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## CDM Executive Board



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Your reference/letter of	Our reference/name	Tel. extension/E-mail	Fax extension	Date/Document	Page
	IS-CMS-MUC/Mu Javier Castro	+49 89 5791-2686 javier.castro@tuev-sued.de	+49 89 5791-2756	2008-07-16	1 of 10

## Response to Request for Review

Dear Sirs,

Please find below the response to the request for review formulated for the CDM project with the registration number 1743. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Javier Castro  
Carbon Management Service

Headquarters: Munich  
Trade Register: Munich HRB 96 869

Supervisory Board:  
Dr.-Ing. Axel Stepken (Chairman)  
Board of Management:  
Dr. Peter Langer (Spokesman)  
Dipl.-Ing. (FH) Ferdinand Neuwieser

Telefon: +49 89 5791-2246  
Telefax: +49 89 5791-2756  
[www.tuev-sued.de](http://www.tuev-sued.de)

TÜV SÜD Industrie Service GmbH  
Niederlassung München  
Umwelt Service  
Westendstrasse 199  
80686 Munich  
Germany

## **Response to the CDM Executive Board**

### **Issue 1**

The DOE should be requested to confirm how it has complied with the guidelines under paragraph 54 of EB 38 pertaining to the use of government-approved FSRs.

### **Response by the Project Participants:**

We copy here below the paragraph 54 from the EB 38 report<sup>1</sup> and we will then answer to the three points (a), (b) and (c) from this EB decision. In order to illustrate our different answers, a complete timeline history of the project from 1998 to 2008, including all events relative to the construction and registration of the project as a CDM activity is also provided at the bottom of this document.

*“54. The Board clarified that in cases where project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities, DOEs are required to ensure that:*

*(a) The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed. (b) The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the DOE should validate the appropriateness of the values. (c) On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision.”*

- (a) Yuxi Hydrolic Association is an entity promoting the development of hydropower in China. In October 1998 they wrote the first Feasibility Study Report (FSR) of the Lutong hydro project, which was at that time planned with only 8 MW capacity. Only in 2003 a company willing to invest in the project (Yuanjiang Minfa Group Co., Ltd., the project owner) could be found. The project owner asked Yuxi Hydrolic Association to make a financial re-evaluation of the project based on the first FSR, taking into consideration recent data and especially the decrease of the electricity feeding tariff announced by Yuanjiang County Government in October 2003<sup>2</sup>.

Taking into account the new circumstances, the financial re-evaluation, called the Financial Assessment Report (FAR), showed that the project IRR (6.87%) was much lower than the benchmark of 10% and Yuxi Hydrolic Association added a recom-

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<sup>1</sup> The PPs would like to underline the fact that the decision 54 from the EB 38 was published the 14<sup>th</sup> of March 2008, exactly the same day TUEV-SUED sent the request for registration to the secretariat. Lutong PDD has been therefore validated according to all UNFCCC requirements and EB decision up to EB 37. This issue n°1 raised by the EB based on a decision from its 38<sup>th</sup> meeting can therefore be seen as posterior to the project and could not therefore be anticipated by the PPs and TUEV-SUED.

<sup>2</sup> After the project owner signed the Power Purchase Agreement with Grid Company in March 2008, the tariff is still 0.15 RMB/kWh.

mendation note to apply for CDM to increase the financial attractiveness of the project.

On the 9th of December 2003, the financial department of the project owner also sent a notification to the company's board to inform them about the low expected IRR, which was a logic consequence of the expected 0.15 RMB/kWh grid tariff. Following the recommendation of the Yuxi Hydrolic Association, the financial department also suggested applying for CDM. Therefore, the board of Yuanjiang Minfa Group Co., Ltd. decided to implement the project under the CDM on 23rd January 2004. Finally, following the request from Yuxi Hydrolic Association on the 6th February 2004, the local government sent a letter to confirm their support for the CDM project (11st February 2004).

The Project Participants judge that the period of time between the FAR (November 2003) and the investment decision (January 2004) was sufficiently short "that it is unlikely in the context of the underlying project activity that the input values would have materially changed".

It should be noted that the numbers in the FAR were the basis of the decision by the project owner to proceed with the investment in the project. As explained below, the financial analysis in the PDD is based on the second official FSR from 2005, which is more accurate and conservative (from a CDM additionality perspective) than the FAR numbers.

- (b) The PPs estimated that the second FSR (made in 2005) is the only document with numbers concordant with data available at the time when the decision to invest was taken, it also includes the project expansion and is more conservative from a CDM perspective; it is therefore the most appropriate set of data available for the PDD.

Indeed, if we look carefully at the project history, there are three possible sets of financial data for the PDD:

- the data from the first FSR in 1998;
- the data from the FAR in 2003;
- the data from the second FSR in 2005;

As shown in the PDD, it would be completely irrelevant to undertake a financial analysis with the numbers available in 1998, because it was made six years before the investment decision based on outdated tariff structures and did not include the expansion capacity. In November 2003, FAR was finished and indicated a low IRR of 6.87%, and the CDM was suggested to improve financial attractiveness of the project. In early 2004, the construction started. In April 2005, the project was re-evaluated and the second FSR was made, in which the installed capacity was changed to 10MW. The power generation and financial income could be slightly increased. The new project IRR of 7.30% was still lower than the benchmark. Therefore, the project owner proceeded with the project under the CDM.

The following table provides the input values used for estimating the project's IRR and their correspondent values from the second FSR in 2005 and FAR in November 2003:

The investment between the numbers of the FAR 2003 and the second FSR 2005 can be mainly explained by the new capacity extension and changes in tax structure. In 2005 as in 2003, the IRR of the project is very low and the project unattractive without the CDM revenues. Despite being more accurate, the second FSR is also more conser-

vative from a CDM additionality assessment perspective because of the higher IRR.

Parameters	Value from the second FSR (2005)	Value from the FAR (2003)
Installed capacity (MW)	10	8
Annual Power supplied to Grid (MWh)	52,920	45,530
Total Investment (1000 RMB)	54,299.3	49,449.1
Proportion of Loan (%)	58	70
Annual Interest (%)	6.35	14.04
Estimated Grid Price (RMB/kWh, including VAT)	0.15	0.15
VAT(%)	6	17
Surcharge Tax (%)	5	7
Income Tax (%)	33	33
Operational Period (years)	30	20
Annual Operational Costs (1000 RMB)	1,318.6	1,623.6
IRR (%)	7.49	6.87

(c) Due to the nature of this issue, please see response by TÜV SÜD.

**Response by TÜV SÜD:**

DOEs has now complied with the above guidelines as follows:

- (a) The decision to proceed with the investment in the project relies on the outcome of the Financial Assessment Report issued by the Yuxi Hydrologic Association on November 2003; according to this report, based on a capacity of 8 MW and on a grid price of 0.15 Yuan RMB/kWh, the financial feasibility of the project was low and an IRR value of 6.87% was found. The document has been verified by DOE who confirms the figures provided by the PPs in their response. The decision to invest in the project has been formally taken by PPs on January 23<sup>rd</sup>, 2004. Furthermore, according to the record of events as verified through the official documents, DOE agreed with the PPs stating that it is unlikely that the input values would have materially changed between November 2003 and January 2004.
- (b) The relevant figures as in the original document have been compared to the values as used in PDD and IRR calculation. It's therefore confirmed that the values used in PDD and associated annexes are fully consistent with the Financial Analysis Report dated April 2005. Has been furthermore verified that the difference between the IRR number of 7.30% in the FAR (2005) and 7.49% in the PDD comes from a wrong assumption in FAR about the duration of the construction period that has lead to wrong loan interest values. Moreover DOE confirms that, due to the capacity increase up to 10 MW, the values from the FSR dated April 2005 are the logical values to be used for the financial analysis in PDD and that these values leads to a conservative estimation of the IRR which results 7.49% as verified through a deep check of the calculation spreadsheet.
- (c) The input values from the Financial Analysis Report have been cross-checked with a database containing key parameters of more than 200 Chinese hydropower CDM projects and by applying TÜV SÜD local and sectoral expertise.

Thirty small scale projects currently under validation and ranging from 8MW to 12MW have been used as the base for the assessment; the specific fixed assets of about 5.43 RMB/MW is remarkably below the calculated average of 6.84 RMB/kWh. The annual operational costs of 1.32 Million RMB have been also found reasonable according to the project specifications and comparing to an average of 1.52 Million RMB as calculated.

To perform the crosscheck it has been then decided to compare the key parameters with the same taken from recently registered small scale CDM projects located in the same Yunnan Province; the total investment of the proposed project, 54,30 Million RMB, well represent the average from the 9 CDM projects found, that is 54,83 RMB; furthermore the annual operational cost for the proposed project has been found slightly below the average: 1,32 Million RMB comparing to an average of 1,41 Million RMB. Consequently, the ratio between the operating cost and the total investment has been also found in line with the average (1,32% for the project, 1,41% the calculated average). Another important figure that have a strong impact on the IRR calculation is the annual operating time and, definitely, the expected power output: the proposed project has been found to have an expected operating time of about 5290 hours which is sensibly higher than the average obtained for the nine CDM projects recently registered in Yunnan Province that is 4525 hours. Furthermore, the grid price of 0.15 yuan RMB/kWh was used according to a "Development Intent" with the local Yuanjiang County People's Government and dated October 31<sup>st</sup>, 2003 which regulates the price for the proposed project. The same price has been confirmed as the price finally received on April 2008, when a Power Purchase Agreement was signed with the local grid company Yuanjiang Power Co., Ltd.

The results of the above presented assessment shows that the figures of the key parameters for IRR calculation are in line and even slightly conservative comparing to other projects.

In addition, on the basis of the sectoral and local expertise it is here reaffirmed that the input values as taken from the Feasibility Study Report 2005 (10MW) are within the range for similar plants in China and certainly realistic taking into account the project characteristics and specifications. It's therefore opinion of DOE that the costs for the proposed projects are acceptable based on local and sectoral expertise.

#### Issue 2

The DOE should be requested to confirm (a) the evidence of prior consideration of the CDM and (b) that the CDM benefits were considered necessary in the decision to invest in the project activity given that it was submitted for validation almost four (4) years after start of construction. The response should provide a detailed timeline of the development of the project as a CDM project activity with relevant, preferably third party evidence.

#### Response by the Project Participants:

- (a) The first reference to CDM appears in the FAR made by Yuxi Hydrologic Association in November 2003, which was before the decision to invest in the project was taken. The CDM has been considered because of the low financial attractiveness of the project without additional CDM revenues. This FAR has been considered seriously by the board of Yuanjiang Minfa Group Co., Ltd. before taking the decision to implement

the project as a CDM project in January 2004.

Yuxi Hydrologic Association is an entity promoting hydropower in China, the financial assessment report (FAR) and the support letter from the local government are third party evidences of the early consideration of the CDM.

- (b) The three years and a half that passed between the start of the construction and the start of validation (February 2004 to October 2007) were full of events related to the CDM project development and therefore cannot be interpreted as a non-consideration of the CDM. The long period was rather the consequence of the difficulties to set up several multi-parties agreement (e.g. South Pole buying on behalf of Kommunalkredit buying on behalf of the Austrian Government). Please note that the final ERPA could only be signed in December 2007. The project developers also knew that the project will only be commissioned in 2008 and therefore they had time with the registration of the project as the planned registration will not significantly reduce the expected revenues from the CDM.

The following table shows a detailed timeline of the development of the project and shows that all project participants have always contributed actively to the registration of the project as a CDM project activity.

Date	Event	Evidence	Comments
October 1998	First FSR by Yuxi Hydrologic Association	FSR	Document provided to DOE.  The local Hydropower Bureau entrusted Yuxi Hydrologic Association to make this FSR in 1998. The report was written with an optimistic electricity price assumption of 0.3RMB/kWh.
November 2003	FAR by Yuxi Hydrologic Association	FAR	Document provided to DOE.  Yuanjiang Minfa Group considered investing in hydropower projects in the end of 2003 and entrusted Yuxi Hydrologic Association to make this FAR to know the economic index and investment risk of Lutong station.
9th Dec. 2003	The financial department wrote notification to board informing that the IRR was expected to be low because the electricity price was expected to be only 0.15 RMB/kWh. The financial department suggested developing the project as a CDM project.	Internal Notification	Document has been made available to UNFCCC

20th Jan. 2004	CDM recommendation letter by Yuxi Hydrologic Association and offer of assistance	Recommendation Letter	Document has been made available to UNFCCC
23rd Jan. 2004	Board Decision to implement the project as a CDM project	Board Decision	Document has been made available to UNFCCC  FAR made by Yuxi Hydrologic Association in November 2003 was the basis for the board decision. CDM application was suggested in this report.
6th Feb. 2004	Yuanjiang Minfa Group Co., Ltd. requests the government to support the project	Request Letter	Documents provided to DOE.  Yuanjiang Minfa Group Co., Ltd. requests support of local government for CDM application
11th Feb. 2004	Support letter from the government to apply for CDM	Support Letter	Document provided to DOE.  The local government agree to support Lutong station applied for CDM project.
12th Feb. 2004	Turbines and Generators Purchase Contract was signed	Turbines and Generators Purchase Contract (8MW)	Document provided to DOE.  According to the design of FSR and FAR, the installed capacity was 8MW, but the capacity was adjusted in 2005, Additional 2MW turbine and generator contract was signed in November 2005. This contract was still valid.
22nd Feb. 2004	Construction Started	Newspaper	Document provided to DOE.  Local government departments and local media joined in the construction start ceremony. This date is the official construction start date, but not the physical one.
10th Sep. 2004	Yuxi Hydrologic Association provided training course about CDM to project owner	CDM Course Schedule and presence list signed by participants	Presence list and training course program provided to DOE.  Yuanjiang Minfa Group Co., Ltd. began to apply CDM and wanted to know further information about CDM and how to find an appropriate consulting body.
March 2005	Tianqing contacted Christoph Sutter, today CEO of South Pole.		The Tokyo Protocol took effect, and consulting body began to contact with CDM experts.

April 2005	Second FSR by First FSR by Yuxi Hydrologic Association	FSR	Document provided to DOE.  The second feasibility study report including the 2 MW extension is published.
1st April 2005	Project owner contracted CDM developer Tianqing Power.	CDM entrust letter	Document provided to DOE.  The project entrusted Tianqing to find buyers and application work.
June 2005	Tianqing signed Technical Service Agreement with Christoph Sutter	CDM Technical Service Agreement	Document provided to DOE.
4th Nov. 2005	Turbines and Generators Purchase Contract (2MW) was signed	Turbines and Generators Purchase Contract (2MW)	Document provided to DOE.  The installed capacity was adjusted, and an additional set of turbine and generator (2MW) was needed.
March 2006	Finished PDD draft		After deep communication and revision, draft PDD is finished.
August 2006	Tianqing Signed Cooperation Agreement with South Pole.	Cooperation Agreement with SP	Document provided to DOE.
16th Oct. 2006	South Pole signed letter of intent with Tianqing regarding the project	LoI of SP and Tianqing	Document provided to DOE.  SP proposes itself to help Tianqing for developing PDD and seeking for a CER buyer.
February 2007	Beginning of due diligence process by South Pole		Began preparation work for ERPA
15th June 2007	Letter of Intent by South Pole Carbon and Tianqing to buy the CERs from Lutong project.	LoI	Provided to DOE  On behalf of Kommunalkredit Public Consulting intends itself to buy CERs from the Lutong Project.
27th June 2007	PDDs with Chinese and English version have been submitted to Chinese DNA		Documents were ready for LOA of host country.
31th July 2007	The project has been approved by the Chinese DNA on the website	The website: <a href="http://cdm.cchina.gov.cn/web/index.asp">http://cdm.cchina.gov.cn/web/index.asp</a>	The approval notice was published by Chinese DNA
30th Sept.	Host country LoA was	China LoA	Official LoA of host country was re-



2007	issued		ceived.
10th Oct. 2007	PDD was published for validation		Beginning of validation
6th Dec. 2007	Final version of ERPA was signed	ERPA	Document provided to DOE. ERPA between the project owner (as the seller) and South Pole and Kommunalkredit Public Consulting(as buyers) is signed.
14th March 2008	DOE sent the request for registration to UNFCCC		Request for registration
11th April 2008	Project started operation	Operation ceremony announcement <a href="http://www.yx.com.gov.cn/xxxs.aspx?id=2008041616281084">http://www.yx.com.gov.cn/xxxs.aspx?id=2008041616281084</a>	The project was finished and started operation.

#### Response by TÜV SÜD:

It's confirmed that (a) the prior consideration of the CDM is based on the following documented events, which all come before the purchasing date of the main equipment (February 12<sup>th</sup> 2004):

- 1) November 2003 – Financial Assessment Report was issued by Yuxi Hydrologic Association; the report explicitly mentions the CDM as a good option to overcome the financial unfeasibility for the proposed project;
- 2) December 9<sup>th</sup>, 2003 – The financial department of Yuanjiang Minfa Group Co., Ltd (the project owner) wrote a notification to the board of the group encouraging to apply for CDM;
- 3) January 20<sup>th</sup>, 2004 – Yuxi Hydrologic Association recommended Yuanjiang Minfa Group Co., Ltd. to apply for the CDM regarding the Lutong Hydropower Station and offered assistance to support the application;
- 4) January 23<sup>rd</sup>, 2004 – The Board of Yuanjiang Minfa Group Co., Ltd. met and formally decided to develop the Lutong Hydropower Station as a CDM project;
- 5) February 11<sup>th</sup>, 2004 – The project owner received a Support Letter from the local government to apply for CDM. (attached)

All the above mentioned events have been supported through the relative official documents. These documents have been verified by DOE in the original versions.

Regarding the period of time between the start of construction and the start of validation (b) DOE believes that the events as recorded in the detailed timeline are coherent with the actual history of the project. The main reasons that explain the delay rely on the difficult to define a PDD writer and to effectively start with the application process; this resulted in a series of multi-

parties agreements that have slowed down the application process. After some months had been lost due to the engagement of the Yuxi Hydrologic Association in the CDM application, the project owner signed a first contract with Beijing Tianqing Power International CDM Consulting Co., Ltd. in April 2003, with the aim of prepare the PDD and proceed with the application. Meanwhile, in April 2003, the revised Feasibility Analysis Report was completed according to the 10 MW capacity and the same got approval from the local DRC on April 26<sup>th</sup>, 2005. On June 2005 a cooperation agreement between Beijing Tianqing and Christoph Sutter (now CEO of Southpole Carbon Asset Management Ltd.) was signed; according to this contract Beijing Tianqing received assistance by the more experienced consultant Christoph Sutter to proceed with the CDM process and the PDD draft. A very first draft of the PDD was completed on March 2006 and the project participants found through Beijing Tianqing a possible buyer in Southpole Carbon Asset Management Ltd.; in particular a Letter of Intent was signed between Beijing Tianqing and Southpole on October 16<sup>th</sup>, 2006 which made explicit reference regarding the interest of Southpole in purchasing the CERs resulting from the project. The PDD for host country approval was completed on June 2007 and in the same month, after a due diligence was performed by Southpole, a final "Letter of Intent and Agreement of Exclusiveness" was signed on June 7<sup>th</sup>, 2007 between the buyer (Southpole) and the project owner (Yunnan Minfa Group Yuanjiang Lutong Hydropower Co., Ltd.). The PDD for GSP was received by DOE on October 10<sup>th</sup>, 2007 and the validation started.

According to this further assessment, DOE ensure that the timeline presented by the project participants it's fully coherent with the evidences that have been requested and verified. The need for CDM has been the base and the reason for promoting the steps that, even through with some difficulties due to evidenced reasons, have led to the starting of the validation activities.