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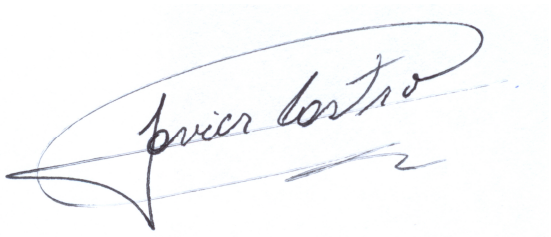
Request for Review

Dear Sirs,

Please find below the response to the review formulated for the CDM project with the registration number 1611. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,



Javier Castro
Carbon Management Service

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Response to the CDM Executive Board

Issue 1

1. The DOE is requested to confirm how it has validated that the project is additional based on the results of the investment analysis, in particular with reference to the applied benchmark for this and similar project activities

AND

Issue 2

2. Further clarification is required on (a) how the DOE has validated the technological barriers, (b) the essential differences between the project activity and the similar projects using domestic technology cited in the common practice analysis and (c) why the PP has not opted to use the domestic technology for the project activity.

AND

Issue 3

If the barriers to the project activity cannot be further substantiated, an economic comparison of the proposed baseline and the project activity without CDM must be conducted to determine the baseline scenario

Referring to Issue 1

Response by Project Participant

The project applies the internal benchmark of Anhui Conch Cement Company Limited (ACCCL). The internal benchmark has been selected since it is a requirement of the Board. Applying the company internal benchmark is consistent with national policies on investments and it meets the conditions of both the Additionality Tool and the guidance provided in EB39 (Annex 35).

In China, sector benchmarks are published in the "Methods and Parameters for Financial Evaluation of Construction projects (3rd Edition)". The sector benchmarks in this book have been applied for the CDM by many projects and including projects in the cement sector. However, as set out in the book, these benchmarks are for investment projects to be undertaken with Government funding or are in the Government's area of focus (sectors where products are priced by the Government and guided by government policies). These sectors include electricity, water supply, heat and gas supply, rail and airport. The benchmarks are not always suitable for private investors or other investors. Indeed, the Methods and Parameters book states that private investors or other investors can determine their own benchmark based on their cost of capital and risk premium on particular investment project. (p196, 197, 199 Methodology and Parameters) [1]

[1] "Methodology and Parameters for Economical Appraisal of Construction Project", China Planning Publishing House (version

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Anhui Conch Cement Company limited (ACCCL) is a listed Company. ACCCL was established in 1997 and was listed in 2002 on the Shanghai Stock Exchange and so has multiple shareholders. As such, its financing is from different capital channels that causes various costs of capital.

ACCCL therefore has a higher cost of equity than fully State Owned Enterprises or enterprises or projects which are supported by government funding in China. This is due to the fact that it has to satisfy the minimum equity costs required by shareholders with a higher cost of capital. As such, ACCCL must meet the minimum equity costs required by shareholders as well as the debt cost required by banks in order to continue to obtain financing for their plenty of investments demanded for retrofitting/modifying existing clinker lines and constructing new clinker lines during the tenth five-year plan of China social and economic development which is set out as the development strategy of ACCCL stated in the Resolution of the Board. ACCCL has set up their own internal benchmark for the minimum internal rate of return on equity investment at 18% that represents their cost of capital in 2003.,which is evidenced by an internal confidential document of the resolution of the Board[2] .The resolution of the board has been submitted to DOE.

Version 3 of the additionality tool as applied by this project states that a benchmark can be derived from “a company internal benchmark (weighted average capital cost of the company) if there is only one potential project developer (e.g. when the project activity upgrades an existing process)”.

As such in order to demonstrate the validity of this benchmark the Project Participant has calculated the weighted average cost of capital (WACC) in 2005. This showed a WACC of 17.86%. Given that this is lower than the 18% specified by Conch, 17.86% this has been applied as the benchmark in the investment analysis to be conservative.

Version 3 of the additionality tool also states that “The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark”. Therefore the Project Participant has also supplied the IRRs of all previous investments the DOE. The full list of investments that have been undertaken by ACCCL since 2003 is shown below.

Year	**Project title**
2003	4000 t/d Clinker Cement Production Retrofit Engineering of Baimashan Conch Cement Company Limited
2003	10000 t/d Clinker Cement Production line Retrofit Engineering of Tongling Conch Cement Company Limited
2004	Phase III 2x4500t/d clinker line of Digang conch cement Company Limited
2004	1.65 million tone/a cement grinding line of Taizhou conch cement Company Limited
2004	Phase I 5000t/d clinker line of Wuhu conch cement Company Limited
2004	Phase I 2×5000t/d cement clinker line of Xuancheng conch cement Company Limited

3)
[2] The Resolution of the ACCCL Board on the Development Strategy of ACCCL during the Tenth Five-year Plan of China Social & Economic Development and the Company Internal Benchmark for the Investments

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2005	Phase I 4000t/d cement clinker line of Beiliu conch cement Company Limited
2005	4x4500 t/d Cement Clinker Production Retrofit project of Chizhou Conch Cement Company Limited
2005	Phase II 2×4500t/d Cement Clinker Production Retrofit project Wuhu Conch Cement Company Limited

This list includes both new build clinker lines and retrofit projects to existing clinker lines and all of these projects show returns higher than 18% (and indeed the more conservative benchmark of 17.86% used in the PDD). The IRRs range from 18% - 27%. Actual data has been omitted on request of ACCCL, but the FSR of this list of projects has been checked by the DOE.

Since the project was submitted additional guidance has been issued by the EB at EB39 (annex 35). Paragraph 12 of this guidance states the following.

Guidance: Internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC), should only be applied in cases where there is only one possible project developer and should be demonstrated to have been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region. 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.
Rationale: Paragraph 4 of the Tool for the demonstration and assessment of additionality (version 3) requires that benchmarks should not include the subjective profitability expectations or risk profile of a particular project developer.

In response to this new guidance, the Project Participant presents the following:

1. The proposed project has only one potential developer which is Chizhou Conch Cement Company Limited (CCCCL) subordinated to ACCCL and decision of investment is made by ACCCL. The project is integrated into the core business of ACCCL and as such they would be the only investor.

2. The internal benchmark is determined by the Board of Directors of ACCCL as described above.

3. Since 2003 all of the investments undertaken by ACCCL have had equity returns above the benchmark of 18% and therefore the same financial behaviour is demonstrated for more than 3 years.

4. The investments listed above include both similar projects (retrofit) and other projects (new clinker lines). All projects are required to meet the same financial returns in ACCCL. Furthermore, technologies that are not core business in ACCCL are expected to be even more financially attractive due to the lack of experience and therefore perceived technology risk.

Response by TÜV SÜD:

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In assessing the benchmark used in the investment analysis, TÜV SÜD has followed a 3-step approach:

Step 1: Assessment of the eligibility of the project participant to use WACCC
According to "The guidelines on the Assessment of Investment Analysis, WACC should only be used in cases where there is only one possible project developer and should be demonstrated to have been used for similar projects, developed by the same company.
The project owner is Chizhou Conch Cement Company Limited (CCCCL) subordinated to ACCCL and decision of investment is made by ACCCL. They are the only project developer, as the project is located at their plant side.
The project participant provided the DOE with an overview of the company investments since 2003. For all projects (from 2003 to 2005) mentioned above, the FSR has been checked and verified by TÜV SÜD. All investments, projects with similar risks/ lower risks and other ones, have crossed the announced benchmark of 17,86%. We are of the opinion that since project is not the core business of the company and has higher associated risks, so it is conservative to take the same benchmark applied to other projects in core business of the company.
The internal benchmark of 18% was decided in a board meeting of ACCCL dated on 19th January 2003. This document has been checked and validated by TÜV SÜD.
Therefore, the DOE can confirm, that the benchmark was continuously applied by the project developer.

Step 2: Assessment of the formulae used to calculate WACC
The formula has been taken from Rechard P. and Bill N. (2003) "Corporate Finance (fourth edition)", Prentice Hall and has been crosschecked with other financial definitions.
The formula can be considered as valid and applicable.

Step 3: Assessment of the Input values to WACC calculation
The equity and dept balance of Chizhou Conch Cement Company Limited has been checked through the "Consolidated Balance sheet of Anhui Conch Cement Limited". The values applied in the calculation are consistent to them.
The shared market price has been evidenced through Yahoo stock market information „share price on 30th December 2005.
The dividends have been evidenced by the Yahoo stock market information „dividends paid over the period of 2002-2006".

By these procedures TÜV SÜD was able to confirm, that the benchmark applied is reasonable and in line with governmental requirements and UNFCCC requirements. Hence the project is additional.

As ACCCL is a listed company and therefore has higher costs of equity than fully State Owned Enterprises, which is due to the requirements of the shareholders, the sector benchmark for cement industry is not the most appropriate benchmark for this project. Please also refer to „ Methods and Parameters for Financial Evaluation of construction projects (3rd edition)".
On page 196, 197, 199 it is stated that the benchmarks are not always suitable for private investors and for sectors where the products are not governed by government.
And the private investors can determine their own benchmark based on their cost of capital and risk premium.

Referring to issue 2:

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Response by Project Participant

(a) Technological barriers
This principal mechanism for demonstration of additionality for this project is through the use of an investment analysis. As such the barrier analysis need not to be applied and the project participant agrees to the removal of this section.

(b) Differences between domestic technology and Kawasaki technology
The main difference between the two technologies is that the Kawasaki technology is more efficient and more expensive than domestic technology. The power generation of clinker per ton for the Japanese technology is 36 • 45kWh/t . This compares to 38-42 kWh/t for domestic technology. The inner efficiency of turbine for the Japanese technology is 83%-90% and for the domestic technology it is 80-87%. The capital cost is of the Japanese technology is 9000 - 12000RMB/KW compared to 5500-6500RMB/kW for domestic.[3] The Japanese technology therefore has a higher risk profile than domestic technology.

Given the lack of experience in the cement sector in waste heat recovery, companies tend to look at the lower cost option of domestic technology. These technology applications have in the past been limited to demonstration projects as shown in the common practice analysis list.

(c) The use of domestic technology
In 1998 Conch were awarded grant financing by the Japanese Government's Green Fund to demonstrate the Japanese Kawasaki waste heat recovery technology at their Ningguo plant (Ningguo Phase I). Subsequent to this demonstration project, Conch did not invest in any additional waste heat recovery plants since they were not core business and did not meet their financial objectives. Given that Conch already had some experience of the Kawasaki technology at one of their sites they only looked at roll out of this technology and not other less efficient technology options. Using domestic technology was therefore never an option that was considered seriously by Conch.

Response by TÜV SÜD

a) The project participant will rely on the investment analysis. The barrier analysis will be skipped in the revised PDD. For that reason an answer to this question is not needed anymore.

b) and c) TÜV SÜD can confirm the answer of the project participant. According to a word bank report there are usually two choices for a Chinese cement company to decide. One is to adopt the Japanese equipment and the other the domestic one. The Japanese equipment is more efficient but also more expensive than the domestic one. From the energy efficiency point of view, Japanese equipment is better, but the higher investment costs hinder the implementation. For that reason the project 1611 is different to those mentioned in the common practice analysis.

Referring to issue 3:

Response by Project Participant:

[3] http://www.chinacements.com/news/2007/4-11/C134253705.htm

The investment analysis in the PDD demonstrates that the project is not financially attractive when compared to the baseline scenario since the savings made by not purchasing power from the grid are already included in the economic analysis.

However to further elaborate this point the project participant has prepared a levelised cost analysis for the project and baseline scenarios. This has been done through a Net Present Value of the costs of the two scenarios and a subsequent evaluation of the levelised cost of both.

This is presented below in the tables below.

For comparison of these two scenarios the different tax situations have been considered. This is due to the fact that scenario of the project activity (scenario 1) without CDM includes a capital investment and the scenario of purchasing electricity from the grid (scenario 2) does not. For scenario 1 there is a capital allowance for the depreciation and amortization of the capital cost. For both scenarios 1 and 2 income tax will be due. Income tax is due on net income and in scenarios 1 and 2 this will be different and there is a tax benefit in having higher annual costs i.e. less tax will be paid. In other words net annual income will be less when there are higher annual costs and therefore income tax will also be less. Conversely, when net annual income is higher then so are the taxes.

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Power Generation

		Reference	0	1	2	3	4	5	6	7	8	9	10	11	12
Annual Power Generation (MWh)	A	FSR	-	184,140	204,600	204,600	204,600	204,600	204,600	204,600	204,600	204,600	204,600	204,600	204,600
Discount Factor	B	$= 1 / (1 + DR)^n$	1	0.84746	0.71818	0.60863	0.51579	0.43711	0.37043	0.31392	0.26604	0.22546	0.19106	0.16192	0.13722
Present Value of Annual Generation (MWh)	C	= A x B	-	156,051	146,940	124,526	105,531	89,433	75,790	64,228	54,432	46,129	39,091	33,129	28,075
Total Present Value of Annual Generation (MWh)	D	= Sum (C_i)	963,354												
Net Power Price (RMB/MWh)	**E**	**FSR**	376												

Scenario 1. Chizhou conch WHR Project

		Reference	0	1	2	3	4	5	6	7	8	9	10	11	12
Capital Cost	F	FSR	217,836,200												
Depreciation	G	FSR		14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908	14,894,908
Amortization	H	FSR		2,474,167	2,474,167	2,474,167	2,474,167	2,474,167	2,474,167	2,474,167	2,474,167	2,474,167	2,474,167		
O&M Cost	I	FSR		23,990,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000	25,220,000
Residue	J	FSR													9,407,310
Income Tax saved (@ 33%)	k	= (F+G+H+I-J) x 0.33		13,648,494	14,054,394	14,054,394	14,054,394	14,054,394	14,054,394	14,054,394	14,054,394	14,054,394	14,054,394	13,237,919	10,133,507
Total Cost	L	= F + I - K	217,836,200	10,341,506	11,165,606	11,165,606	11,165,606	11,165,606	11,165,606	11,165,606	11,165,606	11,165,606	11,165,606	11,982,081	15,086,493
Discount Factor	M	$= 1 / (1 + DR)^n$	1	0.84746	0.71818	0.60863	0.51579	0.43711	0.37043	0.31392	0.26604	0.22546	0.19106	0.16192	0.13722
Present Value of Total Annual Cost	N	= LxM	217,836,200	8,764,012	8,018,915	6,795,722	5,759,108	4,880,598	4,136,075	3,505,107	2,970,498	2,517,397	2,133,301	1,940,138	2,070,169
Total Present Value of Annual Costs	**O**	**= Sum (L_i)**	271,327,240												
Levelised Cost (RMB/MWh)	**P**	**= O / D**	282												

Scenario 2. Power Purchase

		Reference	0	1	2	3	4	5	6	7	8	9	10	11	12
Capital Cost	F	FSR													
O&M Cost	G	FSR		69,236,640	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600	76,929,600
Income Tax saved (@ 33%)	H	= G x 0.33		22,848,091	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768	25,386,768
Total Cost	J	= F + G - H		46,388,549	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832	51,542,832
Discount Factor	K	$= 1 / (1 + DR)^n$	1	0.84746	0.71818	0.60863	0.51579	0.43711	0.37043	0.31392	0.26604	0.22546	0.19106	0.16192	0.13722
Present Value of Total Annual Cost	L	= J x K	-	39,312,440	37,017,031	31,370,514	26,585,277	22,529,887	19,093,011	16,180,326	13,712,455	11,620,847	9,847,773	8,345,815	7,072,707
Total Present Value of Annual Costs	**M**	**= Sum (L_i)**	**242,688,084**												
Levelised Cost (RMB/MWh)	**N**	**= M / D**	252												

The tables above show that the levelised cost of power generation obtained for scenario 2 is 252 RMB/MWh. This is much less than the levelised cost for scenario 1, which is 282RMB/MWh. Therefore the rational decision is to continue to purchase power and as such it can be confirmed that the baseline is indeed purchase of power from the grid and not the proposed project undertaken without the CDM.

This assessment further demonstrates the additionality of the project and is compliant with Sub-step 2b: Option II. Apply investment comparison analysis. As such, this further substantiates Question 1 above and demonstrates that the project is additional based on the results of this investment analysis.

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Response by TÜV SÜD:

The economical analysis of Anhui Conch Cement Company limited to implement a CCPP project, was based on benchmark analysis during the investment decision.
The above described “levelised costs analysis” was conducted to answer to this request for review.
The above stated levelised cost analysis has been conducted to fulfil the methologized requirement as stated in the Request for Review. This analysis has been validated and shows that scenario 1 (generating electricity at the Chizhou Cement Plant) has higher levelised cost 282 RMB/MWh than scenario 2 (purchasing electricity from the grid) 252 RMB/MWh. In this scenario the project owner would continue purchase from grid since this option is more economically feasible.

Input values to this analysis are similar to the analysis presented earlier. These input values were already validated during validation process.
The method of comparison is appropriate in our opinion since it clearly presents the price to get an unit off electricity (kWh) in both scenarios.
The discount rate used for project scenario is same as benchmark and is considered to be very appropriate. The discount rate for “purchase from grid” should ideally be lower than project scenario, because it does not involve risks similar to the project. However to evaluate the two scenarios under similar circumstances we are of the opinion that the same discount rate should be used.
Increase in grid tariff will mean that OM costs should also be increased in same proportion. However, if in a grid tariff analysis, the grid price is increased by 10%, keeping O&M costs of project same, the grid scenario is economically non attractive. Hence the analysis is robust.
Additional the scenario to continue purchase from grid does not require high initial investment and no further risks, where as the development of the project includes both. Hence the baseline scenario should be purchasing electricity from the grid.