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Response to issues raised in requests for review
Recovery and Utilization of Associated Gas to Optimize Power Generation at PETROAMAZONAS Block 15 Facilities (6576)

We refer to the issues raised in the three requests for review received for the registration request for project activity 6576 "Recovery and Utilization of Associated Gas to Optimize Power Generation at PETROAMAZONAS Block 15 Facilities".

The requests for review request DNV to

1) *further substantiate the suitability of a) the selected transfer price for crude oil in the context of the proposed project and explain why savings from the consumption of crude oil have not been included as revenue in the investment analysis; b) the CAPEX; c) The input parameters used to calculate the diesel and crude oil required for electricity generation in block 15 and 31 such as diesel oil and crude oil electricity generation potential*

2) *further explain how it has considered the investment comparison analysis as relevant for demonstrating additionality, considering that the investment analysis is performed for oil production rather than the project activity*.

The request for reviews refer to Paragraph 111 (a) & (b) of VVM version 1.2 for 1) and paragraph 18 of Tool for the demonstration and assessment of additionality, version 6.1.; and paragraph 16 of Guidelines on the assessment of investment analysis, version 5, for 2).

In accordance with paragraph 82 (b) of the CDM Project Cycle Procedure (version 03.1), DNV selects to not respond to this RfR by revising the validation report, but selects to *respond in writing by addressing why no revisions to the PDD and/or validation report are necessary*.

As demonstrated below, it is DNV's opinion that the issues raised in the requests for review were adequately addressed in the PDD and DNV's validation report submitted for registration.

Price for crude oil

As stated on pages 27-28 of the validation report, DNV was able to confirm that given the legal framework for oil exploration in Ecuador, PETROAMAZONAS EP has no direct economic benefits from savings in crude oil. PETROAMAZONAS EP is legally obligated to transfer the total amount of its crude oil production volume at Block 15 and Block 31 to the State of Ecuador

in consideration of an amount (the operating budget) allocated to PETROAMAZONAS EP by the State which is a function of the costs incurred by PETROAMAZONAS EP to produce the oil (so-called transfer price, as also described in the PDD). The transfer price is thus regulated by the State through the Directorate of Hydrocarbons. Hence, PETROAMAZONAS EP, who is investing in the project activity, obtains no additional revenues or savings from the reduced consumption of crude oil resulting from the project activity. This is because PETROAMAZONAS EP's compensation (investment and operating budget) is determined solely as a function of its production costs. Hence, DNV would like to herewith reiterate that it is in our opinion appropriate that the investment analysis, which represents the economic attractiveness of the project in the perspective of PETROAMAZONAS EP, does not consider savings from reduced crude oil consumption resulting from the project activity.

The operating budget allocated to PETROAMAZONAS EP by the Directorate of Hydrocarbons is not linked to any market price of the crude oil volume delivered from Block 15 and Block 31, but only to the costs to produce the total crude oil volume (including the volume used for power generation). In line with previous EB rulings, a transfer price that is regulated is to be used in the absence of a market price.

Despite this, the project participants have - as part of an additional exercise in the sensitivity analysis - considered the hypothetical scenario in which it determined the impact on the operating budget in USD per (net) barrel when increasing the net crude oil volume (not the amount of crude oil produced but the net crude oil volume delivered by PETROAMAZONAS EP). As described in page 29-30 of the validation report, DNV has thus assessed the project participants' approach to determine an oil price based on the regulated transfer price of oil in USD per barrel whereby this is PETROAMAZONAS EP's operating budget divided by the number of produced barrels. This transfer price was determined based on the PAM Annual Report Year for 2008 (USD 7.67 per barrel). The validation of this transfer price was performed in compliance with paragraphs 111 (a) & (b) of VVM version 1.2, and DNV reviewed the audited annual financial statement of PETROAMAZONAS EP as well as the PAM Annual Report Year for 2008. The project IRR calculations, when applying this regulated transfer price, increases to 7.56% which is still well below the 18% benchmark and thus the conclusion regarding the financial additionality is robust also in case an oil price of USD 7.67 per barrel is used.

In summary, whatever oil price is adopted, the regulated transfer price, which PETROAMAZONAS EP receives in exchange for its oil exploration and production activities, will always be in function of its production costs; meaning that any reduction in the consumption of crude oil due to the project activity has no impact on the investment analysis.

CAPEX:

As stated on page 28 of the validation report, given the constituency of PETROAMAZONAS EP (non-profit, state owned company), all capital expenditures have to be approved by the Ministry of Finance, via the so called Allocation of Funds for Projects (AFP acronym from the Spanish name), DNV was thus able to verify via the internal accounting system of PETROAMAZONAS EP the validity of the accounting of such funds against the expenditures of the project activity. Each of these AFPs has an account number against which the corresponding costs are charged. The total investment costs are USD 81,671,975, and DNV has been able to verify via purchase orders issued for some of the services incurred and some of the equipment bought that actual costs are the same

or higher that those originally budgeted. The validation of the CAPEX was thus performed in compliance with paragraphs 111 (a) & (b) of VVM version 1.2.

Input parameters used to calculate the diesel and crude oil required for electricity generation

It must be noted that the electricity generation is determined by the demand for electricity for the production of crude oil. The diesel and crude oil consumption for electricity generation was, as stated on page 27 of the validation report, validated by DNV by reviewing the crude oil and water projections made by the Operations department of PETROAMAZONAS EP and the corresponding power requirements for the operations of PETROAMAZONAS EP within the project boundary (Block 15 and Block 31). The consumption of diesel and crude oil as fuel for electricity generation is based on the same crude oil and water volume projections and efficiencies of the power generation equipment (fuel consumption as a product of power demand). Moreover, these projections were also compared with historical values. The projections for the electricity generation need were also found to be consistent with the values reported in the various documents related to the forecast of oil, water, and gas production, and energy demand for operations reviewed as part of the validation (refer to reference /10/ in the validation report). The validation of the input parameters used to calculate the diesel and crude oil required for electricity generation in block 15 and 31 were thus in accordance with paragraphs 111 (a) & (b) of VVM version 1.2.

Investment comparison

It must be emphasised that the project's additionality is demonstrated through a benchmark analysis and not an investment comparison. In accordance with step 3 described in AM0009 the economic attractiveness is assessed by determining an expected Internal Rate of Return (IRR), following the guidance for the investment analysis in the latest approved version of the "Tool for the demonstration and assessment of additionality", version 6.0.0.

Following questions raised to the project participants during the registration cycle of the project, an investment comparison (NPV analysis) was provided by the project participants and validated by DNV only for the purpose of further demonstrating that the project is also not the most financially attractive alternative for the state of Ecuador. The analysis is independent of the benchmark analysis and the sensitivity analysis as required by AM0009 v.05.0.1, which is made clear both in the PDD and the Final Validation Report. This NPV analysis is a separate, non-customary analysis performed in addition to the required benchmark analysis under CDM rules. The analysis considers possible alternative investments at the level of the State of Ecuador rather than conducting an 'investment comparison'-analysis as per CDM rules and methodology as this is inapplicable for the above reason (benchmark analysis is applicable). The standard CDM 'investment comparison'-analysis is further inapplicable as the State of Ecuador is indisputably outside the project boundary.

The investment comparison analysis, included as an independent section in the PDD, then shows that the savings in crude oil consumption resulting from the project activity is marginal compared to the potential return on investment the State could expect from investing the same amount, as the project CapEx, in a traditional oil exploration activity.

In other words, The NPV analysis demonstrates that investing into traditional oil exploration activities (drilling of new wells) is more financially attractive for the State of Ecuador than investing into the CDM project activity without CDM benefits. Hence, even if considering the value of crude oil savings at international market prices for crude oil, the State of Ecuador would likely rather invest in traditional oil exploration activities than the proposed CDM project activity.

Yours faithfully
for DNV CLIMATE CHANGE SERVICES AS

Michael Lehmann

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Director of Services and Technologies