CDM: Recommendation Form for Small Scale Methodologies (version 01)

(To be used for presenting questions/proposals/amendments to the simplified methodologies for small-scale CDM project activity categories)

Date of SSC WG meeting:	16–19 June 2009, SSC WG 21
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Use of internal benchmark IRR according to the Guidance on the assessment of investment analysis
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS-II.D version 11
Name of the authors of the query:	Arnaud Viel Institution: EcoSecurities International Limited cdm@ecosecurities.com, arnaud.viel@ecosecurities.com

Summary of the query:

Please use the space below to summarize the query related to SSC methodologies/categories SSC Modalities and Procedures provide recommendation/analysis of the SSC WG.

Original text from PP:

This query arised during the validation of "Gul Ahmed Combined Cycle Gas Turbine Project". The PDD sent to validation (version 1) is available at http://cdm.unfccc.int/Projects/Validation/DB/LR9479FT7I3L6APTAUULTZI589P5OD/view.html

and the following documents are attached to this query:

- PDD version 6 (latest one)
- PDD Attachment A (IRR calculation)
- PDD Attachment E (internal benchmark)

In this query, references to the 'PDD' refer to its version 6.

The query relates to the application of the "Guidance on the assessment of investment analysis", and more specifically its paragraph 13 on the use of internal benchmark rate of return in the demonstration of additionality.

Project background

The project is an energy efficiency project located in unit 1 of Gul Ahmed Textiles Mills Limited (Karachi, Pakistan), which provides steam and electricity to units 1, 2 and 3, consisting of textile manufacturing, covering, spinning and wet processing of fabric. The process requires a significant amount of electricity and steam. Steam is currently supplied by three boilers running on natural gas, and electricity is supplied by a mix of gas-fired and oil-fired engines. This system will be replaced by a combined cycle gas turbine (CCGT) system. A 10 MW gas turbine will be installed; its exhaust gases will be fed into a waste heat recovery boiler to generate steam for the process, and for a steam turbine that will generate additional electricity (therefore bringing total electrical capacity above 10 MW). Steam for the process will also be extracted from the steam turbine.

The decision to invest in the project was made in July 2005[1], based on the following:

- A project IRR of 14.0% without carbon credits. The calculation is given in PDD Figure 11 and Attachment A. This calculation was made at time of decision making and used by Gul Ahmed management committee to approve the project, as evidenced by the signed request for approval dated June 7th, 2005 (see PDD Figure 17) and the approval dated July 5th, 2005 (see PDD Figure 19).
- An internal benchmark (hurdle rate) IRR of 18.0%. This corresponds to twice the discount rate of the State Bank of Pakistan, which was 9% in July 2005. The decision to derive the internal benchmark from the State Bank discount rate was taken on September 11th, 2004 by Gul Ahmed management committee. Subsequently, Gul Ahmed finance department has updated all divisions of the changes to the internal benchmark every time the State Bank discount rate was changed. Evidence of the initial decision and all further updates is given in PDD Attachment E.

All of the above is explained with further details in the "Investment barrier" part of PDD section B.5.

Issues

In accordance with Attachment A to Appendix B of the Simplified modalities and procedures for small-scale projects, project participants (PPs) have used an investment barrier to demonstrate additionality, by showing that the project IRR was lower than the internal benchmark, as explained above. The DOE has required the PPs to show that the approach used is consistent with the "Guidance on the assessment of investment analysis"[2].

The Guidance imposes two main requirements for PPs to be able to use an internal benchmark:

1. There should be "only one possible project developer"

As the input into the project (i.e. natural gas) is available throughout Pakistan, the DOE interprets that there are many other possible project developers throughout Pakistan, e.g. other factories who could generate their own power and steam[3].

As the output of the project (i.e. steam and electricity) has to be supplied locally to Gul Ahmed textile mill process, the PP interpret that the only possible project developers are local, because steam cannot be transported for more than a few kilometres at most[4].

→ A) We request the SSCWG to clarify which interpretation is correct

2. The internal benchmark "should be demonstrated to have been used for similar projects with similar risks, developed by the same company"

The internal benchmark rule is used by Gul Ahmed only to approve major investments (>100,000,000 PKR, i.e. about 1,200,000 USD), which have to provide a feasibility study to Gul Ahmed management committee showing that the project IRR is higher than the internal hurdle rate. Since the introduction of the rule in September 2004, only 4 major investments have been assessed (see project list in PDD Figure 3, which is copied below). It can clearly be seen that the internal benchmark rule has been met by all those projects (except the CDM project). The next biggest investments made by Gul Ahmed are for Balancing Modernization and Replacement (BMR) of the plants (cost of 13,000,000 to 40,000,000 PKR) and do not follow the same internal approval process.

[1] Note that PDD Table 7 (in section B.5) contains an explanation of how CDM was considered seriously in the decision to invest in the project.

[2] Paragraph 2 of the guidance suggests that it applies both to large scale and small scale CDM project activities.

[3] The DOE also referred to footnote 9 of the Tool for the demonstration and assessment of additionality (v05), which gives the following example of a case when internal benchmark can be used: "For example, when the project activity upgrades an existing process or uses a resource (i.e. some waste) available on the project site and that is not traded."

[4] Note that out of the potential 'local' project developers, Gul Ahmed is the only realistic one as there is no steam excess in neighbouring factories and Gul Ahmed need control over the power plant to adjust its performance to the changing process requirements – see PDD page 18 for further details.

Approval date	Project		Investment cost	IRR	Payback	Applicable benchmark IRR at the time
07/07/2005	Turbine Power Project	without CERs	500,000,000	14.00%	6.07	18%
		with CERs		17.10%	5.18	
02/01/2007	Yarn Dyeing Plant Project		400,000,000	25.09%	3.61	19%
01/08/2007	Acquisition of 72 Tsudakoma looms		280,000,000	29.81%	3.14	20%
22/08/2007	Waste Recycling and Open End Spinning Project		150,000,000	48.86%	2.01	20%

Figure 1: List of projects approved by Gul Ahmed Textiles Limited management committee between September 2004 (when the internal benchmark policy was adopted) and December 2008.

For each of the 4 projects, the feasibility study (containing the investment cost, IRR and payback calculation) has been shown to the DOE. The benchmark applicable at the time is taken from ***Error! Reference source not found.****.*

Although only the CDM project relates to energy generation, all the investments listed in Figure 3 relate to processes that are part of the production chain and hence share the same risk of affecting the production chain. As explained above and in PDD page 18 (including footnote 11), Gul Ahmed uses a wet process with batch operation. This entails continuous load variations with corresponding difficulty in maintaining the power, steam and hot water balance. Hence, the power plant is an integral part of the process and cannot be replaced by an external steam supplier (should such a supplier exist) or even the grid electricity, which is not reliable enough. This is also corroborated by the common practice in Pakistan and the historical practice at Gul Ahmed over the last 30years, which is to have a captive power plant to supply the process (see PDD common practice barrier).

Furthermore, out of the 4 projects above, only 1 (Tsudakoma loom acquisition) had to be made while the other 3 investments are 'auxiliary' or 'optional', in the sense that the alternative of continuing with the current/historical practice was possible. PPs also point out that 'optional' projects would in theory have a higher expected return on investment and hence that using the same (low) return as other projects is conservative.

Based on the above, PPs estimate that the internal benchmark has been "used for similar projects with similar risks" and hence can be used in the demonstration of additionality.

However, PPs recognize that the internal benchmark has not been used for other power projects, because there haven't been any such projects (the only 'investments' in power generation are for the occasional upgrades and replacement of engines and boilers).

→ B) We request the SSCWG to clarify if it can be considered that the benchmark has been "used for similar projects with similar risks" and hence that the use of internal benchmark is appropriate in this particular project context to demonstrate additionality.

→ C.1) If Gul Ahmed internal benchmark cannot be used, we request the SSCWG to clarify which other approach could apply, as the proposed approach is the one that has actually been used by the project developer.

In case of using the internal benchmark, there is an ambiguity in paragraph 13 of the Guidance in relation to which benchmark can be used.

The first sentence reads:

"Internal company benchmarks/expected returns (including those used as the expected return on equity in

[5] Commonly calculated as WACC = [Kd * (1-t) * D/(D+E)] + [Ke * E/(D+E)], where:
Kd= cost of debt financing
Ke = cost of equity financing
D = Debt amount
E = Equity amount
t = Corporate tax rate

the calculation of a weighted average cost of capital - WACC), should only be applied…"

which suggests that the internal benchmark can be any internal company benchmark/expected return

The last sentence reads:

> "This shall require as a minimum clear evidence of the resolution by the company.s Board and/or shareholders and will require the validating DOE to undertake a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects."

which suggests that the internal benchmark has to be the WACC.

Clarification is required on how the term WACC is used in the latter part of this paragraph, i.e. if WACC is understood as the calculated cost of capital[5] (which is not directly available for Gul Ahmed, and not used for decision making) or as an implicit cost of capital which can be based on a return agreed by official decision (as is the case for Gul Ahmed – see PDD Attachment E)

→ C.2) If Gul Ahmed internal benchmark can be used, we request the SSCWG to clarify if it can be taken as the internal hurdle rate from the company's official decision.

Finally, if it can be taken from official decision, then the last sentence of paragraph 13 of the Guidance:

> "This (…) will require the validating DOE to undertake a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects."

cannot be strictly applied because:

1. The internal hurdle rate is based on corporate decision, not on WACC calculations based on financial statements

2. The internal hurdle rate was introduced only in September 2004, i.e. one year before CDM project investment decision. Hence, 3years of behaviour is not available prior to decision making, although there are now almost 5 years of behaviour available and clearly showing that the requirement has been consistently applied since its introduction:

- PDD Attachment E shows official documentation of the initial decision to use the internal hurdle rate and the subsequent updates to it between September 2004 and November 2008 (last update).
- Figure 3 above shows that all projects which have followed the process in the last 5years satisfy the internal benchmark rule (except the CDM project)

→ C.2.i) If internal hurdle rate from company's official decision can be used, we request the SSCWG to clarify if evidence of applying this requirement consistently since its introduction (as explained above) is acceptable as evidence that the 'behavior of the entity' is based on this internal hurdle rate, in accordance with paragraph 13 of the Guidance.

Recommendation by the SSC WG:

Please use the space below to provide amendments/change (in your expert view, if necessary).

Please refer to paragraph 34 of the meeting report of the SSC WG 21 (http://cdm.unfccc.int/Panels/ssc_wg).

Answer to authors of query by the SSC WG:

Please use the space below to provide answer to the authors of the above query.

The small-scale working group of the CDM Executive Board would like to thank the author for the submission.

The SSC WG agreed to indicate that the clarification request, which is related to the use of internal benchmark rate of return in the demonstration of additionality (with reference to paragraph 13 of "Guidance on the assessment of investment analysis", see EB 39 annex 35) in the specific context of a

project, is not within the mandate of the SSC WG to respond in accordance with the procedures (see <http://cdm.unfccc.int/Reference/Procedures>).

Signature of SSC WG Chair ……..

(Hugh Sealy)

Date: 19/06/2009

Signature of SSC WG Vice-Chair ……..

(Peer Stiansen)

Date: 19/06/2009

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