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TSH BIO-ENERGY SDN. BHD.
(Company No. 272534-H)
A MEMBER OF THE TSH GROUP

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27 June 2007

Your ref: CDM Ref 1014
Our ref: TSH BIO ENERGY/CDMEB

UNFCCC Secretariat
Martin-Luther-King-Strasse 8
D-53153 Bonn
Germany

Dear Members of the CDM Executive Board,

Subject: Response to Request for Review - Kunak Bio Energy Plant (1014)

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

Questions from CDM EB
Quoted from request 2

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

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 chose 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.

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.

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.

Answers from TSH

Question 1 – Justification of investment benchmark
The benchmark of IRR 15% applied under investment analysis Option III is a standard investment benchmark used by the project proponent for project evaluation of similar nature as documented by the attached Board Paper (please see attached Board Paper dated 28/12/2004). The same benchmark has been used by the TSH Group to evaluate similar projects like the "*Kunak Jaya Bio Energy Plant*" and "*Methane recovery and utilisation project*" at TSH Kunak Oil Palm Mill both submitted for registration as CDM projects.

The relevance of the IRR 15% benchmark used is also supported by the fact that the average Return on Equity (ROE) based on the audited annual reports for the TSH Group of Companies for the last five years has been 15.2% - as shown in the table below.

Item	2002 (RM'000)	2003 (RM'000)	2004 (RM'000)	2005 (RM'000)	2006 (RM'000)
PBT	30,174	49,471	83,045	49,361	64,437
Total Equity	222,741	283,220	398,023	457,950	506,326
ROE	14%	17%	21%	11%	13%

The benchmark is further supported by a study by CIMB Bank[1] comparing the return on capital in the palm oil plantation sector. The companies mentioned are the main integrated palm oil companies in Malaysia and have both plantations and palm oil mills in their portfolio. The simple average Return on Equity in these companies has been 11.2% in 2006 and expected to be 11.9% in 2007 according to the table on p 2 of the report. If a weighted average is calculated – taking into account the relative Market Capitalisation of the companies – the Return of Equity is 13.1% and 14.0% for 2006 and 2007 respectively. In order to achieve such level of returns as average for the whole group individual projects will need to have a slightly higher benchmark. This shows that the 15% return benchmark is well in line with the general investment opportunities in the palm oil sector.

Finally it can be mentioned that the 15% IRR benchmark has also been used by the only registered large scale CDM project from the Malaysian Palm Oil Sector - Kim Loong Methane Recovery for Onsite Utilization Project at Kota Tinggi (Ref. nr: 867)

It shall further be stressed that the main scenario of the cash flow analysis for the Kunak Bio Energy Plant shows an IRR of 4.5% at 7000 full load hours per year and 8.5% for 8000 full load hours. This means that even if a somewhat lower benchmark was chosen the project will still not have been attractive to the project proponent.

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[1] CIMB Investment Research Report, 23 November, 2006: Plantation Sector

The project proponent is confident that the 15% is a valid benchmark to be used in the palm oil sector and further confident that the project is clearly facing an investment barrier that will make the project additional.

Question 2 Application of baseline scenario and choice of method for assessment investment barriers for the project

The question includes two elements: Choice of scenario and choice of analytical method for assessment of investment barriers. The issues will be addressed one by one.

Choice of baseline scenario

The project proponent has chosen to use Scenario 3 in the ACM0006 (version 4) based on the following considerations:

The relevant application criteria for Scenario 3 (from Table 1 in ACM0006)

No	Description
P4	The generation of power in existing and/or new grid-connected power plants
B1	The biomass residues are dumped or left to decay under mainly aerobic conditions. This applies, for example, to dumping and decay of biomass residues on fields.
B2	The biomass residues are dumped or left to decay under clearly anaerobic conditions. This applies, for example, to deep landfills with more than 5 meters. This does not apply to biomass residues that are stock-piled or left to decay on fields.
B4	The biomass residues are used for heat and/or electricity generation at the project site
H4	The generation of heat in boilers using the same type of biomass residues

The baseline situation is that the Kunak Palm Oil Mill has had its own energy production (H4) for use in mill. The fuel used for the biomass boilers (B4) in the palm oil mill was waste products like palm oil shells and mesocarb fibres from the mill. Not all the biomass has been used for fuel as is described on page 14 of the PDD:

"With 6570 full load hours (75% of max load), the total energy need (of the palm oil mill) is 634 TJ per year. This fuel need was (in the baseline) covered by the palm kernel shells (PKS) and the mesocarb fibre. To reach the 634 TJ needed, the fuel required is all the PKS (284 TJ) and most of the mesocarb fibre (350 TJ). This leaves 5,340 t/yr mesocarb fibres for dumping."

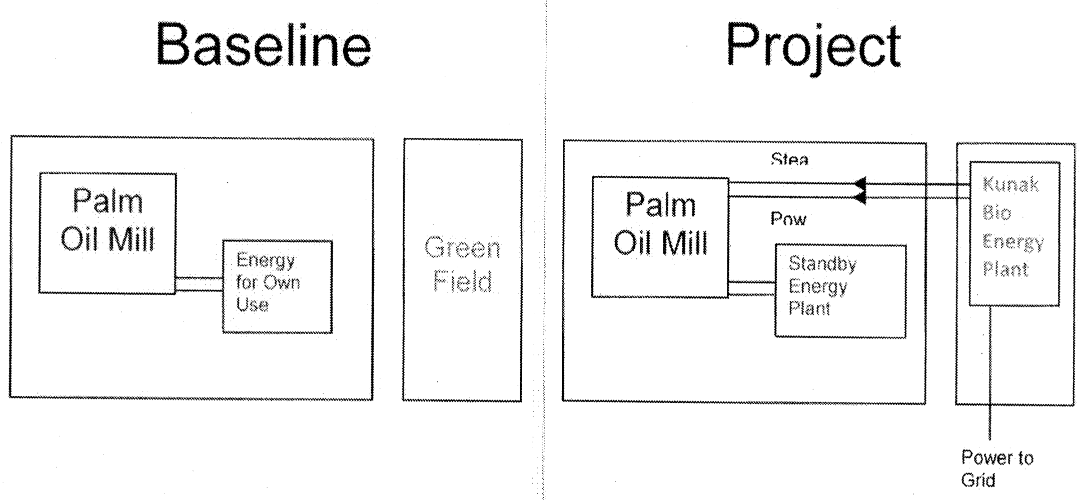
Most of the Empty Fruit Bunches (EFB) was deposited in a few landfills close to the palm oil mill (P2) and a smaller part used for mulching (P1) in TSH owned plantations.

There was no production of power to grid at the Kunak Palm Oil Mill before the establishment of the Kunak Bio Energy Plant. As such the baseline for the power production is grid based power from the Sabah Electricity Supply Board (SESB) (P4).

In summary this means that all the requirements to use scenario 3 are fulfilled:

- The power baseline is P4 – grid based electricity
- The heat baseline is steam generated in boiler using the same type of biomass residues (H4)
- The baseline for the biomass is a combination of B1 (small amounts of EFB for mulching), B2 (the main part of the EFB was deposited in the landfills) and B4 (most of the shell and fibre was used for steam production in the mill)

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 palm oil mill. There was no production of electricity to the grid at the site – neither the project site, nor in the palm oil mill. The comparison of the baseline and the project situation is illustrated in the following diagram:



The reason they share the name Kunak is that it is the geographical location of the two installations. The consideration to build the Kunak Bio Energy Plant solely rests on the evaluation of the project by TSH Bio Energy.

This is in compliance with the verbal description of scenario 3 with states the following:

The project activity involves the installation of a new biomass residue fired cogeneration plant at a site where no power was generated prior to the implementation of the project activity. The power generated by the project plant is fed into the grid or would in the absence of the project activity be purchased from the grid. The biomass residues would in the absence of the project activity (a) be used for heat generation in boilers at the project site and (b) be dumped or left to decay or burnt in an uncontrolled manner without utilizing it for energy purposes. This may apply, for example, where the quantity of biomass residues that was not needed for heat generation was dumped, left to decay or burnt in an uncontrolled manner prior to the project implementation.

It is the conclusion of the project proponent that the Kunak Bio Energy Plant fulfils all criteria to apply scenario 3.

The Kunak Bio Energy Plant has 14 MW of power installed. Of these will a maximum of 10 MW be exported to the SESB grid. 10 MW is the maximum size of projects covered by the Malaysian Small Renewable Energy Programme. The remaining 4 MW is partly used for the own consumption of the power plant (including fuel preparation) and partly sold to the Kunak Palm Oil Mill. The power sold to the palm oil mill is not included in the baseline calculations and thus does not generate any emission reductions. This means that the emission reductions calculated are conservative as the scenarios based on power expansion would have allowed inclusion of increased power consumption by the nearby palm oil mill in the baseline.

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

The "Tool for the demonstration and assessment of additionality" suggests three options for an investment analysis in the additionality assessment: Simple Investment Analysis, Investment Comparison Analysis and Investment Benchmark Analysis. Since the project has an additional source of revenue (sale of electricity to Sabah electricity) compared with the baseline, the simple investment analysis can not be used.

This leaves the Investment Comparison Analysis and the Investment Benchmark Analysis. The Investment Comparison Analysis is applicable where there are several possible investment alternatives. There is only one alternative for TSH Bio Energy – i.e. to build a independent biomass fuelled power plant under the Malaysian Small Renewable Energy Programme (SREP). Since TSH has strong links to the palm oil sector the utilisation of the waste products from this sector is the main driver to engage in power production. TSH is not interested in power production per se – and it would not have been an alternative for the company to build other types of power production.

Further is the power market not free in Malaysia. This means that private parties can not set up conventional fossil fuel power plants for supply to the grid. The Independent Power Producers (IPPs) that have been established have all been based on tendering processes based on utility tenders. The only option for investor driven IPPs is the Small Renewable Energy Programme (SREP). The SREP programme is open to renewable energy projects, but the only renewable energy option available at the Kunak site is biomass. There is no possibility for hydro power (since there is no major river), wind power (since the wind speed in Malaysia is too low for projects to be feasible) or geothermal power (since no source is available). Photovoltaic systems are so expensive that they can not be developed as commercial projects and not in the scale of 10 MW.

The alternative to the CDM project investment is thus - no investment - and therefore the Investment Comparison Analysis is not applicable in this case. That leaves only the Investment Benchmark Analysis for assessment of the investment barriers to the project. That is also a natural choice as it precisely addresses the situation of the project proponent – to invest in the biomass power plant or to invest in other palm oil related activities within the group.

In summary the project proponent finds that it is fully justified to use scenario 3 in ACM0006 for the baseline assessment and to use the Investment Benchmark Analysis for assessment of the investment barriers to the project.

For completeness the project proponent will add that the final evaluation of additionality of the projects rests on both the investment analysis and the barrier analysis. There have been major barriers to implement biomass power projects in Malaysia. This is illustrated by the fact that the Kunak Bio Energy Plant was the only such project to be implemented during the first five years (2000-2005) of the Malaysian Fifth fuel policy. Until today mid 2007 still no other biomass power plant for grid supply has been commissioned in Malaysia due to the technical barriers such as preparation of the EFB fuel.

Question 3 Crediting year for methane emissions

The Meeting Report from EB 26 on approval of the "**Tool for determine methane emissions avoided from dumping waste at a solid waste disposal site**" states the following:

"36. 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"

This text states that the methane emissions from year "y" are credited in year "y" and not "y+1".

Further more the actual conditions in Malaysia support that methane will be developed very fast after deposition of biomass in deep landfills. The validated PDD use a kj factor reflecting a half time of the degradation of organic material of 2 years for EFB. This means that it only takes two years for half the organic matter to degrade and half of the total methane potential to be released. The experience of the project proponent from an ongoing field experiment undertaken to determine the actual degradation of EFB in a simulated landfill situation points to a decay rate that is even faster than the default factors provided in the FOD tool – with a half life significantly less than one year. Therefore it seems credible to claim that methane emission occurs already in the year of deposition.

Question 4: Regarding the validation report

Det Norske Veritas as the appointed DOE has assessed the project in the following critical areas based on the approved methodology, ACM0006 version 04.

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.

Thank you.

Yours faithfully
for TSH BIO ENERGY SDN. BHD.

Lim Fook Hin
Director

Plantation sector

Merger of PNB plantation companies

OVERWEIGHT Maintained

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KDN PP 5182/10/2007

PNB to announce merger of its plantation assets

It was reported in the *Business Times* that plans are underway to amalgamate Kumpulan Guthrie, Sime Darby and Golden Hope, in what would be the largest merger in Malaysia's corporate history. According to sources, a merger vehicle by the name of Synergy Drive has been incorporated to take over all the three companies, including their listed subsidiaries. The merger's main aim is to create an entity with a large earnings capacity, along the lines of Petronas Nasional. The details of the multi-billion ringgit merger remain sketchy but banking sources said CIMB Investment Bank will announce the merger today.

Comments

The plan to merge PNB's plantation assets is not new. PNB's plan to merge the plantation companies in its stable is not new and has been the subject of wide speculation for some time now.

Lacking details on merger. There was no mention on how the deal will be structured or the pricing of the proposed merger. As such, it is unclear whether the merged entity will be taking over Sime Darby, G Hope and K Guthrie or only their plantation-related assets. There is also the possibility that the merged group will be a separate listed entity, with Sime Darby holding a majority stake, to provide investors with an investment vehicle that offers pure exposure to the plantation assets of PNB group.

Rationale for large plantation group. The merged plantation entity will have combined planted estates of around 511,000ha and land bank of about 578,337ha, making it the largest listed plantation company in South-East Asia. The combined planted area is equivalent to around 12.6% of Malaysia's total planted oil palm estates. The merger of the plantation assets could lead to further economies of scale through operating synergies and cost savings arising from the pooling of the assets. For instance, operating efficiency could be strengthened by consolidating the group's management activities in the same area. Apart from operating synergies, we feel the merged group will be able to strategise better on its expansion into Indonesia. Currently, the three PNB companies are pursuing their own expansion plans in different parts of Indonesia. However, a strong management team will be required to push through the cost savings and efficiency gains, which may not be immediate, based on the experience of the earlier merger between G Hope and I&P. Overall, we would be positive on the deal as long as the merged group is able to deliver cost savings, improve efficiency and boost future earnings. By adding G Hope to the equation, the merged group will have an immediate downstream exposure to the oil palm business that it could build on further.

Figure 2: Comparison of merged entity's planted estates vs. its peers

Companies	Planted estates (ha)	Plantable area (ha)	Total oil palm land bank (ha)
Sime + G Hope + Guthrie	511,354	66,983	578,337
K Guthrie	261,856	21,000	282,856
G Hope	169,307	5,983	175,290
IOI Corp	143,696	682	144,378
KL Kepong	121,030	1,854	122,884
Kulim	96,493	84,588	181,081
PPBO Palms	86,627	206,241	292,868
Sime Darby	80,191	40,000	120,191
Tradewinds Plant	75,353	51,627	126,980
Asiatic	56,581	6,571	63,152

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TSH BIO-ENERGY SDN. BHD.

Company No. 272534-H
(Incorporated in Malaysia)

MINUTES OF BOARD OF DIRECTORS' MEETING

Minutes of the Board of Directors meeting held on 28 December 2004 at 4.00 pm at Unit 702, Block E, Pusat Dagangan Phileo Damansara 1, No. 9, Jalan 16/11, Off Jalan Damansara, 46350 Petaling Jaya, Selangor.

Present :	Datuk Kelvin Tan Aik Pen (Chairman of the Meeting) Mr Tan Aik Kiong (via teleconferencing)
Absent with apologies:	Mr Lim Fook Hin Datuk Jaswant Singh Kler Mr Tan Aik Yong Encik Rosely bin Kusip
Present as Secretary :	Ms Chow Yeen Lee, Jenny

Call to order

Datuk Kelvin Tan Aik Pen was unanimously appointed Chairman for the meeting.

Due notice having been given and a quorum being present, the Chairman declared the meeting duly convened and constituted.

1. Investment policy

The Board resolved that the Company will only undertake projects with expected Internal Rate of Return (IRR) of at least 15% and above.

Closure and Vote of Thanks

With no further matters raised, the Board proposed a vote of thanks to the Chairman and the meeting was terminated at 4.15 pm.

Minutes confirmed by

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Chairman