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Att: CDM Executive Board

Your ref.:  
 CDM Ref 1014

Our ref.:  
 MLEH/ETEL

Date:  
 2 July 2007

## **Response to request for review Kunak Bio Energy Plant (1014)**

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by three Board members concerning DNV's request for registration of project activity 1014 entitled "Kunak Bio Energy Plant" (1014), and we would like to provide the following response to the issues raised by these requests for review.

### *1. Further justification of the benchmark rate applied is required.*

#### **DNV Response:**

We refer to the response to the requests for review submitted by the project participants which demonstrates that an IRR of 15% is a standard investment benchmark used by the project proponent. Moreover, as stated in DNV's validation report, the selected benchmark is reasonable and conservative since DNV's investigation showed that the palm oil industry in Malaysia expects an IRR of around 20% for any investment.

*2. Further justification is required regarding the application of scenario 3 of ACM0006v4, as the project would appear to be a power capacity expansion rather than a greenfield site. The choice of scenario has been accepted, as there was no energy generation on the site prior to the project activity. This is not consistent with the statement in the PDD regarding the baseline for heat generation, "the continuation of the use of existing biomass fired boilers with low efficiency". If the project is indeed a greenfield site where no energy production previously took place then an investment comparison would be more appropriate for the investment analysis.*

#### **DNV Response:**

There are two issues in this comment, namely (a) the choice of baseline scenario and (b) the choice of the option for the investment analysis.

#### Choice of baseline scenario

The definitions included in version 5 of ACM0006 clarify that the term "power" refers to the generation of electricity\*. Since there was no generation of electricity at the project site prior to the

\* Version 05 of ACM0006 defines that "A power plant is a facility for the generation of electric power from thermal energy from combustion of a fuel".

project activity, scenario 3 of ACM0006 is thus in our opinion adequate. The occurrence of heat generation at the site prior to the project activity does in our opinion not question the use of scenario 3.

In this context, it must be noted that the initial PDD which was published for comments by Parties, stakeholder and NGOs mentioned the generation of power using the biomass residues generated from the Kunak Palm Oil Mill. Eventually, any reference to this generation of power was deleted in the PDD submitted for registration as the project participants further clarified the project boundary considering the ownership of both companies, namely Kunak Palm Oil Mill and Kunak Bio Energy Plant. The project site is situated adjacent to the Kunak Palm Oil Mill on a green field. The Kunak Bio Energy Plant is owned by a different company (TSH Bio Energy Sdn. Bhd.) than the Kunak Palm Oil Mill.

There was no production of power to the grid at the Kunak Palm Oil Mill before the establishment of the Kunak Bio Energy Plant. The power generation at the Kunak Palm Oil Mill was for consumption by the mill only.

DNV acknowledges that the power generation at the Kunak Palm Oil Mill prior to the project may result in some ambiguity. However, given the selected project boundary, the fact that the project plant supplies its electricity to the grid (the power generation at the Kunak Palm Oil Mill is thus only indirectly affected by the project) and the fact that there was no generation of electricity at the project site prior to the project activity, the application of scenario 3 is in our opinion appropriate and the equation selected to determine the increased electricity generation by the project is adequate.

#### Choice of analytical method for assessment of investment barriers to the project

According to the *tool for the demonstration and assessment of additionality* there are only limitations to apply the simple cost analysis (Option I). However, there is no requirement to either apply the investment comparison analysis (Option II) or the benchmark analysis (Option III). It is thus DNV's understanding that the both option II or III are equally applicable to project activities that generate financial or economic benefits other than CDM related income.

Moreover, as demonstrated by the response to the requests for review submitted by the project participants, there are no other realistic investment options than the project activity itself. It is thus DNV's opinion that the choice of a benchmark analysis (Option III) is justified.

*3. The generation of methane from landfilled biomass should commence one year subsequent to the landfilling. Therefore more information should be provided as to why the methane avoidance is estimated to occur in year one of the project activity.*

#### **DNV Response:**

It must be noted that the generation of methane would commence shortly after the biomass residues would be landfilled and left for decay in absence of the project activity. Hence, methane emissions are avoided already in year one of the project activity. However, DNV acknowledges that the one year intervals of the first order decay (FOD) model included in the *tool to determine methane emissions avoided from dumping waste at a solid waste disposal site* does not accurately determine methane emissions as they would actually occur in time in the baseline scenario. For a more accurate determination of the methane generation over time, the time increments in the FOD model would need to be much shorter.

The tool states that "The model calculates the methane generation based on the actual waste streams  $W_{j,x}$  disposed in each year  $x$ , starting with the first year after the start of the project activity until the until the end of the year  $y$ , for which baseline emissions are calculated (years  $x$

with  $x = 1$  to  $x = y$ ”). Moreover, the report of the 26<sup>th</sup> meeting of the Board states that “The Board further agreed that the tool mentioned in paragraph 35 above should estimate methane emissions avoided such that it credits emission reductions for waste disposed during the year  $y$ , at end of year  $y$ ”. Hence, it is DNV’s understanding that the avoidance of methane emissions can be credited to the project activity already in the first year of operation of the project for the amount of biomass for which landfilling is avoided in that year. However, further guidance by the Board on this issue may be provided as a consequence of the requests for review for the “Kunak Bio Energy Plant” project activity.

*4. The validation report indicates that the validation has been conducted in accordance with the small scale criteria even though the project is applying a methodology for a large scale project.*

**DNV Response:**

The reference to the criteria for small-scale CDM projects in the introduction section of the validation report is an unfortunate typing error. However, the sections of the validation report describing the scope of the validation (section 1.2) and the findings of the validation (section 3) clearly show that the project was validated against version 04 of ACM0006.

We sincerely hope that the Board accepts our above explanations.

Yours faithfully  
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