478720<br>Email: sae@sltnet.lk | PIN | | 2010 | - | 300,356 |
| 10 | Biomass | Dipped Products Small Scale Thermal Project | Dipped Products Plc | | PIN | | 1-Jul-2011 | - | 17,044 |
| 11 | Biomass | Biomass Based Thermal Energy Generation Small Scale CDM project for Jafferjee Brothers Exports (Pvt.) Ltd. | Jafferjee Brothers Exports (Pvt.) Ltd. | Mr. Sarath Jayathilaka<br>Jaffergee Brothers Exports (Pvt) Ltd<br>#150, St. Joseph Street, Colombo 14, Sri Lanka<br>Tel: +94-11232051<br>Fax: +94-2446085<br>Email: SarathJ@jb.lk | PIN | Started operation | 10-Jul-2010 | 7yrs (with renewal up to 21yrs) | 4,714 |
| 12 | Biomass | Biomass Based Thermal Energy Generation Small Scale CDM Project for Lalan Rubbers Pvt Ltd | Lalan Rubbers Pvt Ltd | Mr.Justin Seneviratne<br>18, Nawala Road, Nugegoda<br>Sri Lanka<br>Tel: +94-114-311-200<br>Fax: +94 114 311 222<br>Mob +94 716 810 386<br>Email: seneviratne@lalangroup.com | PIN | Started operation | Sptember 2009 | - | 6,650 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 13 | Biomass | Galoya Plantations Small Scale Cogeneration Power CDM Projects | Nature Solutions Pvt. Ltd. | Danesh Abeyrathne<br>Galoya Plantations (pvt) Ltd.<br>Address: 481,T.B.Jayah Mawatha,C<br>Tel: +94-115880756<br>Fax: +94-115865606<br>Email: danesha@lankaorix.com | PIN | Underconstruction | 1-Feb-2012 | - | 10,764 |
| 15 | Biomass | Biomass Based Thermal Energy Generation Small Scale CDM Projects for Star Packaging (Pvt) Ltd | Start Packaging (Pvt) Ltd | | PIN | Underconstruction | November 2009 (date of proposal sent) | - | 1,027 |
| 16 | Biomass | Faxiang Lanka Small Scale Dendro Power CDM Project | Faxiang Lanka Bio Energy Pvt. Ltd. | | PIN | Planning | - | - | 53,821 |
| 19 | Biomass | MAS Holdings-Bundle | Noyon Lanka (Pvt) Ltd.<br>MAS Holdings Pvt. Ltd. | Shehani Gomes<br>Mas Holdings (Pvt) Ltd.<br>Tel: +94-777588823<br>Fax: +94-114762222<br>Email: sheanig@masholdings.com | PIN | Planning, Underconstruction & Started Operation | 19-Jan-2010 | - | 18,000 |
| 33 | Hydro power | Small Scale Hydro Power Project at Barcaple, Ginigathhena, Nuwara Eliya | Didul (Pvt) Ltd. | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace,<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-11-2507324<br>Email: | PIN | Started operation | - | - | 6,307 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| | | | | nishanthapathi@dialognet.lk | | | | | |
| 37 | Hydro power | Small Scale Hydro power project at Poronuwa, Kahawatta, Ratnapura | Didul (Pvt) Ltd. | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-2507324<br>Email:<br>nishanthapathi@dialognet.lk | PIN | Started operation | 27-May-04 | - | 28,382 |
| 39 | Hydro power | Small Scale Hydro power project at Barcaple, Katabulawa, Nawalapitiya | Didul (Pvt) Ltd. | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-2507324<br>Email:<br>nishanthapathi@dialognet.lk | PIN | Underconstruction | Feb-11 | 10 years | 14,191 |
| 42 | Hydro power | Small Scale Hydro power project at Maradola, Haldamulla,Badulla | Hynford Water Power (Pvt) Limited | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-2507324<br>Email:<br>nishanthapathi@dialognet.lk | PIN | Underconstruction | Oct-10 | 10 years | 7,884 |
| 45 | Hydro power | Small Scale Hydro power project at Maradola, Haldamulla,Badulla | MKV Hydro Power (Pvt) Limited | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-2507324<br>Email: | PIN | Started operation | Apr-09 | 10 years | 4,730 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| | | | | nishanthapathi@dialognet.lk | | | | | |
| 52 | Hydro power | Small Scale Hydro Power Project at Gampalawalakada, Kalawana, Ratnapura | Pantak Power (Private) Limited | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-2507324<br>Email:<br>nishanthapathi@dialognet.lk | PIN | Started operation | 2009 | - | 13,245 |
| 57 | Hydro power | Samangiri Hydro Electric Company (Pvt) Ltd. | Samangiri Hydro Electric Company (Pvt) Ltd. | Mr. P.M.N.K.Pathiraja<br>General Manager<br>2A, Sulaiman Terrace<br>Jawatta Road,<br>Colombo 05, Sri Lanka<br>Tel/Fax: +94-2507324<br>Email:<br>nishanthapathi@dialognet.lk | PIN | Started operation | 6-Nov-06 | 10 years | 7,568 |
| 72 | Hydro power | Kirkoswald Small Scale Hydro Power CDM Project | Bogo Power Pvt. Ltd. | Dr. Abdul Gaffar<br><br>Tel: +94-112524734<br>Fax: +94-<br>Email: gaff@eureka.lk | PIN | Underconstruction | Jun 2009(date of proposal sent) | - | 9,419 |
| 73 | Hydro power | Lower Atabage 2 Small Scale Hydro Power CDM Project | Dynamic Energies Pvt Ltd | Mr. P.U. Rangabandara<br>Dynamic Energies (Pvt) Ltd<br>20 D/1, Guildford Crescent, Colombo 07<br>Tel: +94-114892375<br>Fax: +94-114935318<br>Email: globala@sltnet.lk | PIN | Underconstruction | November 2009 (date of proposal sent) | - | 3,397 |
| 86 | Hydro power | Campion Small Scale Hydro Power CDM | Campion Hydro Pvt Ltd | | PIN | Planning | February 2008 (date of proposal sent) | - | 4,575 |

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| | | Project | | | | | | | |
| 98 | Hydro power | Loinorn Small Scale Hydro Power CDM Project | Campion Hydro Pvt Ltd | | PIN | Planning | February 2009 (Date of proposal sent) | - | 3,431 |
| 111 | Wind power | K.K.S Large Scale Wind and Solar PV Hybrid Power CDM Project | K.K.S Large Scale Wind and Solar PV Hybrid Power CDM Project | | PIN | Planning | 1-Feb-2012 | - | 126,114 |

**[Project Idea]**

| No | Category | Name of the Project | Project Participants | | Current Status | Operational Status | CDM project start date | Crediting Period | CER (tCO2/y) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Organization | Contact Person | | | | | |
| 108 | Energy efficiency | Installation of energy effieicnt pumping systems (Programmatic CDM) | National Water supply & Drainage Board (SEA involved as well) | Mr. M. Abeysekara (Assistant General Manager)<br>Tel: +94-773129444<br>Email: nwsdblog@sltnet.lk | Project Idea | - | 2011 | - | 8,200 |
| 127 | Methane avoidance/recovery/utilization | Waste Management Authority Project: compost/landfill/ disposer/RDF | Waste Management Authority | Mr. Saman Leelaratna<br>Waste Management Authority<br>Tel: +94-71-85-62-738<br>Fax: +94-<br>Email:<br>Address: | Project Idea | Planning | - | - | - |

Registered

## 26 Magal Ganga Small Hydropower Project

**DESCRIPTIONS**

*This CDM project aims to generate electricity through a run-of-river small hydropower project. This project will have an installed capacity of 9.9 MW and is expected to generate 40.23 GWh annually. 30,723 tCO2 of CER was issued on 9/29/2010.*

**CURRENT STATUS**

CDM Status: Registered
Host country approval: 9-May-05
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

34,179 tCO2/year

**PROJECT PARTICIPANTS**

Eco-Power (pvt) Ltd.

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/01/2004
Operation start date: Jan 2006
Crediting period: 10 years
Initial Cost: To be confirmed
Source of finance: To be confirmed
CER negotiation IFC-Netherlands Carbon Facility (IN

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, save foreign currency)
Increase employment opportunities
Reduce air pollutant emissions (NOx & SOx)

**Contacts**

Dr.Romesh Bandaranaike
Chief Executive Officer
Eco-Power (pvt)Ltd.
No.2, Gower Street,
Colombo 05, Sri Lanka
Tel: +94-11-4513470~2
Email: ecopower@itmin.com

## 27 Alupola and Badulu Oya Small Hydropower Project

**DESCRIPTIONS**

*This CDM project aims to generate electricity through a run-of-river small hydropower project. The two hydropower plants will have an installed capacity of 8.2 MW and is expected to generate 37 GWh annually.*

**CURRENT STATUS**

CDM Status: Registered
Host country approval: 9-May-05
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

31,327 tCO2/year

**PROJECT PARTICIPANTS**

Eco-Power (pvt) Ltd.

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/01/2003
Operation start date: June 2004
Crediting period: 10 years
Initial Cost: To be confirmed
Source of finance: To be confirmed
CER negotiation IFC-Netherlands Carbon Facility (IN

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities
Reduce air pollutant emissions (NOx & SOx)

**Contacts**

Dr.Romesh Bandaranaike
Chief Executive Officer
Eco-Power (pvt)Ltd.
No.2, Gower Street,
Colombo 05, Sri Lanka
Tel: +94-11-4513470~2
Email: ecopower@itmin.com

Registered

## 28 Hapugastenna and Huluganga Small Hydropower Project

**DESCRIPTIONS**

*This CDM project aims to generate electricity through a run-of-river small hydropower project. The four hydropower plants will have an installed capacity of 13.15 MW and is expected to generate 56.7 GWh annually. 224,298 tCO2 of CER (01/01/2003-30/09/2008) has been issued.*

**CURRENT STATUS**

CDM Status: Registered
Host country approval: 9-May-05
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

44,842 tCO2/year

**PROJECT PARTICIPANTS**

Eco-Power (pvt) Ltd.

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/01/2002
Operation start date: Aug 2001
Crediting period: 10 years
Initial Cost: To be confirmed
Source of finance: To be confirmed
CER negotiation IFC-Netherlands Carbon Facility (IN

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities
Reduce air pollutant emissions (NOx & SOx)

**Contacts**

Dr.Romesh Bandaranaike
Chief Executive Officer
Eco-Power (pvt)Ltd.
No.2, Gower Street,
Colombo 05, Sri Lanka
Tel: +94-11-4513470~2
Email: ecopower@itmin.com

## 30 Adawikanda Kuruwita division Mini Hydropower Project

**DESCRIPTIONS**

*This project aims to generate emission free renewable electricity and will export it to the national grid. As a result, the electricity generated from the project will replace electricity from grid connected fossil fuel based power plants while reducing greenhouse gas emission at these plants.*

**CURRENT STATUS**

CDM Status: Registered
Host country approval: 8-Jul-07
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

13,484 tCO2/year

**PROJECT PARTICIPANTS**

Alternate Power System Pvt.Ltd.,
Mitsubishi UFJ Securities Co., Ltd

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 21/01/2008
Operation start date: 25-Sep-09
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 895 Million
Source of finance: Already identified
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities
Reduce air pollutant emissions (NOx & SOx)
Improve infrastructure

**Contacts**

Mr. Russell De Zilva
/t. Chief Executive Officer
Alternative Power Systems Pvt. Limited
27-02 East Tower, World Trade Center
Colombo, Sri Lanka
Tel: +94-773635326
E-mail: russell@vallibel.com

Registered

## 96 Sanquhar and Delta Small Hydropower Projects

**DESCRIPTIONS**

*This CDM project aims to generate electricity through two run-of-river small hydropower plants with 1.6 MW capacity each. The total installed capacity of the plants is 3.2 MW and expected annual generation is 9,579 MWh. The project generates 8,932 ton of CER by Sep. 2008.*

**CURRENT STATUS**

CDM Status: Registered
Host country approval: 12-Oct-06
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

5,489 tCO2/year

**PROJECT PARTICIPANTS**

Hydro Power Free Lanka (pvt) Ltd.

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 04/01/2001
Operation start date: To be confirmed
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: To be confirmed
Source of finance: To be confirmed
CER negotiation To be confirmed

**OTHER INFORMATION**

**PROJECT BENEFITS**

Increase employment opportunities
Generate renewable energy (reduce dependence on import fuel & outflow of foreign currency)
Reduce air pollutant emissions (NOx & SOx)
Improve infrastructure

**Contacts**

Mr.AlexisGoybet
Project Director
Hydro Power Free Lanka (pvt) Ltd.
No.228, Havelock Rd.
Colombo 05, Sri Lanka
Tel: +94-11-4516903/4516904
E-mail hpfl@sltnet.lk

## 114 Coconut Shell Charcoaling and Power generation at Badalgama, Sri Lanka

**DESCRIPTIONS**

*This CDM project aims at pollution free manufacture of 26,500 tons of Coconut shell charcoal per annum while generating 8MW of electricity to National Grid via steam turbine which supplied power by waste heat and volatile gases in the manufacturing of charcoal.*

**CURRENT STATUS**

CDM Status: Registered
Host country approval: 20-Oct-05
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

43,265 tCO2/year

**PROJECT PARTICIPANTS**

Recogen Limited,
Japan Carbon Finance, Ltd.

**KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/04/2009
Operation start date: 25-Nov-05
Crediting period: 10 years
Initial Cost: USD 11 Million
Source of finance: Equity Haycarb Limited US$ 3 millia
CER negotiation 0-Jan-00

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Utilize waste gases for power generation and prevent release of these gases
Increase employment opportunities
Enhance skills of the labour

**Contacts**

Mr. Balaratharajah Bremen
Project Manager
Recogen Limited
400, Deans Road,
Colombo 10, Sri Lanka
Tel: +94-112-683961, 677362
Fax: +94-112-699630, 699299

Registered

## 122 10MW Biomass Power Generation Project - Tokyo Cement, Trincomalee

### DESCRIPTIONS

*This CDM project aims to generate sustainable environmental friendly energy (electricity), from biomass (75% rice husk and 25% fuel wood), that will be used as a stable power supply for cement production as a substitute to fossil fuel.*

**▸CURRENT STATUS**

CDM Status: Registered
Host country approval: 9-May-07
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

43,800 tCO2/year

**▸PROJECT PARTICIPANTS**

Tokyo Cement Company (Lanka) Ltd,
Japan Carbon Finance Ltd.

**▸PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Utilize waste gases for power generation and prevent release of these gases
Increase employment opportunities
Enhance skills of the labour

**▸KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 08/09/2005
Operation start date: Mar. 2007
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 650 Million
Source of finance: To be confirmed
CER negotiation To be confirmed

**▸OTHER INFORMATION**

**Contacts**

Mr. Christopher Fernandot
Chief Executive Officer
Tokyo Cement Company (Lanka) Ltd
469 1/1, Galle Road,
Colombo 03, Sri Lanka
Tel:+94-11-2500466 / 2587619
Fax:+94-11-2500897

## 2 Avoidance of methane production through composting

**DESCRIPTIONS**

*This project aims to achieve GHG emission reduction and to improve waste treatment system of a sugar industry by producing compost utilizing organic agricultural waste (81,000 ton/y of sugar cane trash and 13,500 ton/y of distillery treated spent wash) generated from the industry.*

**▸CURRENT STATUS**

CDM Status: Validation
Host country approval: 5-Jan-09
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

40,483 tCO2/year

**▸PROJECT PARTICIPANTS**

Aroma Agro Based Products (Pvt) Ltd
Research & Development International Consultants (Pvt.) Ltd.

**▸PROJECT BENEFITS**

Conserve national resources by use of agricultural waste fertilizer
Reduce the environmental impact due to unmanaged agricultural waste disposal
Reduce outflow of foreign currency through replacement of chemical fertilizer by compost

**▸KEY PROJECT INFORMATION**

Project category: Methane avoidance/recovery/utiliz
CDM project start date: 01/03/2008
Operation start date: 15-Nov-10
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD 1.2Million
Source of finance: To be confirmed
CER negotiation To be confirmed

**▸OTHER INFORMATION**

**Contacts**

Mr. N.Sooriyarachchci
Director
Research & Development International Consultants Pvt Ltd
No.04, E.D. Dabare Mawatha, Narahenpita,
Colombo 05, Sri Lanka
Tel: +94-114518331-3
Email: researchdeve@sltnet.lk

## 4 Forced methane extraction from organic wastewater and power generation by Greenergy Power Pvt. Ltd at

**DESCRIPTIONS**

*Sevenagala Sugar Industries Ltd. generates 450 m3 per day of wastewater, know as spent wash, with a COD of approx. 80,000 ppm. This project activity diverts the water treatment system at the factory from the existing open anaerobic lagoon to closed anaerobic treatment system. The methane captured displaces furnace oil currently used for steam generation at boiler.*

**▸CURRENT STATUS**

CDM Status: Validation
Host country approval: 24-Nov-08
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

38,792 tCO2/year

**▸PROJECT PARTICIPANTS**

Greenergy Power (Pvt) Ltd.
Research & Development International Consultants Pvt Ltd

**▸PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities
Reduce pollution including odor problem through introduction of energy saving technology

**▸KEY PROJECT INFORMATION**

Project category: Methane avoidance/recovery/utiliz
CDM project start date: 08/03/2008
Operation start date: 15-Dec-10
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD 1.7Million
Source of finance: To be confirmed
CER negotiation To be confirmed

**▸OTHER INFORMATION**

**Contacts**

Mr. N.Sooriyarachchci
Director
Research & Development International Consultants Pvt Ltd
No.04, E.D. Dabare Mawatha,
Narahenpita, Colombo 05, Sri Lanka
Tel: +94-114518331-3
Email: researchdeve@sltnet.lk

## 5 Ansell Biomass Boiler Project in Colombo Sri Lanka

**DESCRIPTIONS**

*The project activity intends to mitigate GHG emissions from the exiting fossil fuel fired boilers by installing a new biomass boiler. It involves the installation of a new 10.5MW biomass-fired hot water generating boiler that will be fired by renewable biomass instead of Heavy Fuel Oil (HFO).*

**▸CURRENT STATUS**

CDM Status: Validation
Host country approval: 0-Jan-00
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

17,423 tCO2/year

**▸PROJECT PARTICIPANTS**

Ansell Lanka (Pvt) Ltd

**▸KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/01/2011
Operation start date: Mid 2010 Expected
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD 2.08 Million
Source of finance: -
CER negotiation -

**▸OTHER INFORMATION**

**▸PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities
Reduce air pollutant emissions (NOx & SOx)

**Contacts**

Mr.Rodzali Abdul Raman
Ansell Lanka (Pvt) Ltd.
Biyagama Export Processing Zone
Colombo, Sri Lanka
Tel:
Fax:
Email:

## 25 Programmatic CDM of Biomass (Gliricidia) Utilisation for Thermal Energy to Be Used at Industrial Facilities

**DESCRIPTIONS**

*This programmatic CDM project aims to use collected wood chips of Gliricidia (Gliricidia sepium), a fast growing tree, and use it as a source of industrial heat under the framework of Programmatic CDM as an alternate to fossil fuel (furnace oil, diesel) and in addition to reduction of GHG and co benefits resulting from the prevention of atmospheric pollution, contribute to self reliance in terms of energy and development of rural villages and areas in Sri Lanka.*

**▸CURRENT STATUS**

CDM Status: Validation
Host country approval: -
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

13,000 tCO2/year

**▸PROJECT PARTICIPANTS**

Biomass Energy Association,
EX Corporation

**▸KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/05/2011
Operation start date: -
Crediting period: 10 years
Initial Cost: -
Source of finance: Planning
CER negotiation Searching for a potential buyer

**▸OTHER INFORMATION**

**▸PROJECT BENEFITS**

・Reduction of fossil fuel use
・Reduction of air pollutants generated by fossil fuel combustion
・Income generation of farmers by selling wood chips to

**Contacts**

Ai Kawamura
EX Corporation
Tel: +94-776762658
Fax:
Email: kawamura@exri.co.jp

## 41 Somerset Upper Neluwa and Palmerston Small Scale hydropower CDM project in Sri Lanka

**DESCRIPTIONS**

*The objective of this project is to generate 4.45 MW of hydropower through installing three run-off-river hydropower plants at Somerset (1.1 MW), Upper Neluwa (2.55 MW) and Palmerston (0.8 MW) in Sri Lanka. The combined estimated output of these three small hydropower plants is 21.7 GWh annually which will be exported to the national grid.*

**CURRENT STATUS**

CDM Status: Validation
Host country approval: 23-Mar-09
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

13,118 tCO2/year

**PROJECT PARTICIPANTS**

Hayleys Industrial Solutions Ltd.

**PROJECT BENEFITS**

Increase employment opportunities
Improve quality of life of village people

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/06/2009
Operation start date: 7-Aug-07
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 582 Million
Source of finance: 0-Jan-00
CER negotiation To be confirmed

**OTHER INFORMATION**

**Contacts**

Mr.Anura De Silva
General Manager
Hayleys Industrial Solutions Ltd.
Tel/Fax: +94-11-2674573
E-mail: anura.desilva@infrastucture.hayleys.lk

## 43 Kithulgala Small Scale Hydropower CDM Project in Sri Lanka

**DESCRIPTIONS**

*7.3MW run of the river hydropower plant at Kithulaga in Sri Lanka. The total estimated annual output of this small hydropower plant is 28.78GWh per annum which will be exported to the national grid*

**CURRENT STATUS**

CDM Status: Validation
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

20,765 tCO2/year

**PROJECT PARTICIPANTS**

Kithulgala Hydro Power (Pvt) Ltd.
Vallibel Lanka Pvt. Ltd.
Nature Solutions

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Supply of electricity to national grid

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: Expected date of civil
Operation start date: Expected date of
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 1721 Milliion
Source of finance: To be confirmed
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**Contacts**

Mr.Aruna Dheerasinghe
Kithulgala Hydro Power (Pvt.) Ltd.
27/2, East Tower, World Trade Centre
Colombo 01, Sri Lanka
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Fax: +94-112381115
Email: aruna@vallibel.com

## 60 Ethamalla Small Scale Hydropower CDM project in Sri Lanka

**DESCRIPTIONS**

*3 run of river hydropower plants at Gantuna Udagama (1.2MW), Ethamalla (2.0MW) and sheen (0.56MW). The combined estimated output of these three small hydropower plants is 13,715 GWH annually which will be exported to the National Grid*

**CURRENT STATUS**

CDM Status: Validation
Host country approval: 3-Dec-08
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

10,530 tCO2/year

**PROJECT PARTICIPANTS**

Vidullanka PLC

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Supply of electricity to national grid
Increase employment opportunities

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/11/2008
Operation start date: Sheen 2008/9/22
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD 6,70 Million
Source of finance: To be confirmed
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**Contacts**

Mr.Chamil Suranga Silva
Manager
Vidullanka PLC
278, Union Place,
Level 4, Access Towers,
Colombo 02, Sri Lanka
Tel: +94-773028756, +94-114-4760000

## 109 Biomass Thermal Energy CDM project at Valaichchenai Paper Mills in Sri Lanka

**DESCRIPTIONS**

*The Valaichchenai Paper Mills was commissioned in 1955 with two furnace oil fired water tube boilers. These two boilers have a combined capacity of 10MT/hour. The Steam of these two boilers is used for paper drying. The plant capacity had been increased in three stages and present capacities of paper plant and board plant are 35 TPD and 45 TPD respectively. National Paper Company Limited (NPCL) management has proposed to install a biomass boiler which can be operated with*

**CURRENT STATUS**

CDM Status: Validation
Host country approval: -
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

21,264 tCO2/year

**PROJECT PARTICIPANTS**

Nature Solutions Pvt. Ltd.

**PROJECT BENEFITS**

-

**KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/02/2012
Operation start date: 2-Jun-09
Crediting period: -
Initial Cost: USD30,000
Source of finance: -
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**Contacts**

0

## 116 Mampuri Wind Power Project

### DESCRIPTIONS

*This CDM project aims to generate electricity through wind mill of 10 MW capacity using 8 wind turbines, each rated at 1.25 MW. The power plant is expected to generate 27.6 GWh per year. Electricity produced will be sold to Ceylon Electricity Board (CEB), the national electricity utility, through dedicated transmission line.*

### ▸CURRENT STATUS

CDM Status: Validation
Host country approval: 4-May-09
Operational status: Ongoing

### ▸ESTIMATED EMISSION REDUCTIONS

18,767 tCO2/year

### ▸PROJECT PARTICIPANTS

Senok Wind Power (Pvt) Ltd

### ▸PROJECT BENEFITS

Supply of electricity to national grid (27.6 GWh/year)
Develop the local infrastructure (roads, social facilities, health and recreation facilities)

### ▸KEY PROJECT INFORMATION

Project category: Wind power
CDM project start date: 05/06/2010
Operation start date: 23-Aug-08
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD20.8million
Source of finance: -
CER negotiation Searching for a potential buyer

### ▸OTHER INFORMATION

**Contacts**

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Senok Wind Power (Pvt) Ltd
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Colombo 5, Sri Lanka.
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Fax: +94-11- 258 0022
Email: dias@senoksl.com

## 29 CFL Programmatic CDM

**DESCRIPTIONS**

*This is a programmatic CDM to replace conventional lighting bulb which consumed a lot of electricity into energy efficient lighting (CFL). This programmatic CDM is developed under JICA technical transfer project under collaboration between the Sustainable Energy Authority and J-Power.*

**▸CURRENT STATUS**

CDM Status: PDD
Host country approval: -
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

- tCO2/year

**▸PROJECT PARTICIPANTS**

J-Power

**▸PROJECT BENEFITS**

- Reduction of fossil fuel consumption
- Energy cost saving for the electricity consumers

**▸KEY PROJECT INFORMATION**

Project category: Energy efficiency
CDM project start date: -
Operation start date: -
Crediting period: -
Initial Cost: -
Source of finance: -
CER negotiation -

**▸OTHER INFORMATION**

**Contacts**

Hachiro Ida
DPM Consulting, Inc.
Tel: +94-11-720 3677
Fax: +94-
Email: h-ida@plum.plala.or.jp

## 31 Small Scale Dendropower Project in Buttala

**DESCRIPTIONS**

*It is proposed to install a 5MW Dendropower plant at Buttala. The estimated annual output of this small Dendropower plant is 36GWh which will be exported to the national grid*

**▸CURRENT STATUS**

CDM Status: PDD
Host country approval: -
Operational status: Ongoing

**▸ESTIMATED EMISSION REDUCTIONS**

27,648 tCO2/year

**▸PROJECT PARTICIPANTS**

Nature Solutions Pvt. Ltd.

**▸PROJECT BENEFITS**

Infrastructure development in the rural area.New employment opportunities for skilled and unskilled labourers.Renewable power for the national grid.Additional income from biomass based involvements.

**▸KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/01/2013
Operation start date: 1-Jan-14
Crediting period: -
Initial Cost: USD10,000,000
Source of finance: To be confirmed
CER negotiation Searching for a potential buyer

**▸OTHER INFORMATION**

**Contacts**

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Nature Solutions (pvt) Ltd
No.70/5,Melder Place,Nugegoda
Tel: +94-112823970
Fax: +94-112823970
Email: info@naturesolutions.org

## 34 Raththota small scale hydro power CDM project in Sri Lanka

**DESCRIPTIONS**

*Installation of 2MW run-of-the-river Hydro Power plant at Raththota*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

3,072 tCO2/year

**PROJECT PARTICIPANTS**

AOSB Hydropower (Pvt.) Ltd.

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: Expected date of civil
Operation start date: 0-Jan-00
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 218.6 Millions
Source of finance: To be confirmed
CER negotiation To be confirmed

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Supply of electricity to national grid
Reduce air pollutant emissions (NOx & SOx)

**Contacts**

Mr.Aruna Dheerasinghe
AOSB Hydropower (Pvt.) Ltd.
27/2, East Tower, World Trade Centre
Colombo 01, Sri Lanka
Tel: +94-112-381-111
Fax: +94-112-381-115
Email: Aruna@vallibel.com

## 36 Kirikoswala small scale hydro power CDM project in Sri Lanka

**DESCRIPTIONS**

*It is proposed to install a 4 MW run-of-the-river hydropower plant at Kirkoswald in Nuwara Eliya. The estimated annual output of this small hydropower plant is 12.26 GWh which will be exported to the National grid.*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: -
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

9,594 tCO2/year

**PROJECT PARTICIPANTS**

Bogo Power Pvt Ltd

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/06/2009
Operation start date: To be cofirmed
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD 7.39 Million
Source of finance: To be confirmed
CER negotiation 0-Jan-00

**OTHER INFORMATION**

**PROJECT BENEFITS**

Supply of electricity to national grid
Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities

**Contacts**

Dr. Abdul Gaffar
Mr. Chrysanth Jesuthasan
Bogo Power Pvt Ltd
833 Srimavo Bandaranaike Mawatha
Sri Lanka
Tel: +94-112524734
Email: gaff@eureka.lk

## 38 Kiriwaneliya Mini Hydro Power Project

**DESCRIPTIONS**

*This project aims to generate emission free renewable electricity and will export it to the national grid. As a result, the electricity generated from the project will replace electricity from grid connected fossil fuel based power plants while reducing greenhouse gas emission at these plants.*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

11,900 tCO2/year

**PROJECT PARTICIPANTS**

Bogo Power Pvt. Ltd.

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Improve infrastructure
Increase employment opportunities

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: PO : 22 March 2010
Operation start date: Expected in end of October
Crediting period: 10yrs
Initial Cost: LKR 808.80 million
Source of finance: Already identified
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

The project is expected to register in UNFCCC mid of 2012

**Contacts**

Mr. Russell De Zilva
Jt. Chief Executive Officer
Alternative Power Systems Pvt. Limited
27-02 East Tower, World Trade Center
Colombo, Sri Lanka
Tel: +94-773635326
E-mail: russell@vallibel.com

## 46 2 No. Biomass Based Thermal Energy Generation Small Scale CDM Project for Lalan Rubbers (Pvt) Ltd in Sri Lanka

**DESCRIPTIONS**

*0-Jan-00*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

Mapa Lala tCO2/year

**PROJECT PARTICIPANTS**

Lalan Rubbers(Pvt)Ltd

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Reduce air pollutant emissions (NOx & SOx)

**KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: Mapa Lalan 2010/07/21
Operation start date: Mapa Lalan 2011/02/03
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: Mapa Lalan - LKR Mn 30 Central Ru
Source of finance: To be confirmed
CER negotiation To be confirmed

**OTHER INFORMATION**

**Contacts**

Mr.Justin Seneviratne
18, Nawala Road, Nugegoda
Sri Lanka
Tel: +94-114-311-200
Fax: +94 114 311 222
Mob +94 716 810 386
Email: seneviratne@lalangroup.com

## 56 Biomass Based Thermal Energy Generation Small Scale CDM project for Star Packaging (Pvt.) Ltd.

**DESCRIPTIONS**

*The project will replace furnace oil fired boiler in the factory owned by Star Packaging (Pvt) Ltd in Colombo districts with biomass fired boiler. 336,615 litre of furnace oil is replaced per annum by sustainably sourced biomass energy.*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

5,428 tCO2/year

**PROJECT PARTICIPANTS**

Star Packaging (Pvt.) Ltd.

**PROJECT BENEFITS**

Increase employment opportunities in the community surrounding the factories who are engaged in planting fuel wood, harvesting them and supplying to the factories

**KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/07/1905
Operation start date: 0-Jan-00
Crediting period: -
Initial Cost: -
Source of finance: To be confirmed
CER negotiation To be confirmed

**OTHER INFORMATION**

**Contacts**

Mr.R.S.G.Punchihewa
Star Packaging (Pvt.) Ltd.
Avissawella Road, Nawagamuwa
Ranala, Kaduwela, Sri Lanka
Tel:
Fax:
Email:

## 59 Dehiattakandiya Paddy Husk Fuelled Power CDM Project

**DESCRIPTIONS**

*This project aims to build and operate a paddy husk fuelled power project (2.0 MW) in Dehiaththakandiya area and to supply the generated electricity to the national grid.*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

9,334 tCO2/year

**PROJECT PARTICIPANTS**

Vidul Biomass (Pvt) Ltd.

**PROJECT BENEFITS**

Increase employment opportunities to the local village communities
Generate additional income to rice mill owners
Improve infrastructure

**KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/09/2011
Operation start date: 1-Apr-13
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: USD 4.24 Million
Source of finance: Under negotiation
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**Contacts**

Mr. Chamil Silva
Vidul Biomass (Pvt) Ltd.
Tel: +94-11-476-0000
Fax: +94-11-4770076
Email: chamils@lankaequities.com
URL: www.vidullanka.com

## 61 Waverly small scale hydro power CDM project in Sri Lanka

**DESCRIPTIONS**

*It is proposed to install a 1.2 MW run-of-the-river hydropower plant at Waverly in Nuwara Eliya. The estimated annual output of this small hydropower plant is 6.3 GWh which will be exported to the National grid.*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

4,844 tCO2/year

**PROJECT PARTICIPANTS**

Waverly Power Pvt Ltd

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: 01/09/2009
Operation start date: Still under constructor
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 165 Million
Source of finance: To be confirmed
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**PROJECT BENEFITS**

Supply of electricity to national grid
Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Increase employment opportunities

**Contacts**

Mr. A.M.S. Kulasekera
Waverly Power Pvt Ltd
Tel: +94-112382138
Fax: +94-112381513
Email: engsunil@lankemplantations.lk

## 62 Branford Mini Hydro Power Project

**DESCRIPTIONS**

*This project aims to generate an average of 10,968 MWh of renewable energy per annum.*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: -
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

7,308 tCO2/year

**PROJECT PARTICIPANTS**

Branford Hydropower (Pvt.) Ltd.

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: -
Operation start date: To be cofirmed
Crediting period: 0-Jan-00
Initial Cost: 3.8 million
Source of finance: -
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)

**Contacts**

Mr.Devan de Mel
Project Development Manager
Level B, Aitken Spence Tower 11
315, Vauxhall Street,
Colombo 02, Sri Lanka
Tel: +94-112-308308
Fax: +94-112-345132

## 110 10MW Biomass Power Project at Tunkama, Embilipitiya with plantation development

**DESCRIPTIONS**

*10MW Biomass Power Project at Tunkama, Embilipitiya with plantation development*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: -
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

60,000 tCO2/year

**PROJECT PARTICIPANTS**

Nelson Nagasinghe
Lanka Bio Energies (Pvt) Ltd
Chinese collaborators

**PROJECT BENEFITS**

-

**KEY PROJECT INFORMATION**

Project category: Biomass
CDM project start date: 01/08/2011
Operation start date: 1-Aug-11
Crediting period: -
Initial Cost: USD 14 million
Source of finance: -
CER negotiation Searching for a potential buyer

**OTHER INFORMATION**

**Contacts**

Nelson Nagasinghe
Faxiang Lanka Bio Energies (Pvt) Ltd.
Tel: '+94-(0)2907831
Fax: +94-(0)2905196
Email: bioenergies@sltnet.lk

## 132 Denawaka Ganga Mini Hydro Power Project

**DESCRIPTIONS**

*7.2MW run of the river hydropower plant at Kithulaga in Sri Lanka. The total estimated annual output of this small hydropower plant is 22GWh per annum which will be exported to the national grid*

**CURRENT STATUS**

CDM Status: PDD
Host country approval: 0-Jan-00
Operational status: Ongoing

**ESTIMATED EMISSION REDUCTIONS**

14,936 tCO2/year

**PROJECT PARTICIPANTS**

Country Energy (Pvt) Ltd.
Mitsubishi UFJ Securities Co. Ltd

**PROJECT BENEFITS**

Generate renewable energy (reduce dependence on import fuel, reduce outflow of foreign currency)
Supply of electricity to national grid

**KEY PROJECT INFORMATION**

Project category: Hydro power
CDM project start date: Effective date of contract for
Operation start date: Expected date of
Crediting period: 7yrs (with renewal up to 21yrs
Initial Cost: LKR 1085 Milliion
Source of finance: Already identified
CER negotiation To be confirmed

**OTHER INFORMATION**

**Contacts**

Mr.Aruna Dheerasinghe
Country Energy (Pvt) Ltd
27/2, East Tower, World Trade Centre
Colombo 01, Sri Lanka
Tel: +94-112381111
Fax: +94-112381115
Email: aruna@vallibel.com

## Revised Host Country Approval Criteria

Do not publicize this reference information (Only for internal use)

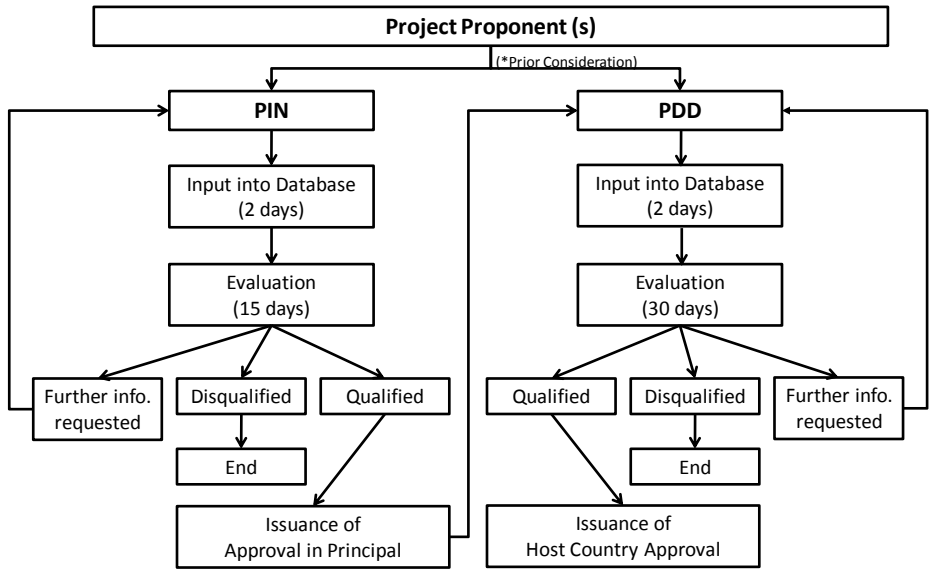
| Category | Criteria | Example/Indicator | Reference to the National Policy Documents |
|---|---|---|---|
| Economical Criteria | Improving quality of life (Project should not lower the quality of life of the community) | Better housing, Electrification of households, Better education, Secure access for safe water | Mahinda Chinthana idiri Dekma (2,3,5.) |
| | Alleviation of poverty (Project should not lower the income of the community) | Increase income of the community households | Mahinda Chinthana idiri Dekma (2,5,7) |
| Social Criteria | Participation of the Community | Section E ("Stakeholders' comments") of proposed PDD Promote social interactions, activities relating to the Corporate Social Responsibility (CSR) | National CDM policy (Draft) Budget speech made by Hon minister of finance in 2010 |
| Technological criteria | Transfer of appropriate technology include know-how and method (Obsolete technologies should not be used in the project. The technology applied in the project should not continuously depend on the external knowledge) | Low GHG technologies replace high GHG technologies | National CC policy (Draft) National CDM policy (Draft) |

## Revised Host Country Approval Criteria

Do not publicize this reference information (Only for internal use)

| Category | Criteria | Example/Indicator | Reference to the National Policy Documents |
|---|---|---|---|
| Environmental Criteria | Conservation of Natural Resources (water, soil, biodiversity, air, minerals, forest and natural habitats etc.) | Impact on the Natural Resources<br><br>Planting trees<br>Conforming to emission standards | National Environmental Act (Part IV,17)<br>National CC policy (Draft)<br>National CDM policy (Draft)<br>National action for Haritha lanka Program (Mission 1,2,5,7,8) |
| | Sustainable use of land | Impact on land resources | National Environmental Act (Part IV 16,17)<br>National action for Haritha lanka Program (Mission 5) |
| | Contribution to the GHG Reduction | The amount of GHG reduction | National Communications under UNFCCC<br>National CC policy (Draft) |

# Proposed Host Country Approval Procedure




(*) Prior Consideration: If a project has already started before a PDD has been published for public comments or a new methodology or revision of methodology related to the project has been proposed, a notification of CDM prior consideration is required. This notification has to be sent to the DNA and the UNFCCC secretariat within 6 months of the project start date.

1. Project Name:

2. Name of Project Participant(s):

3. Is it in compliance with the following host country's criteria (Environmental criteria)?

(1) Conservation of Natural Resources *(water, soil, biodiversity, air, minerals, forest and natural habitats etc.)*
YES ( ) NO ( ) Not applied ( )

(2) Sustainable use of Land
YES ( ) NO ( ) Not applied ( )

(3) Contribution to the GHG reduction
YES ( ) NO ( ) Not applied ( )

(Economical criteria)

(4) Improving quality of life *(Project should not lower the quality of life of the community)*
YES ( ) NO ( ) Not applied ( )

(5) Alleviation of poverty *(Project should not lower the income of the community)*
YES ( ) NO ( ) Not applied ( )

(Social criteria)

(6) Participation of the Community *(Section E of PDD)*
YES ( ) NO ( ) Not applied ( )

(Technological criteria)

(7) Transfer of appropriate technology include know-how and method
*(Obsolete technologies should not be used in the project. The technology applied in the project should not continuously depend on the external knowledge)*
YES ( ) NO ( ) Not applied ( )

4. Does project participant(s) have the legal status in Sri Lanka? (Proof of Legal Capacity of Project Participant, etc.)
YES ( ) NO ( ) Not applied ( )

5. Have project participant(s) already obtained necessary project permits? (Local gov't approval letter for construction plan, etc.)
YES ( ) NO ( ) Not applied ( )

6. Is it compatible with the national development policy priorities?
YES ( ) NO ( )
In negative case, indicates which the reasons are:

7. Is an Environmental Impact Assessment (EIA) or an Initial Environmental Examination (IEE) Report attached?
YES ( ) NO ( )

8. Is a Feasibility Study (FS) Report attached?
YES ( ) NO ( )

9. Is a copy of the approval letter for project investment attached?
YES ( ) NO ( )

10. Is a copy of the Emission Reduction Purchase Agreement (ERPA) or the Letter of Intent (LOI) for the credit purchase attached?
YES ( ) NO ( )

11. Has the project participant(s) the institutional/corporative capacity to achieve the project?
YES ( ) NO ( )
Observations:

12. Baseline: Is it reasonable/acceptable of assumptions and information?
YES ( ) NO ( )
Observations:

13. Methodology: Is it used an approved methodology/well applied the methodology?
YES ( ) NO ( )
Observations:

14. Additionality: Is it used the additionality tools provided in EB?
YES ( ) NO ( ) To be clarified ( )
Observations:

(15) [Only for A/R CDM project proposal] Is a recommendation letter from Forestry Department attached?
YES ( ) NO ( )

**Conclusions:**

**Approved** **Review required** **Rejected**

Signature of PIN/PDD Evaluation Committee:

[Date: / / ]

Signature of Director of CCD (DNA):

[Date: / / ]

4 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PIN; CCD: 04/04/05/873: PGJ personal information |
| **Reviewer** | Mr. PG Joseph |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Kithulgala Small Scale Hydropower CDM Project in Sri Lanka | CCD Ref: 04/04/05/873 |
| Project Participants | Mr. Anura Dheerasinghe, Kithulgala Hydropower (Pvt) Ltd. 27/2, East Tower, World Trade Centre, Colombo 1. Sri Lanka | |
| Location | Kithulgala, Kegalla, Sri Lanka<br>6° 59'53" N; 80° 23' 20"E | |
| Project Category | ☐Afforestation & Reforestation ☐Biomass ☐Biogas<br>☐Energy efficiency ☑ Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy<br>☐Industry (/……)<br>☐Public service ( ….)<br>☐Others (……..) | To supply electricity generated through hydropower to the national grid |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | The capacity of the project activity is 7.3 MW. |
| Current Stage of CDM process | ☑ PIN ☐ PDD ☐ Validation ☐ Request for registration<br>☐Registered ☐CER issued ☐Rejected | In-principle approval granted by DNA (21 April 2010)<br>Prior consideration form forwarded to UNFCCC (???)<br>Acknowledgement received from UNFCCC? |

| | | |
|---|---|---|
| | | Awaiting signing of agreement with DOE for validation. |
| Project Implementation Status | ☑ Planning ☐ Under construction ☐ Completed construction<br>☐ Started operation ☐ Completed operation ☐ Terminated | |
| Estimated CER emission reduction | Annual: 22272 t/y<br>7 Y: 155,904 t/y<br>10Y: 222,720 t/y<br>14Y: 311,808 t/y | The PIN has given GHG savings for 7, 10& 14 years |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐ Negotiating with a potential buyer ☐ Concluded ERPA | |
| Project start date | | |
| Crediting period | PIN has not identified specific crediting period. All three period are mentioned (7, 10 & 14 Years) | |
| Technology | • Boiler / Steam Turbine<br>• Shredded wood-fluidized bed | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by the grid electricity, as it will generate & supply electricity to the to the grid using dendro power (using wood biomass) | |
| Key Specifications of the Project | Annual Output of the plant is 29 GWh/y | Capacity: 7.3 MW |

**2. Project Cash flow**

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | | |
| | | |
| | | |
| Total | | Please refer PUCSL basis (million LKR2280) |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Electricity costs | | |
| Manpower cost | | |
| Maintenance cost | | |

| | | |
|---|---|---|
| Diesel costs | | |
| Total | | |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at US$ 20 /tCO2) | US$1,076,420/y | Estimate of selling price may be too high |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| Own financing | Not identified as yet | - |
| | | |
| | | |
| | | |

### 3. Project Development and Implementation Mechanism

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| Faxiang Lanka Bio Energy Pvt Ltd. - Developer | - Obtaining approvals and agreements<br>- Construction, testing and commissioning of power plant<br>- Biomass development |
| Zhengzhou Faxiang Electricity Power Co. Ltd. | Power development |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| Eligibility of the project proponents as the project implementing body/ies | | Not applicable |

### 4. CER estimation

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology | AMS-I.D. "Tools to calculate emission factor for an | Grid emission |

| | | |
|---|---|---|
| Applied for CER estimation | electrical system (EB 50 Annex 14 ver 2) | factor? |
| Baseline scenario | | |
| Baseline emission | | No problem found. |
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | Not clearly mentioned |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | Benchmark for IRR? |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br><br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating electricty | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage i<br>• Will create indirect employment opportunities in the community especially the households growing Gliricidia and other fuel wood in house gardens | |
| | 3) Economic<br>• Development of infrastructure in the area<br>• Increase in income of rural communities | |

| | | |
|---|---|---|
| | 4) Technology<br>Not mentioned whether the technology is available in Sri Lanka | |
| Requirement of environmental impact assessment and the likes | | |
| Acquisition of government permits/ licenses required for project implementation | | |
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | Access to land to construct the power plant has not been obtained. |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |

1 February 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PIN (6 June 2010) |
| **Reviewer** | Mr. Sudarshan |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Fuel Switch Project, Noyon Lanka Pvt Ltd | |
| Project Participants | Noyon Lanka Pvt Ltd | |
| Location | Biyagama, Gampha District, Western Province | |
| Project Category | ☐Afforestation & Reforestation ☑Biomass ☐Biogas<br>☐Energy efficiency ☐Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☐Energy<br>☑Industry ( Manufacturer of Fabrics )<br>☐Public service ( )<br>☐Others ( ) | |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | The capacity of the project activity is 10.5 MW |
| Current Stage of CDM process | ☐PIN ☐PDD ☐Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | Need to check the status with the company Host country approval to be obtained.<br>In principle approval obtained (ref DNA letter 29.06.10) |
| Project Implementation Status | ☐ Planning ☐ Under construction ☐ Completed construction<br>☐Started operation ☐Completed operation ☐Terminated | According o the PIN it is under |

| | | |
|---|---|---|
| | | contracting phase. Need to check the latest position with company. |
| Estimated CER emission reduction | 12,600 $tCO_2e$ for 7 year, 18,000 $tCO_2e$ for 10 years<br>25,200 for 14years $tCO_2e$<br>1,800 $tCO_2e$ per annum | No problem found |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐Negotiating with a potential buyer ☐Concluded ERPA | Has to obtain this information form Client |
| Project start date | 2010 | |
| Crediting period | 10 years | |
| Technology | Replacing a fossil fuel fired boiler with a Boiler fired by Biomass consisting of wood, briquette, wood chip, saw dust, obtained from the area. Technology to be sourced from India. The project will install a moving grate feeds which will be new technology in Sri Lanka | |
| Method of GHGs emission reduction or sequestration | Replacing one of the three boilers currently being used in the factory with a bio mass fired boiler. The capacity of the boiler to be replaced is 10.5 MW | |
| Key Specifications of the Project | High efficiency solid fuel fired thermic fluid heater<br>Boiler Type : Horizontal multi tubular fully wet back three pass mechanical draught smoke tube boiler | |

## 2. Project Cashflow

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | 160 | |
| Working capital investment | 125 | |
| | | |
| | | |
| Total | | |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| | | |
| Electricity costs | | Operational costs not given |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |
| Total | 250.7 | |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales - | Sales price not stated in the report. | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| Own financing | 100% of the cost | - |
| | | |
| | | |
| | | |

## 3. Project Development and Implementation Mechanism

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| Noyon Lanka (Pvt) Ltd | • Sponsor<br>• Operational entity under the CDM<br>• Intermediary<br>• Technical advisor<br><br>As the company will be financing the project fully by itself there will not be any outside parties involved |
| | |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| Eligibility of the project proponents as the project implementing body/ies | | |

## 4. CER estimation

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-I.C. "Thermal energy production with or without electricity (Ver.17)" | Not given in the PIN<br>Need o check with client |
| Baseline scenario | In the absence of this project the company will continue to operate the Fossil Fuel Fired Boiler | |
| Baseline emission | The baseline emissions included in the project boundary are as follows:<br>· CO2 emissions from the use of fuel oils to generate steam/heat | |
| Project scenario | The fossil fuel used in the industrial thermal energy users industry is to bereplaced by renewable biomass fuel wood. | |
| Project emission | The project activity emissions that occurred due to the project activity and are shown below:<br><br>· CO2 emissions from fossil fuel consumption for biomass handling<br>· CO2 emissions from electricity consumption by the project activity<br>·<br><br>[CPA] Estimation: Not applicable | This area is not covered in the PIN |

## 5. Addtionality Demonstration

<Checkpoint>

■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br>The Ministry of Power and Energy declared the policy to promote indigenous energy resources including the following components in the National Energy Policy and Strategies of Sri Lanka (October, 2006):<br><br>- The use of economically viable, environment friendly, non-conventional renewable energy resources<br>- Encouragement and promotion of initiatives of related sectors and institutions to enhance biomass supplies, convert biomass<br><br>However, neither the National Government nor the Provincial Governments mandate any quantitative targets for the installation of renewable energy generation facilities under this Act.<br><br>2) Environmental assessment | No problem found. |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of GHG emissions by less use of Fuel oil<br>• Contribute to local environment sustainability<br>• Encourage other Sri Lankan industries to use bio mass technology<br>• Collection and use of biomass waste which otherwise could damage the environment | |
| | 2) Social<br>• Will create direct employment opportunities for 10. Also will create indirect opportunities in the supply chain e.g. supplying & collecting bio mass and gorwers<br>• | |
| | 3) Economic<br>• Creating Business opportunity & increase income of the local community<br>• | |

| | | |
|---|---|---|
| | 4) Technology | |
| Requirement of environmental impact assessment and the likes | Project does not require and EIA, however as required the company has obtained EPL from the BOI | |
| Acquisition of government permits/ licenses required for project implementation | The project has the approval from the BOI for the installation of the Bio mass Boiler | |
| Eligibility of the project proponents as the project implementing bodies | | |

**7. Critical Issues of the Project for its Implementation**

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | None |
| Technical Issues | Although it is mentioned that the company will be purchasing the equipment from in Indian Suppler, no details are given in the PDD |
| Financial Issues | None as the company will be financing the project on its own |
| Other Issues | |

20 Sept 2011

# Checklist for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | SSC_PDD |
| **Reviewer** | Shiro Chikamatsu |

## 1. Project Information

<Checkpoint>
■ Is the project information clearly stated in the PIN or PDD?

| Item | Details | Reviewers comments |
|---|---|---|
| Name of the Project | Forced methane extraction from organic wastewater and power generation by Greenergy Power Pvt. Ltd. at Sevenagala<br>Version of the PDD -02; date of completion – 10.01.2009 | No problem found |
| Project Participants (project implementing bodies for pCDM) | Greenergy Power Pvt Ltd (private entity)<br>Research & Development International Consultants Pvt Ltd (Private entity)<br>Asia Carbon Consultants Pvt Ltd (Private entity) | No problem found |
| Location | Boundary: Physical geographical site<br>Location: Sevanagala, Embilipitiya, Moneragala District, Uva Province of Sri Lanka | No problem found |
| Project Category | ☐Afforestation & Reforestation ☐Biomass<br>☑Biogas ☐Energy efficiency<br>☐Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | No problem found. |
| Sector | ☐Agriculture ☐Forestry ☐Energy<br>☐Industry ( )<br>☐Public service ( )<br>☑Others ( Waste handling and disposal ) | No problem found. |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | No problem found. |
| Current Stage of CDM Process | ☐PIN ☐PDD ☑Host Country Approval<br>☑Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | Host country approval: 24/11/2008 |
| Project Implementation Status | ☑Planning ☐Under construction<br>☐Completed construction ☐Started operation<br>☐Terminated<br>(specify the reason: ) | Basic Design Complete. Have not started Detailed Design |
| Estimated CER | 38,792 tCO2/y | No problem found |

| | | |
|---|---|---|
| Project start date | 15/12/2010 | Global stakeholders consultation was conducted between 17 Jan 09 - 15 Feb 09<br>Project delayed |
| Crediting period | Renewable crediting period.<br>The project operational lifetime or 7 years | No problem found |
| Technology | Use Structured Media Anaerobic Treatment Reactor (SMAT) | Used for the first time in Sri Lanka |
| Method of GHGs emission reduction or sequestration | The project activity will reduce GHG emissions by avoiding the production of methane from the spent wash from the distillery and utilize the biogas for stem generation to replace use of furnace oil | No problem found |
| Key Specifications of the Project | (e.g., scale of the project, capacity of facility etc)<br>45MW thermal | No problem found |

## 2. Project Cash flow

<Checkpoint>

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost (9 years total) | Estimated Amount (mil Rps or '000 USD) | Reviewers comments |
|---|---|---|
| Cost of the program | USD 1,700- | |
| Additional cost for the case with CDM | Unknown- | |
| Total | USD 1,700- | |

| Operational Cost | Estimated Amount (mil Rps/y or '000 USD/y) | Reviewers comments |
|---|---|---|
| | Unknown- | |
| | - | |
| Total | - | |

| Income Item | Estimated Amount (mil Rps/y or USD/y) | Reviewers comments |
|---|---|---|
| CER sales | EUR387,920/y | Estimate (EUR10/t) |
| Biogas sales | Unknown | |
| Total | EUR387,920/y | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions | Reviewers comments |
|---|---|---|---|
| Self finance | USD850,000 | Registration of CDM- | Finance yet to be secured |
| Debt finance | USD850,000 | Registration of CDM | |

## 3. Project Implementing Framework

<Checkpoint>

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles in the project?

| Item | Details | Reviewer comment |
|---|---|---|
| Eligibility of the project proponents as the project implementing bodies | Greenergy Power Pvt Ltd will be the operator of the biogas power plant. | No problem found |
| Roles of project participants and CPA implementers | Greenergy Power Pvt Ltd – Project development<br>Asia Carbon Consultants Pvt Ltd – CDM consultant | Role of Research & Development International Consultants Pvt Ltd not clear |

## 4. CER estimation

<Checkpoint>

- CER is properly estimated?

| Item | Details | Reviewer comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-III.H. Methane Recovery in Wastewater Treatment (ver10)<br>AMS-I.C. Thermal Energy for the User (ver13) | No problem found. |
| Applicability of the Methodology | Less than 45MW thermal | No problem found. |
| Baseline scenario | Wastewater (spent wash) is treated in an open anaerobic lagoon treatment system. Steam for the factory is generated using furnace oil. | No problem found. |
| Baseline emission | 40,559tCO2/y | No problem found. |
| Project scenario | Use of SMAT system to collect biogas and use for steam generation | No problem found. |
| Project emission | 1,767tCO2/y | No problem found. |

## 5. Additionality Determination

<Checkpoint>

- Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | - Investment barriers<br>Open lagoon is the most cost effective system<br><br>- Prevailing practice<br>This project is the first biomethanization project for the sugar industry in Sri Lanka<br><br>- Technical barriers<br>Implementation of SMAT process based methane | The proof of financial additionality is weak (no figures).<br><br>The consultant is now reviewing the finance additionality of the |

| | | |
|---|---|---|
| | recovery project is the first of its kind for the sugar industry in Sri Lanka | project. |

## 6. Compliance with the Domestic Rules and Regulations

<Checkpoint>

- Does the project comply with all the relevant domestic rules and regulations (make sure no negative issues exist)?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | Not mentioned | No problem found. |
| Compliance with the national sustainability criteria | 1) Environmental<br>・ Water quality and odor improvement | No problem found |
| | 2) Social<br>・ Job creation | No problem found |
| | 3) Technological<br>・ Technology transfer | No problem found |
| Requirement of environmental impact assessment and the likes | No EIA requirement | No problem found |
| Acquisition of government permits/ licenses required for project implementation | (Check in accordance with the check list of CCD) | No problem found |

## 7. Critical Issues of the Project for its Implementation

<Checkpoint>

- What are the critical issues of the project for its implementation?

| Type of Issues | Details/Reviewers comment |
|---|---|
| Institutional/Legal Issues | No problem identified |
| Technical Issues | SMAT system is first of its kind in Sri Lanka.<br>Operation and Maintenance may require extensive support from the technology provider.<br>Production of ethanol may vary year to year. GHG emission reduction will depend on the operational hours of the mill. |
| Financial Issues | The project is not profitable unless registered as CDM.<br>50% Debt finance must be secured. |
| Other Issues | DOE of the project was suspended for a while, and this has caused delay for the registration of the project. |

20 September 2011

# Checklist for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | SSC_PDD |
| **Reviewer** | Ai Kawamura, Shiro Chikamatsu |

## 1. Project Information

<Checkpoint>
■ Is the project information clearly stated in the PIN or PDD?

| Item | Details | Reviewers comments |
|---|---|---|
| Name of the Project | Avoidance of methane production through composting- Anoma Agro Based Products (Pvt.)Ltd. Version 01 (2008,9.25) | No problem found |
| Project Participants (project implementing bodies for pCDM) | Anoma Agro Based Products(Pvt.)Ltd<br>Research & Development International Consultants (Pvt.) Ltd.<br>Asia Carbon (Pvt.) Ltd | No problem found |
| Location | Boundary: Physical geographical site<br>Location: Sevanagala, Embilipitiya, Moneragala District, Uva Province of Sri Lanka | No problem found |
| Project Category | ☐Afforestation & Reforestation ☐Biomass<br>☐Biogas ☐Energy efficiency<br>☐Hydro power ☐Wind power<br>☑Methane avoidance/ recovery/utilization<br>☐Others | No problem found. |
| Sector | ☐Agriculture ☐Forestry ☐Energy<br>☑Industry ( )<br>☐Public service ( )<br>☐Others ( ) | No problem found. |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | No problem found. |
| Current Stage of CDM Process | ☐PIN ☐PDD ☑Host Country Approval<br>☑Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | Host country approval: 05.01.2009 |
| Project Implementation Status | ☑Planning ☐Under construction<br>☐Completed construction ☐Started operation<br>☐Terminated<br>(specify the reason: ) | Pilot plant built |
| Estimated CER | 40,483 tCO2/y | No problem found |
| Project start date | 01/03/2008 | Global stakeholders consultation was conducted between |

| | | |
|---|---|---|
| | | 22 Nov~21Dec 2008 |
| Crediting period | Renewable crediting period.<br>The project operational lifetime or 7 years | No problem found. |
| Technology | Controlled biological treatment of biomass technology for co-treating wastewater and solid biomass waste | The technology used for co-treating of palm oil effluent and biomass for composting. No description regarding the existing facilities. |
| Method of GHGs emission reduction or sequestration | The project activity will reduce GHG emissions by avoiding the production of methane in these disposal sites by composting the organic wastes using aerobic processes that do not produce methane. | No problem found |
| Key Specifications of the Project | (e.g., scale of the project, capacity of facility etc)<br>- | No problem found |

## 2. Project Cash flow

<Checkpoint>

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost (9 years total) | Estimated Amount (mil Rps or '000 USD) | Reviewers comments |
|---|---|---|
| Cost of the program | 1,300- | Total initial cost |
| Additional cost for the case with CDM | Included- | |
| Total | 1,300- | |

| Operational Cost | Estimated Amount (mil Rps/y or '000 USD/y) | Reviewers comments |
|---|---|---|
| | - | Not provided in the PDD |
| | - | |
| Total | - | |

| Income Item | Estimated Amount (mil Rps/y or USD/y) | Reviewers comments |
|---|---|---|
| CER sales | EUR 404,830/y (USD550,000) | Estimate EUR10 |
| Compost sales | Unknown | Sold to local farmers |
| Total | EUR404,830/y | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions | Reviewers comments |
|---|---|---|---|
| Self finance | 1.3million | Bulk already invested | Some investments are already made |
| Debt finance | May partially be funded | | |

## 3. Project Implementing Framework

<Checkpoint>

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles in the project?

| Item | Details | Reviewer comment |
|---|---|---|
| Eligibility of the project proponents as the project implementing bodies | Anoma Agro Based Products(Pvt.)Ltd will operate and manage the composting project | No problem found |
| Roles of project participants and CPA implementers | Anoma Agro Based Products(Pvt.)Ltd is the project developer<br>Asia Carbon (Pvt.) Ltd is the CDM consultant | Role of Research & Development International Consultants (Pvt.) Ltd. is unclear |

## 4. CER estimation

<Checkpoint>

- CER is properly estimated?

| Item | Details | Reviewer comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-III.F. (ver.6) Avoidance of methane emissions through controlled biological treatment of biomass | No problem found. |
| Applicability of the Methodology | - Less than 60,000tCO2/y of emission reduction | No problem found. |
| Baseline scenario | Sugarcane trash and pressmud are left to decay anaerobically | No problem found. |
| Baseline emission | The baseline emissions included in the project boundary are as follows:<br>・ CO2 emissions from power plants serving the electricity grid | No problem found. |
| Project scenario | Compost sugarcane trash and pressmud by biocomposting plant (aerobic composting). | No problem found. |
| Project emission | The project activity emissions that occurred due to the project activity and are shown below:<br>・ CO2 emissions from power plants serving the electricity grid | No problem found. |

## 5. Additionality Determination

<Checkpoint>

- Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | - Investment barriers<br>The only arrangements for revenues are associated with carbon finance.<br><br>- Prevailing practice<br>Current practice is dominated by the disposal of pressmud and sugarcane trash in a landfill and by storing of treated spentwash in anaerobic lagoons without methane recovery.<br><br>- Technical barriers<br>Large windrow turner is not available in Sri Lanka, and specific know-how to produce efficient quality compost from sugar industry wastes will have to be developed by the project proponent on a trial and error basis.<br><br>- Market barriers<br>The fertilizer market for sugar cane plantations is dominanted by the chemical type. Organic fertilizer uses is almost inexistent. The project proponent will face barriers to convince sugar cane farmers to adopt a new fertilizer formulation based on organic compost | Figures of investment barriers is not described in the PDD.<br><br>Revenue from the composting is not indicated.<br><br>Currently the consultant is reviewing the financial additionality of the project. |

## 6. Compliance with the Domestic Rules and Regulations

<Checkpoint>

■ Does the project comply with all the relevant domestic rules and regulations (make sure no negative issues exist)?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | No description provided | No problem found. |
| Compliance with the national sustainability criteria | 1) Environmental<br>・ Reduce agricultural waste | No problem found |
| | 2) Social<br>・ Employment opportunity, provision of compost materials | No problem found |
| | 3) Technological<br>・ Import large windrow turner | No problem found |
| Requirement of environmental impact assessment and the likes | No EIA is required for this project activity | No problem found |
| Acquisition of government permits/ licenses required for project implementation | (Check in accordance with the check list of CCD)<br>No requirement | No problem found |

## 7. Critical Issues of the Project for its Implementation

<Checkpoint>

■ What are the critical issues of the project for its implementation?

| Type of Issues | Details/Reviewers comment |
|---|---|
| Institutional/Legal Issues | No problem found |
| Technical Issues | No problem found |
| Financial Issues | Revenue from the compost project is uncertain. |
| Other Issues | Composting may include other materials, such as agricultural waste, which needs to be monitored. |

25 February 2011

# Checklist for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PoA_DD, CPA_DD |
| **Reviewer** | Ai Kawamura |

## 1. Project Information

<Checkpoint>
■ Is the project information clearly stated in the PIN or PDD?

| Item | Details | Reviewers comments |
|---|---|---|
| Name of the Project | [PoA title]<br>Programmatic CDM of Industrial Thermal Energy Generation by Indigenous Renewable Fuel Wood in Sri Lanka<br><br>[CPA Title]<br>Programmatic CDM of Industrial Thermal Energy Generation by Indigenous Renewable Fuel Wood for the Lion Brewery Ceylon Limited. in Sri Lanka | No problem found. |
| Project Participants (project implementing bodies for pCDM) | Bio Energy Association of Sri Lanka,<br>EX Corporation | |
| Location | Boundary of PoA: Whole Sri Lanka<br>Location of 1st CPA: Biyagama area, Gampala District | No problem found. |
| Project Category | ☐Afforestation & Reforestation ☑Biomass<br>☐Biogas ☐Energy efficiency<br>☐Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | No problem found. |
| Sector | ☐Agriculture ☐Forestry ☐Energy<br>☑Industry ( beverage )<br>☐Public service ( )<br>☐Others ( ) | No problem found. |
| Type of Project | ☐Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☑Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | |
| Current Stage of CDM Process | ☐PIN ☐PDD ☐Host Country Approval<br>☑Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | Host country approval not yet obtained |
| Project Implementation Status | ☑Planning ☐Under construction<br>☐Completed construction ☐Started operation | The Lion brewery project will not be |

| | | |
|---|---|---|
| | ☐Terminated<br>(specify the reason: ) | implemented before registration of the PoA. |
| Estimated CER | 6,222 tCO2/y | No problem found. |
| Project start date | 2011. 5.1 | No problem found. |
| Crediting period | 10 years fix | No problem found. |
| Technology | Biomass based Gasifier technology (local supplier) | Commercially available technology in Sri Lanka. |
| Method of GHGs emission reduction or sequestration | At the current situation, CO2 is emitted from combustion of fossil fuel at various industries using thermal heat. This proposed project activity aims to reduce GHGs by displacing currently used fossil fuel by renewable biomass thermal energy.<br>1st CPA is Lion Brewery Ceylon Limited. 2,013 ton of fuel oil to be converted by renewable wood biomass. | |
| Key Specifications of the Project | (e.g., scale of the project, capacity of facility etc)<br>- Displace industrial thermal energy by renewable biomass | No problem found. |

## 2. Project Cash flow

<Checkpoint>

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount (mil Rps or '000 USD) | Reviewers comments |
|---|---|---|
| Land cost | 30.0 mil Rps | |
| EPC cost | 58.0 mil Rps | |
| | | |
| | | |
| Total | 88.0 mil Rps | |

| Operational Cost | Estimated Amount (mil Rps/y or '000 USD/y) | Reviewers comments |
|---|---|---|
| Fuel wood purchase | 64.8 mil Rps | |
| Electricity consumption | 1.6 mil Rps | |
| Manpower cost | 6.2 mil Rps | |
| Maintenance cost | 0.6 mil Rps | |
| | | |
| Total | 73.1 mil Rps | |

| Income Item | Estimated Amount (mil Rps/y or USD/y) | Reviewers comments |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | 85.2 mil Rps | |
| CER sales@Rps2,000/tCO2 | 12.4 mil Rps | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions | Reviewers comments |
|---|---|---|---|
| Own financing | 88.0 mil Rps | - | |
| | | | |

## 3. Project Implementing Framework

<Checkpoint>

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles in the project?

| Item | Details | Reviewer comment |
|---|---|---|
| Eligibility of the project proponents as the project implementing bodies | BEASL: Association for biomass resources promotion with approx. 60 members.<br>EX Corporation: An established company which has experience in CDM field.<br>Lion Brewery: Public listed company which has enough capability in implementing the project. | BEASL does not have full-time staff for this PoA but well prepared for managing the PoA. |

## 4. CER estimation

<Checkpoint>

- CER is properly estimated?

| Item | Details | Reviewer comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-I.C. "Thermal energy production with or without electricity (Ver.18)" | No problem found. |
| Applicability of the Methodology | | |
| Baseline scenario | Fuel used for industrial thermal purpose continues to be fossil fuel combustion. Biomass resources mainly gliricidia are not currently utilized and mostly left to decay in farm lands or fields after pruned. | No problem found. |
| Baseline emission | The baseline emissions included in the project boundary are as follows:<br><br>・ CO2 emissions from steam/heat displaced by the project activity<br><br>[CPA] Estimation: 6,327 tCO2/y | No problem found. |
| Project scenario | The fossil fuel used in the industrial thermal energy users industry is to be replaced by renewable biomass fuel wood. | No problem found. |
| Project emission | The project activity emissions that occurred due to the project activity and are shown below:<br><br>・ CO2 emissions from on-site consumption of | No problem found. |

| | | |
|---|---|---|
| | fossil fuels due to the project activity,<br>・ CO2 emissions from electricity consumption by the project activity.<br><br>[CPA] Estimation: 105 tCO2/y | |
| | | |

## 5. Additionality Determination

<Checkpoint>

■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>1) For project activities up to 15 MWth<br>・ Guideline applied: "Guidelines for Demonstrating Additionality of Renewable Energy Projects =< 5 MW and Energy Efficiency Projects with Energy Saving <= 20GWH Per Year".<br>・ Outline of the Guideline: Project activities employ specific renewable energy technologies/measures recommended by the host country DNA and approved by the Board to be additional in the host country is regarded as additional.<br>・ Conditions applied in the PoA: The total installed capacity of biomass based gasifier contributing less than or 5% to national annual industrial energy generation.<br><br>2) For project activities beyond 15MWth<br>・ Guideline applied: Attachment A of Appendix B of the Simplified Modalities and Procedures for Small-Scale CDM project activities and Methodological tool; "Tool for the demonstration and assessment of additionality(Version05.2)"(EB39,Annex10).<br>・ Outline: The project participants will provide an explanation to show that the project activity would not have occurred without the PoA, according to the following steps.<br><br>[CPA]<br>For the first CPA, 1) was applied. The project is to apply biomass based gasifier technology, which satisfies the criteria mentioned above. | In regard to 1), the guideline does not clearly define the criteria of the proportion of the contribution of the applied technology for thermal use. DNA has not issue recommendation letter to the PP. |

## 6. Compliance with the Domestic Rules and Regulations

<Checkpoint>

■ Does the project comply with all the relevant domestic rules and regulations (make

sure no negative issues exist)?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br>The Ministry of Power and Energy declared the policy to promote indigenous energy resources including the following components in the National Energy Policy and Strategies of Sri Lanka (October, 2006):<br><br>- The use of economically viable, environment friendly, non-conventional renewable energy resources<br>- Encouragement and promotion of initiatives of related sectors and institutions to enhance biomass supplies, convert biomass<br><br>However, neither the National Government nor the Provincial Governments mandate any quantitative targets for the installation of renewable energy generation facilities under this Act.<br><br>2) Environmental assessment | No problem found. |
| Compliance with the national sustainability criteria | 1) Environmental<br>The proposed PoA will be comply with the national sustainability criteria described as followings:<br>- It reduces emission of air pollutants by reduction of fossil fuel combustion through replacing fossil fuel by renewable biomass fuel.<br>- It will increase income of growers of biomass fuel wood which enhances the farmer's quality of life.<br>It does not have a negative impact on the natural resources as it does not develop new lands, will only utilize renewable biomass (mainly short rotation crops) and the facility to be installed will emit less air pollutants compared to existing facilities and no toxic material. | Sustainability of biomass resources must be assured. |
| | 2) Social<br>・ Enhancement of energy security of Sri Lanka (Sustainable alternative energy source development)<br>・ Enhancement of rural economy | No problem found |
| | 3) Technological<br>・ Technology improvement support provided by Japan. | No problem found |
| Requirement of | Environment impact assessment is conducted by | The first CPA does |

<table>
<tr>
<td>environmental impact assessment and the likes</td>
<td>factor as follows:<br><table><tr><th>Item to be analysed</th><th>PoA level</th><th>CPA level</th></tr><tr><td>Procurement of biomass resources</td><td></td><td>✓<br>analysis is required when new cultivation is involved</td></tr><tr><td>Utilization of biomass resources (new thermal energy generation facility)</td><td>✓<br>(EIA is not required)</td><td></td></tr></table><br>When new cultivation is involved, the necessary item defined by according to the Gazette on 772/22 must be checked.</td>
<td>not involve new cultivation.</td>
</tr>
<tr>
<td>Acquisition of government permits/ licenses required for project implementation</td>
<td>(Check in accordance with the check list of CCD)</td>
<td>No information provided.</td>
</tr>
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<td></td>
<td></td>
<td></td>
</tr>
</table>

## 7. Critical Issues of the Project for its Implementation

<Checkpoint>

■ What are the critical issues of the project for its implementation?

| Type of Issues | Details/Reviewers comment |
|---|---|
| Institutional/Legal Issues | ・ Agreement between C/ME and the first CPA has been drafted but not signed.<br>・ Land acquisition procedures for the new facility of the first CPA needed. |
| Technical Issues | ・ Design of the gasification facility for the CPA is not detail enough. |
| Financial Issues | No problem found. |
| Other Issues | ・ The first CPA is 6,200tCO2/y of CER is expected. Not special |

25 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PIN; CCD: 04/04/05/886: |
| **Reviewer** | Mr. PG Joseph |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Branford Mini Hydro Power Project | CCD Ref: 04/04/05/860 |
| Project Participants | Mr. Devan De Mel, Project Development Manager, Branford ydropower (pvt) Ltd., Level 8, Aitken Spence Tower II, 315, Vauxhall Street, Colombo 02. Sri Lanka | |
| Location | Matale/Rathota DS, Matale Muncipal Council/ Rathota Pradeshya Saha, Kaludewala/ Viharagama, Sri Lanka<br>7° 28'54" N; 80° 37' 54"E | |
| Project Category | ☐Afforestation & Reforestation ☐Biomass ☐Biogas<br>☐Energy efficiency ☑ Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy<br>☐Industry (/……)<br>☐Public service ( ….)<br>☐Others (……..) | To supply electricity generated through hydropower to the national grid |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | The capacity of the project activity is 2.5 MW.Annual energy: 10,968 MWh/y |
| Current Stage of CDM process | PIN ☑PDD ☐Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | In-principle approval granted by DNA (24th June 2009).<br>Host Country Approval granted by DNA on 08 Nov. 2010.<br>Prior |

| | | |
|---|---|---|
| | | consideration form forwarded to UNFCCC (???)<br>Acknowledgement received from UNFCCC?<br>Copy of PDD received by DNAon 19th Oct. 2010 |
| Project Implementation Status | ☐ Planning ☑ Under construction ☐ Completed construction<br>☐ Started operation ☐ Completed operation ☐ Terminated | |
| Estimated CER emission reduction | Annual: 7308 t/y<br>7 Y: 51,157 t/y | |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐ Negotiating with a potential buyer ☐ Concluded ERPA | |
| Project start date | 19 Oct. 2010 | |
| Crediting period | 7 years | |
| Technology | Run-of-River: Weir-Regulation pond-(no forebay tank) – (no penstock) – Concrete Intake- Tailrace Channel. | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by the grid electricity, as it will generate & supply electricity to the to the grid using hydro power | |
| Key Specifications of the Project | Annual Output of the plant is 10,968 MWh/y | Capacity: 2.5 MW |

**2. Project Cash flow**

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | (618.7 million Rs.)<br>5.52 million USD | 247.48million Rs./MW<br>138% of the PUCSL value |
| | | |
| | | |
| Total | | Please refer PUCSL basis |

| | | |
|---|---|---|
| | | (million Rs.179/MW) |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Electricity costs | | |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |
| Total | 1.26 million Rs./year<br>1.13% of capital cost | PUCSL recommends 3% of the capital cost |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at US$ 20 /tCO2) | US$146,160/y | Estimate of selling price may be too high |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| Own financing | Not identified as yet | - |
| | | |
| | | |
| | | |

### 3. Project Development and Implementation Mechanism

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| Branford Hydropower (Pvt) Ltd. | - Obtaining approvals and agreements<br>- Construction, testing and commissioning of power plant<br>- Obtaining necessary finances |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| | | Not applicable |

### 4. CER estimation

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-I.D. "Tools to calculate emission factor for an electrical system (EB 50 Annex 14 ver 2) | PDD prepared on 7th September 2010. For the Grid Emission Factor calculation, the most recent years considered are: 2005, 2006 and 2007 |
| Baseline scenario | | |
| Baseline emission | | No problem found. |
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating electricity | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage | |

| | | |
|---|---|---|
| | 3) Economic<br>• Development of infrastructure in the area | |
| | 4) Technology<br>Not mentioned whether the technology is available in Sri Lanka | |
| Requirement of environmental impact assessment and the likes | | |
| Acquisition of government permits/ licenses required for project implementation | | |
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |

31 March 2011

# Checklist for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PoA_DD, CPA_DD |
| **Reviewer** | Ai Kawamura |

## 1. Project Information

<Checkpoint>
■ Is the project information clearly stated in the PIN or PDD?

| Item | Details | Reviewers comments |
|---|---|---|
| Name of the Project | SEA country wide CFL distribution program | No problem found |
| Project Participants (project implementing bodies for pCDM) | Sustainable Energy Authority | No problem found |
| Location | Boundary: the political boundary of Sri Lanka<br>Location: To be determined | No problem found |
| Project Category | ☐Afforestation & Reforestation ☐Biomass<br>☐Biogas ☑Energy efficiency<br>☐Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | No problem found. |
| Sector | ☐Agriculture ☐Forestry ☐Energy<br>☐Industry ( )<br>☑Public service ( )<br>☐Others ( ) | No problem found. |
| Type of Project | ☐Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☑Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | No problem found. |
| Current Stage of CDM Process | ☐PIN ☑PDD ☐Host Country Approval<br>☐Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | PDD is not completed |
| Project Implementation Status | ☑Planning ☐Under construction<br>☐Completed construction ☐Started operation<br>☐Terminated<br>(specify the reason: ) | |
| Estimated CER | 27,405 tCO2/y | Calculation to be checked |
| Project start date | Not specified | Needs to be specified |
| Crediting period | 10years | No problem found. |
| Technology | | |
| Method of GHGs emission reduction or | GHG emission is achieved through replacement of the baseline lamps by energy efficient CFLs. | No problem found |

| | | |
|---|---|---|
| sequestration | | |
| Key Specifications of the Project | (e.g., scale of the project, capacity of facility etc)<br>- The range of the output of the bulb to be replaced is from 40 ~100 W. | No problem found |

## 2. Project Cash flow

<Checkpoint>

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost (9 years total) | Estimated Amount (mil Rps or '000 USD) | Reviewers comments |
|---|---|---|
| Cost of the program | LKR 400,000,000 (Among LKR 400 mil, HH contribution is LKR 150mil) | The basis of cost calculation is not very clear (difference between initial cost and operational cost is not clear) |
| Additional cost for the case with CDM | LKR 137,604,000 | The basis and assumption for the figure is not clear |
| Total | LKR 400,000,000 | |

| Operational Cost | Estimated Amount (mil Rps/y or '000 USD/y) | Reviewers comments |
|---|---|---|
| | | Operational cost is not clear. |
| | | |
| Total | | |

| Income Item | Estimated Amount (mil Rps/y or USD/y) | Reviewers comments |
|---|---|---|
| CER sales@USD12/tCO2 | LKR 378,189,000 | |
| | | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions | Reviewers comments |
|---|---|---|---|
| Government budget | Million 250 | - | |
| HH contribution | Million 150 | LKR 150/bulb * 1 million | |

## 3. Project Implementing Framework

<Checkpoint>

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles in the project?

| Item | Details | Reviewer comment |
|---|---|---|
| Eligibility of the project proponents as the project implementing bodies | SEA: Government body in charge of renewable energy promotion | No problem found |

| | | |
|---|---|---|
| Roles of project participants and CPA implementers | No clear descriptions is provided. | Not clear in the PoA_DD or CPA_DD |

## 4. CER estimation

<Checkpoint>

■ CER is properly estimated?

| Item | Details | Reviewer comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-II.J. "Demand-side activities for efficient lighting technologies (ver 03)" | No problem found. |
| Applicability of the Methodology | - Adoption of self-ballasted compact fluorescent lamps (CFLs) to replace incandescent lamps (ICLs)<br>- Residential applications only; Aggregate energy savings by a single project may not exceed the equivalent of 60 GWh per year<br>- CFLs to be of high quality and tested as per relevant international/national standards for the rated lifetime<br>- CFLs to be uniquely identified<br>- Project activity undertakes at least one of the following actions:<br>(i) Directly installing the CFLs;<br>(ii) Charging at least a minimal price for efficient lighting equipment;<br>(iii) Restricting the number of lamps per household distributed through the project activity to six.<br>- CFLs adopted to replace existing equipment must be new equipment not transferred from another activity; Ensure that replaced ICLs are destroyed<br>[Boundary]<br>the physical, geographical location of each measure (i.e. each CFL) installed | Some of the applicability conditions mentioned in the methodology is not mentioned in the PDD |
| Baseline scenario | The lamps used at households continue to be ICL lamps | No problem found. |
| Baseline emission | The baseline emissions included in the project boundary are as follows:<br><br>・ CO2 emissions from power plants serving the electricity grid<br><br>[CPA] Estimation: 34,498 tCO2/y | No problem found. |
| Project scenario | The lamps used at household are replaced by CFL energy efficient lamps by the project activities | No problem found. |
| Project emission | The project activity emissions that occurred due to the project activity and are shown below:<br><br>・ CO2 emissions from power plants serving the electricity grid | No problem found. |

| | | |
|---|---|---|
| | [CPA] Estimation: 6,900 tCO2/y | |

## 5. Additionality Determination

<Checkpoint>

■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>- Investment barrier<br>- Access to capital-high initial price of CDL<br>- Lack of consumer information<br>- Doubts that promised savings will accrue<br>- Common practice (Consumer bias towards ICL, Un-sustainable institutional framework to promote CFLs in Sri Lanka, lamp quality availability)<br><br>[CPA] | No description on the difference between commercially available cases. Investment barrier might not be convincing enough compared to the registered CFL project in India. |

## 6. Compliance with the Domestic Rules and Regulations

<Checkpoint>

■ Does the project comply with all the relevant domestic rules and regulations (make sure no negative issues exist)?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | Sri Lankan National Strategy for Climate Change (May 2007) and several local and federal programs for energy efficiency. Energy Efficiency campaign of SEA supports the activity. Demand side energy efficiency has been highlighted by the Sri Lankan Government as one of the key area to address in order to reduce GHG emissions and energy consumption. | No problem found. |
| Compliance with the national sustainability criteria | 1) Environmental<br>・ Sri Lankan National Strategy for Climate Change<br>・ Measurable GHG emission reduction | Sustainability of biomass resources must be assured. |
| | 2) Social<br>・ More efficient bulb will result in reduction of HH expenditure<br>・ Job creation | No problem found |
| | 3) Technological<br>・ Result in technology transfer | Considering there are commercial available same bulbs in Sri Lanka, it is not clear how technology transfer is carried out. |

| | | |
|---|---|---|
| Requirement of environmental impact assessment and the likes | The project is not included in the "List of projects or activities requiring prior environmental clearance" included in EIA notification of MoE.<br>Mercury recycling scheme is included as an environmental indicator in the monitoring plan of the PoA, such that the verifying DOE can make an assessment of the Sri Lanka progress in the area. | The MOE's name is not correctly mentioned. |
| Acquisition of government permits/ licenses required for project implementation | (Check in accordance with the check list of CCD) | No information provided. |

## 7. Critical Issues of the Project for its Implementation

<Checkpoint>

- What are the critical issues of the project for its implementation?

| Type of Issues | Details/Reviewers comment |
|---|---|
| Institutional/Legal Issues | Framework for project implementation especially monitoring and recycling mercury needs to ensure. |
| Technical Issues | Proper monitoring method should be assured |
| Financial Issues | |
| Other Issues | |

11 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | CCD: 04/03/05/843: PDD |
| **Reviewer** | Mr. PG Joseph |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Gantuna Udagama, Ethamala Ella and Sheen Small Scale Hydropower CDM Project in Sri Lanka. | CCD Ref: 04/04/05/894 |
| Project Participants | Mr. Chamil Silva, Manager- Business Development, Vidulanka PLC | |
| Location | Gantuna Udagama: Aranayake: 80°25' 13"; 7° 07' 55.8"<br>Ethamala: Morawake: 80°29'46"; 6°13'37"<br>Sheen:Nuwara-Eliya: 80°41'12'; 7°00'18' | |
| Project Category | ☐Afforestation & Reforestation ☐Biomass ☐Biogas<br>☐Energy efficiency x Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy<br>☐Industry (/……)<br>☐Public service ( ….)<br>☐Others (……..) | To supply electricity generated through hydropower to the national grid |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | The capacity of the project activity is:<br>Gantuna Udagama:1.2 MW<br>Ethamala: 2 MW<br>Sheen:0.56 MW<br>Total:3.76 MW |
| Current Stage of CDM process | ☐ PIN ☐ PDD ☑ Validation ☐ Request for registration<br>☐Registered ☐CER issued ☐Rejected | |
| Project Implementation Status | ☐ Planning ☐ Under construction ☐ Completed construction<br>☐ Started operation ☐ Completed operation ☐ Terminated | Gantuna Udagama:Under Construction<br>Ethamala: Planning |

| | | |
|---|---|---|
| | | Sheen: Operational |
| Estimated CER emission reduction | Annual: 10,576 t/y | |
| CER negotiation | ☐No activity ☐Searching for a potential buyer ☐ Negotiating with a potential buyer ☐ Concluded ERPA | Will look for a buyer once the validation is completed. |
| Project start date | | Gantuna Udagama:31/03/09 Ethamala: 30/04/09 Sheen:01/01/08 |
| Crediting period | PIN has not identified specific crediting period. All three period are mentioned (7, 10 & 14 Years) | 3 x 7 years |
| Technology | Vier-Chanel-Penstock-Turbine-Generator | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by the grid electricity, as it will generate & supply electricity to the to the grid using hydropower. | |
| Key Specifications of the Project | Annual Output of the plant is:<br>Gantuna Udagama:1.2 MW; 3.53 GWh/y<br>Ethamala: 2 MW; 8.27 GWh/y<br>Sheen:0.56 MW;2.27 GWh/y<br>Total:3.76 MW; .14.07 GWh/y | |

**2. Project Cash flow**

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | | |
| | | |
| | | |
| Total | | Please refer PUCSL basis |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Electricity costs | | None of these items are given. Please refer to PUCSL basis |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |
| Total | | |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at US$ 20 /tCO2) | | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| | | - |
| | | |
| | | |
| | | |

### 3. Project Development and Implementation Mechanism

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| | - |
| | |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| | | |

### 4. CER estimation

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-I.D. "Tools to calculate emission factor for an electrical system (EB 50 Annex 14 ver 2) | Grid emission factor? |
| Baseline scenario | | |
| Baseline emission | | No problem found. |

| | | |
|---|---|---|
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | Not clearly mentioned |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | Benchmark for IRR? |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating electricty | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage i<br>• Will create indirect employment opportunities in the community especially the households growing Gliricidia and other fuel wood in house gardens | |
| | 3) Economic<br>• Development of infrastructure in the area<br>• Increase in income of rural communities | |
| | 4) Technology<br>Not mentioned whether the technology is available in Sri Lanka | |
| Requirement of environmental | | |

| | | |
|---|---|---|
| impact assessment and the likes | | |
| Acquisition of government permits/ licenses required for project implementation | | |
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |

4 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | CCD: 04/04/05/877: PGJ personal information |
| **Reviewer** | Mr. PG Joseph |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Faxiang Lanka Small Scale Dendropower CDM Project in Sri Lanka | CCD Ref: 04/04/05/877 |
| Project Participants | Mr. Nelson Nagasinghe, Faxiang Lanka Bio Energy (Pvt) Ltd. Sri Lanka | |
| Location | Tunkama, Embilipitiya, Sri Lanka<br>$6^o$ 17' N; $80^o$ 51' E | |
| Project Category | ☐Afforestation & Reforestation ☑Biomass ☐Biogas ☐Energy efficiency ☐Hydro power ☐Wind power ☐Methane avoidance/ recovery/utilization ☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy ☐Industry (/……) ☐Public service ( ….) ☐Others (……..) | To supply electricity generated through dendropower to the national grid |
| Type of Project | ☑Small Scale CDM (Individual) ☐Large Scale CDM (Individual) ☐Small Scale Bundled Projects ☐Small Scale Programmatic CDM ☐ Large Scale Programmatic CDM | The capacity of the project activity is 10 MW. |
| Current Stage of CDM process | ☑ PIN ☐ PDD ☐ Validation ☐ Request for registration ☐Registered ☐CER issued ☐Rejected | In-principle approval granted by DNA (11 May 2010)<br>Prior consideration form forwarded to UNFCCC (???)<br>Acknowledgement received from UNFCCC? |

| | | |
|---|---|---|
| Project Implementation Status | ☑ Planning ☐ Under construction ☐ Completed construction<br>☐ Started operation ☐ Completed operation ☐ Terminated | Awaiting approval for land for Power Plant |
| Estimated CER emission reduction | Annual: 53,821 t/y<br>7 Y: 376,750 t/y<br>10Y: 538,214 t/y<br>14Y: 753,500 t/y | The PIN has given GHG savings for 7, 10& 14 years |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐ Negotiating with a potential buyer ☐ Concluded ERPA | |
| Project start date | | Awaiting approval for land for Power Plant |
| Crediting period | PIN has not identified specific crediting period. All three period are mentioned (7, 10 & 14 Years) | |
| Technology | • Boiler / Steam Turbine<br>• Shredded wood-fluidized bed | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by the grid electricity, as it will generate & supply electricity to the to the grid using dendro power (using wood biomass) | |
| Key Specifications of the Project | Annual Output of the plant is 70 GWh/y | Capacity: 10 MW |

**2. Project Cash flow**

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | | |
| | | |
| | | |
| Total | 1200 million LKR | Please refer PUCSL basis (million LKR2280) |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Bio mass Purchase price | | None of these items are given. Please refer to PUCSL basis |
| Electricity costs | | |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |

| | | |
|---|---|---|
| Total | | |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at US$ 20 /tCO2) | US$1,076,420/y | Estimate of selling price may be too high |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| Own financing | Not identified as yet | - |
| | | |
| | | |
| | | |

**3. Project Development and Implementation Mechanism**

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| Faxiang Lanka Bio Energy Pvt Ltd. - Developer | - Obtaining approvals and agreements<br>- Construction, testing and commissioning of power plant<br>- Biomass development |
| Zhengzhou Faxiang Electricity Power Co. Ltd. | Power development |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| Eligibility of the project proponents as the project implementing body/ies | | Not applicable |

**4. CER estimation**

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER | AMS-I.D. "Tools to calculate emission factor for an electrical system (EB 50 Annex 14 ver 2) | Grid emission factor? |

| | | |
|---|---|---|
| estimation | | |
| Baseline scenario | | |
| Baseline emission | | No problem found. |
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | Not clearly mentioned |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | Benchmark for IRR? |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br><br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating electricty | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage i<br>• Will create indirect employment opportunities in the community especially the households growing Gliricidia and other fuel wood in house gardens | |
| | 3) Economic<br>• Development of infrastructure in the area<br>• Increase in income of rural communities | |

| | | |
|---|---|---|
| | 4) Technology<br>Not mentioned whether the technology is available in Sri Lanka | |
| Requirement of environmental impact assessment and the likes | | |
| Acquisition of government permits/ licenses required for project implementation | | |
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | Access to land to construct the power plant has not been obtained. |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |

4 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | CCD: 04/04/05/894: Prior Consideration Application |
| **Reviewer** | Mr. PG Joseph |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Kiriwaneliya Mini Hydro Power Project | CCD Ref: 04/04/05/894 |
| Project Participants | Mr. Russel De Silva, Jt. Chief Executive Officer, Country Energy (Pvt) Ltd. Sri Lanka | |
| Location | | |
| Project Category | ☐Afforestation & Reforestation ☐Biomass ☐Biogas<br>☐Energy efficiency x Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy<br>☐Industry (/……)<br>☐Public service ( ….)<br>☐Others (……..) | To supply electricity generated through dendropower to the national grid |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | The capacity of the project activity is 4.65 MW. Annual Energy: 16 GWh/y |
| Current Stage of CDM process | ☐PIN ☐PDD ☐Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | Prior consideration form forwarded to UNFCCC on 6th Sept.2010 Acknowledgement received from UNFCCC? |
| Project Implementation Status | ☑ Planning ☐ Under construction ☐ Completed construction<br>☐ Started operation ☐ Completed operation ☐ Terminated | |

| | | |
|---|---|---|
| Estimated CER emission reduction | Annual: 12,480 t/y | |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐ Negotiating with a potential buyer ☐ Concluded ERPA | |
| Project start date | | Awaiting approval for land for Power Plant |
| Crediting period | PIN has not identified specific crediting period. All three period are mentioned (7, 10 & 14 Years) | |
| Technology | • Boiler / Steam Turbine<br>• Shredded wood-fluidized bed | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by the grid electricity, as it will generate & supply electricity to the to the grid using dendro power (using wood biomass) | |
| Key Specifications of the Project | Annual Output of the plant is 70 GWh/y | Capacity: 10 MW |

**2. Project Cash flow**

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | | |
| | | |
| | | |
| Total | | Please refer PUCSL basis (Million LKR830.56) |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Electricity costs | | None of these items are given. Please refer to PUCSL basis |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |
| Total | | |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at | | |

| | | |
|---|---|---|
| US$ 20 /tCO2) | | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| | | - |
| | | |
| | | |
| | | |

### 3. Project Development and Implementation Mechanism

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| | - |
| | |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| | | |

### 4. CER estimation

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-I.D. "Tools to calculate emission factor for an electrical system (EB 50 Annex 14 ver 2) | Grid emission factor? |
| Baseline scenario | | |
| Baseline emission | | No problem found. |
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | Not clearly mentioned |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | Benchmark for IRR? |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br><br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating electricty | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage i<br>• Will create indirect employment opportunities in the community especially the households growing Gliricidia and other fuel wood in house gardens | |
| | 3) Economic<br>• Development of infrastructure in the area<br>• Increase in income of rural communities | |
| | 4) Technology<br>Not mentioned whether the technology is available in Sri Lanka | |
| Requirement of environmental impact assessment and the likes | | |
| Acquisition of government permits/ licenses required for project implementation | | |

| | | |
|---|---|---|
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |

26 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PIN; CCD: 04/03/06/822 |
| **Reviewer** | Mr. PG Joseph |

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Hayleys MGT Knitting Mills Fuel Switching Small Scle CDM Project in Sri Lanka | CCD Ref: 04/04/05/849 |
| Project Participants | Mr. Roshan Gooneratne, General Manager, Logistics, Hayleys MGT Knitting Mills PLC Factory, Narathupana estate, Neboda, Sri Lanka | |
| Location | Location: Neboda, Sri Lanka<br>6° 04' 40" N; 80° 37' 35" E | |
| Project Category | ☐Afforestation & Reforestation ☑Biomass ☐Biogas<br>☐Energy efficiency ☑ Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy<br>☐Industry (/……)<br>☐Public service ( ….)<br>☐Others (……..) | To generate industrial process heat using sustainable biomass replacing petroleum fuel. |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | In this project four boilers with capacities of 10, 5,5, and 5 tonnes of steam per hour are operated with sustainable biomass. The total capacity of the four boilers is 19.5 MWth. |
| Current Stage of CDM process | PIN ☑PDD ☐Validation ☐Request for registration<br>☐Registered ☐CER issued ☐Rejected | Host Country Approval granted by DNA on 31 Aug. 2010. |

| | | |
|---|---|---|
| | | Copy of PDD received by DNA on 22nd June 2010. |
| Project Implementation Status | ☐ Planning ☐ Under construction ☐ Completed construction<br>☑ Started operation ☐ Completed operation ☐ Terminated | |
| Estimated CER emission reduction | Annual: 25,600 t/y<br>7 Y: 179,200 t | |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐ Negotiating with a potential buyer ☐ Concluded ERPA | Pre-validation sale completed. |
| Project start date | 16 Oct. 2008 | |
| Crediting period | 7 years | |
| Technology | Retrofitting oil-fired boilers with agro-residue based biomass firing system. | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by petroleum fuel fired boilers with sustainable biomass fuels in the form of agro-residues, thus avoiding the emission of CO2. | |
| Key Specifications of the Project | Annual Output of the plant is 25,600 tCO2l/annum | Capacity: 19.5 MWth |

**2. Project Cash flow**

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | | |
| | | |
| | | |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Electricity costs | | |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |
| Total | | |

| Income Item | Estimated Amount (USD/y) |
|---|---|

| | | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at US$ 20 /tCO2) | | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| Own financing | Not identified as yet | - |
| | | |
| | | |
| | | |

**3. Project Development and Implementation Mechanism**

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| Mr. Roshan Gooneratne, General Manager, Logistics, Hayleys MGT Knitting Mills PLC Factory, Narathupana estate, Neboda, Sri Lanka | - Obtaining approvals and agreements<br>- Construction, testing and commissioning of power plant<br>- Obtaining necessary finances |
| Mr. Markus Schaller, CDM/JI Contract Manager, EnBW Trading GmbH, Durlacher Allee93, 76131 Karlsuhe, Germany | - |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| | | Not applicable |

**4. CER estimation**

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER | AMS-I.C. Thermal energy production with or without electricity , (EB48), Sectoral Scope 01 | |

| | | |
|---|---|---|
| estimation | | |
| Baseline scenario | | |
| Baseline emission | | No problem found. |
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating steam | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage | |
| | 3) Economic | |
| | 4) Technology | |
| Requirement of environmental impact assessment and the likes | | |
| Acquisition of government permits/ licenses required for | | |

| | | |
|---|---|---|
| project implementation | | |
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |

26 April 2011

# Criteria for Assessment of Selected CDM Projects (Proposed)

| | |
|---|---|
| **The references used for assessment** | PIN; CCD: 04/04/05/849 |
| **Reviewer** | Mr. PG Joseph |

# NOT ACTIVE

## 1. Project Design

**Is the project clearly stated in the PIN or PDD?**

| Item | Details | Reviewers Comments |
|---|---|---|
| Name of the Project | Renewable biomass based steam generation at tyre manufacturing units in Sri Lanka | CCD Ref: 04/04/05/849 |
| Project Participants | Mr. Banerjee Uday, Vice President Commercial, Ceat Kelani Associated Holdings (P) Limited, PO Box 53, Nangamugoda, Sri Lanka | |
| Location | Location 1 (CKITPL): Kelaniya, Sri Lanka<br>6° 96' N; 79° 92' E<br>Location 2 (ACPL): Kalutara, Sri Lanka<br>6° 34' N; 79° 57' E | ' exceeds 60. Should be expressed in ' and ". |
| Project Category | ☐Afforestation & Reforestation ☑Biomass ☐Biogas<br>☐Energy efficiency ☑ Hydro power ☐Wind power<br>☐Methane avoidance/ recovery/utilization<br>☐Others | |
| Sector | ☐Agriculture ☐Forestry ☑Energy<br>☐Industry (/……)<br>☐Public service ( ….)<br>☐Others (……..) | To generate industrial process heat using sustainable biomass replacing petroleum fuel. |
| Type of Project | ☑Small Scale CDM (Individual)<br>☐Large Scale CDM (Individual)<br>☐Small Scale Bundled Projects<br>☐Small Scale Programmatic CDM<br>☐ Large Scale Programmatic CDM | In this project three boilers with capacities of 4.5, 5 and 8 tonnes of steam per hour with an enthalpy of about 2800 kJ/kg are operated with sustainable biomass. The total capacity of the |

| | | |
|---|---|---|
| | | three boilers is 13.6 MWth. |
| Current Stage of CDM process | PIN ☑PDD ☐Validation ☐Request for registration ☐Registered ☐CER issued ☐Rejected | Host Country Approval granted by DNA on 27 Nov. 2008.<br>Copy of PDD received by DNA on 18th Nov. 2008<br>PDD was expected to be web hosted on August 2009. |
| Project Implementation Status | ☐ Planning ☐ Under construction ☑ Completed construction<br>☐ Started operation ☐ Completed operation ☐ Terminated | |
| Estimated CER emission reduction | Annual: 36,373 t/y<br>10 Y: 363,730 t | |
| CER negotiation | ☐No activity ☐Searching for a potential buyer<br>☐ Negotiating with a potential buyer ☐ Concluded ERPA | Will come back |
| Project start date | 15 Oct. 2007 | |
| Crediting period | 10 years | |
| Technology | Retrofitting oil-fired boilers with agro-residue based biomass firing system. | |
| Method of GHGs emission reduction or sequestration | The project will replace fossil fuel used by petroleum fuel fired boilers with sustainable biomass fuels in the form of agro-residues, thus avoiding the emission of CO2. | |
| Key Specifications of the Project | Annual Output of the plant is 74,531 Tcal/annum | Capacity: 13.6 MWth |

## 2. Project Cash flow

(Checkpoint)

- Project Income and cost (initial and O/M) are properly identified and estimated?
- Financing and fund raising methods are considered?

| Initial Cost | Estimated Amount ( '000 USD) | Reviewers' Comments |
|---|---|---|
| Investment costs | | |
| | (28.751 million Rs.)<br>0.256 million USD | Costs appeared to be too low |
| | | |

| | | |
|---|---|---|
| | | |

| Operational Cost | Estimated Amount ( '000 USD/y) | Reviewers' Comments |
|---|---|---|
| Electricity costs | | |
| Manpower cost | | |
| Maintenance cost | | |
| Diesel costs | | |
| Total | | |

| Income Item | Estimated Amount (USD/y) | |
|---|---|---|
| Fossil fuel purchasing cost (cost saving) | | |
| CER sales – (Estimated at US$ 20 /tCO2) | | |
| Total | | |

| Financing/Fund Raising Sources | Estimated Amount | Conditions |
|---|---|---|
| Own financing | Not identified as yet | - |
| | | |
| | | |
| | | |

### 3. Project Development and Implementation Mechanism

- Are the project participants and their roles are clearly identified?
- Do the project participants have enough capability to take their roles n the project

| Project Participants | Roles |
|---|---|
| Ceat Kelani Associated Holdings (P) Limited, PO Box 53, Nangamugoda, Sri Lanka | - Obtaining approvals and agreements<br>- Construction, testing and commissioning of power plant<br>- Obtaining necessary finances |

**Programmatic CDM**

| | |
|---|---|
| | - Not applicable |
| | |
| | |

| Item | Details | Reviewer's Comments |
|---|---|---|
| | | Not applicable |

### 4. CER estimation

- CER is properly estimated?

| Item | Details | Reviewer's comment |
|---|---|---|
| Methodology Applied for CER estimation | AMS-I.C. Thermal energy production with or without electricity , (EB48), Sectoral Scope 01 | |
| Baseline scenario | | |
| Baseline emission | | No problem found. |
| Project scenario | | No problem found. |
| Project emission | [CPA] Estimation: Not applicable | |

## 5. Addtionality Demonstration

<Checkpoint>
■ Additionality is substantially demonstrated?

| Item | Details | Reviewer comment |
|---|---|---|
| Additionality demonstration | [PoA]<br>[CPA] | |

## 6. Compliance with the Domestic Rules and Regulations

(Checkpoint)

- Does the project comply with all the relevant domestic rules and regulations?

| Item | Details | Reviewer comment |
|---|---|---|
| Compatibility with the national development priority | 1) Renewable energy policy<br>2) Environmental assessment | . |
| Compliance with the national sustainability criteria | 1) Environmental<br>• Reduction of fuel used for generating steam | |
| | 2) Social<br>• Create direct employment opportunities in the plant during construction stage and operational stage | |
| | 3) Economic | |
| | 4) Technology | |
| Requirement of environmental impact assessment and the likes | | |

| | | |
|---|---|---|
| Acquisition of government permits/ licenses required for project implementation | | |
| Eligibility of the project proponents as the project implementing bodies | | |

## 7. Critical Issues of the Project for its Implementation

(Checkpoint)

***What are the critical issues of the project for its implementation?***

| Type of Issues | Details (Reviewers comment?) |
|---|---|
| Institutional/Legal Issues | |
| Technical Issues | |
| Financial Issues | |
| Other Issues | |