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28 January 2009

Dear Members of the CDM Executive Board,

Request for review for: "Chao Khun Agro Biogas Energy Project" (2138): Response from the Project Participants

The DOE shall further justify how it has validated the technological, financial and social barriers to the anaerobic and aerobic alternative as prohibitive if: a) the VR (p14) states that few tapioca starch processing facilities have adopted anaerobic digester technology in Thailand; b) only generic evidence was assessed to prove that lack of funding for the anaerobic and aerobic alternatives; however the project activity has been funded by a foreign investor (VR, p15); and c) the DOE (VR, p16) states that social barrier is a minor barrier to anaerobic and aerobic alternatives.

Whilst the request for review is addressed to the DOE, the project participants would like to provide the following additional information in order to substantiate the additionality arguments presented in the PDD.

Issue a) the VR (p14) states that few tapioca starch processing facilities have adopted anaerobic digester technology in Thailand;

A third party report from 2007 by the Energy Conservation and Renewable Energy Division and Energy Policy and Planning Office of Thailand¹ (hereafter referred to as 'the EPPO report') clearly confirms that open ponds are the prevailing practice for the treatment of wastewater at tapioca (also called cassava) starch plants in Thailand. The report also states that insufficient knowledge and confidence in the technology is preventing the use of more advanced water treatment technology, i.e. that this is operating as a preventative technology barrier for anaerobic reactors.

At the time of decision making for the project activity the Ministry of Energy in Thailand had started a pilot scheme to study and demonstrate biogas technology at tapioca starch processing facilities. The projects involved in the scheme received financial support from The Energy Conservation Fund (ENCON) and technical support from the Ministry of Energy. Nine factories were selected for this pilot scheme, but the project activity was not included in this scheme so it did not receive this kind of financial support. The existence of this support

¹ Seminar Document : The Promotion of Biogas from Wastewater as An Alternative Energy and for Environmental Improvement, published by the Energy Conservation and Renewable Energy Division and Energy Policy and Planning Office (EPPO), 2007

scheme demonstrates that these projects face significant barriers and would not be developed in the absence of external support.

In addition to the projects receiving financial support under the ENCON scheme, there are 17 similar projects that have applied for CDM financing in Thailand², suggesting that CDM incentives are necessary for these projects to take place, due to the barriers described in the PDD. No similar projects have been identified outside of the CDM or ENCON scheme, therefore it can be considered that there are no similar operational projects in Thailand that do not have financial support either from the Government or from CDM revenues.

The technology for the proposed project was not available in the host country, as described in the validation report, and the equipment had to be imported. The technology adopted is an advanced covered in-ground anaerobic reactor (CIGAR)[®], a technology developed by a New Zealand company, Waste Solutions Ltd. The CIGAR[®] system consists of a series of baffled reactors covered by thick HDPE covers, connected by overflow weirs, plus gas blowers, as well as a state-of-the-art monitoring system. As stated in the validation report, major equipments such as dual fuel burner and gas blowers have been imported from Germany and New Zealand, respectively. Furthermore, no other projects using this CIGAR[®] technology were developed in the host country prior to the start date of this project, with the exception of the Korat Waste To Energy project (KWTE), a registered CDM project (UNFCCC #1040)³. Therefore there are no similar projects in the host country using this technology (in the absence of CDM).

Issue b) only generic evidence was assessed to prove that lack of funding for the anaerobic and aerobic alternatives; however the project activity has been funded by a foreign investor (VR, p15);

The EPPO report mentioned above clearly states that anaerobic reactors come with “high investment cost and high operating costs”, and that consequently most facilities chose to retain their wastewater in open ponds.

Although the project activity has secured funding and this funding has been provided by a foreign investor, it should be noted that those investors were specialized in renewable energy, with a very good understanding of the CDM. In fact it was never an option for the investors to develop the project as anything other than a CDM project, as evidenced by the Investment Memorandum presented to the DOE. The funding was only secured because of the CDM and the additional incentives and investor confidence it brings to the project. The project is being funded by TBEC, a company created in 2003 and invested in by CleanTHAI, Al Tassar Energy Ltd (ATE) and Private Energy Market Fund LP (PEMFUND) as an investment vehicle for CDM biogas projects in Thailand. The company was specifically created to help facilities in Thailand develop clean technology biogas projects through the CDM process, and the profitability of each of the projects being developed relies on income from the CDM. This is clearly demonstrated in the Investment Memorandum that was presented to the DOE during validation and is referenced in the validation report. It is also demonstrated in the TBEC Shareholder Agreement signed in April 2004 that specifically

² Website of the Thailand Designated National Authority

³ As evidenced by the sales list from the technology providers, Waste Solutions

states the company (TBEC) will engage in the 'generation and sale of Emission Reduction Certificates.'

In the Investment Memorandum it was clearly demonstrated that the financial rates of return of the project activity, and the other similar projects, was not sufficiently high to make them an attractive investment without income from the CDM. This memorandum is specific evidence to support the barrier due to lack of financing in the absence of CDM.

In the PDD it is stated that a number of starch producing companies have experienced severe financial turmoil. Given the poor financial state of the host company (Chao Khun Agro) it was not able to make additional investments outside of the core business and it was not easy to find investors willing to invest in the business. The investors in TBEC commissioned a Legal Due Diligence Report on CKA while they were considering whether to go ahead with the investment. The Legal Due Diligence Report was prepared by Bamrung Suvicha Apisakdi Law Associates Bangkok, Thailand in March 2004; it includes an assessment of the CKA's audited accounts. The accounts show that at the end of 2002 the liabilities of CKA exceeded the available assets to meet these liabilities. In its report for fiscal year 2002 the auditor notes that CKA had gone through debt restructuring and failed to make repayments. The Legal Due Diligence Report concludes that the auditor of CKA's most recent accounts 'had significant concerns over the financial prospects of the Company'. This demonstrates that CKA did not have funds available for making new investments and it would have been very difficult for them to raise additional debt in order to pay for the project activity. The poor financial state of CKA would also mean that there was significant risk for a third party (like TBEC) to invest in the project activity, because income for the third party relies on CKA's continued operation (i.e. TBEC's main non-CDM income is from the sale of heat to CKA). This would make equity participation difficult to find locally and internationally. Therefore the Legal Due Diligence Report is specific evidence to support the financial barrier.

The technology used in the project has been imported into Thailand, and the evidence for this (list of equipment from the technology provider) is referenced in the validation report. This equipment was paid for in US Dollars, whilst in the absence of the CDM the project would have no income in US Dollars, only in Thai Baht, the local currency. This would mean that there would be a significant exchange rate risk, which exacerbated the low rate of return and made the project even more unattractive for investors. Exchange rate fluctuations can be seen in figure 1 of this response, which shows the Thai Baht exchange rate for the 10 years prior to decision making. This figure clearly shows that there have been large fluctuations in the exchange rate, particularly following the 1997 Asian financial crisis, that significantly increase the risk of financing such a project for potential investors. Carbon credit sales are paid for in US Dollars, so the CDM effectively mitigates the exchange rate risk.

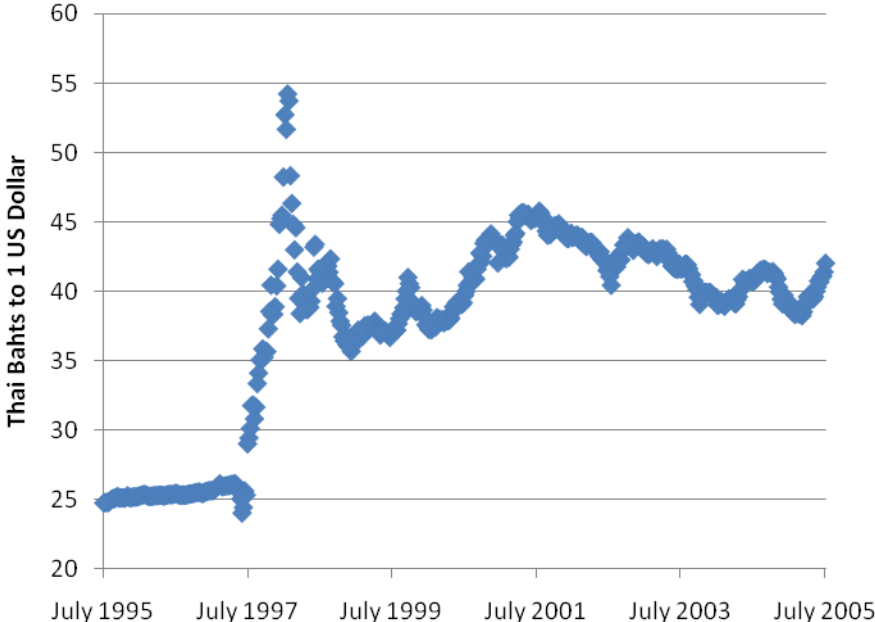


Figure 1: Thai Baht to US Dollar exchange rates from July 1995 – July 2005 (Source: Bloomberg Finance LP)

Issue c) the DOE (VR, p16) states that social barrier is a minor barrier to anaerobic and aerobic alternatives.

The social barrier described is minor and may not have prevented the implementation of the project on its own. This may have been considered by the DOE to have been a minor barrier. However, at the same time the DOE considered that the technological and financial barriers were sufficiently strong to have prevented the project activity without CDM income. Even without the social barrier, the barrier due to lack of financing would mean that the project would not be invested in, and hence would not be built in the absence of additional incentives from CDM.

Concluding remarks

For all of the barriers, documents and references were provided to the DOE, and these documents provided detailed evidence to show that the barriers are significant. However, we accept that the content of these documents could have been presented in more detail in the PDD, and we would be willing to add more explicit reference to the documents if required. We hope the above information sufficiently addresses the request for review, and we are happy to provide further information or a revised PDD if necessary.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Jonathan Avis', with a horizontal line underneath it.

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