CLEAN DEVELOPMENT MECHANISM
PROGRAM ACTIVITY DESIGN DOCUMENT FORM (CDM-CPA-DD)
Version 01

CONTENTS

A. General description of CDM programme activity (CPA)

B. Eligibility of CPA Estimation of Emission Reductions

C. Environmental Analysis

D. Stakeholder comments

Annexes

Annex 1: Contact information on entity/individual responsible for the CPA

Annex 2: Information regarding public funding

Annex 3: Baseline information

Annex 4: Monitoring plan

NOTE:

(i) This form is for the submission of CPAs that apply a large scale methodology using provisions of the proposed PoA.

(ii) The coordinating/managing entity shall prepare a CDM Programme Activity Design Document (CDM-CPA-DD)[1,2] that is specified to the proposed PoA by using the provisions stated in the PoA DD. At the time of requesting registration the PoA DD must be accompanied by a CDM-CPA-DD form that has been specified for the proposed PoA, as well as by one completed CDM-CPA-DD (using a real case). After the first CPA, every CPA that is added over time to the PoA must submit a completed CDM-CPA-DD.

[1] The latest version of the template form CDM-CPA-DD is available on the UNFCCC CDM web site in the reference/document section.

[2] At the time of requesting validation/registration, the coordinating managing entity is required to submit a completed CDM-POA-DD, the PoA specific CDM-CPA-DD, as well as one of such CDM-CPA-DD completed (using a real case).

SECTION A. General description of CDM programme activity (CPA)

A.1. Title of the CPA:

Title: "*Lajeado Grande I Wind Power Plant*"

Version: 04

Date of the document: 09/04/2012

A.2. Description of the CPA:

The CPA is being proposed in the context of the *Wind Power Programme of Activities in Brazil* which has the primary objective of helping Brazil to meet its rising demand for energy due to economic growth and improving the supply of electricity, while contributing to environmental, social and economic sustainability by increasing the share of renewable energy in total electricity consumption of the country (and for the region of Latin America and the Caribbean).

The PoA is a voluntary coordinated action by the managing entity Deutsche Bank AG, London Branch consisting of the implementation of renewable energy projects in Brazil. The hub of this PoA is the construction of Greenfield wind power plants connected to the Brazilian Interconnected System (from the Portuguese *Sistema Interligado Nacional – SIN*).

The proposed CDM programme activity (CPA) consists of the implementation of the *Lajeado Grande I* Wind Power Plant with 30MW of installed capacity. The plant is expected to become operational in 2015 and is located in São Francisco de Paula municipality, Rio Grande do Sul, Southern region of Brazil.

The proposed CPA reduces emissions of greenhouse gases (GHG), *i.e.* CO_2, by displacing electricity generation from the mix of fossil fuel sources connected to the Brazilian Interconnected Grid, which would be generated (and emitted) in its absence.

Wind turbines will be used to extract kinetic energy from the wind[3] and generate electricity to be directly feed into the grid. There will be 15 turbines at the plant all manufactured by Vestas. The technical characteristics of this model of turbine are described in Table 1 below.

Table 1 – Project's equipment technical description[4].

Turbines	
Model	V100-2.0MW
Nominal Power (MW)	2.0

[3] BURTON, T.; SHARPE, D.; JENKINS, N.; BOSSANYI, E. **Wind Energy Handbook**, Wiley: 2001, 642 p. Partially available at < http://books.google.com.br/books?id=4UYm893y-34C&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false>. Accessed on 25 April 2011.

[4] Turbine information is available with the Project Participants and at GE's website: <http://www.geenergyfinancialservices.com/press_room/publications/GEA14954C15-MW-Broch.pdf >

Cut-in wind speed (m/s)	3.0
Cut-out wind speed (m/s)	20

A.3. Entity/individual responsible for CPA:

The entity responsible for the proposed CPA is Zeta Energia S.A. (hence forth referred to as CPA implementer).

Zeta Energia S.A. is a company which prospects renewable energy projects, focusing on wind energy.

The CPA implementer is not listed as a project participant of the PoA.

A.4. Technical description of the CPA:

A.4.1. Identification of the CPA:

A.4.1.1. Host Party:

Brazil

A.4.1.2. Geographic reference of other means of identification allowing the unique identification of the CPA (maximum one page):

The *Lajeado Grande I* Wind Power Plant is being developed in the municipality of São Francisco de Paula, Rio Grande do Sul state, Southern region of Brazil.The geographic coordinates of the site where the wind power plant is going to be implemented as well as a figure illustrating where the plant is located within the PoA geographical boundary (i.e. Brazil) are presented below.

Geographic Coordinates[5]	*Lajeado Grande I Wind Power Plant*
Longitude (*West)*	-50.66
Latitude (South)	-29.17

Figure 1 - Location of the Project Activity – *Lajeado Grande I* Wind Power Plant - under the PoA – *Wind Power Programme of Activities in Brazil.*

Name/contact details of the entity/individual responsible for the CPA

ZETA ENERGIA S.A.
Marco Antônio Garcia
E-mail: marco.garcia@zetaenergia.com.br
Address: Av. São Gabriel, 477, 2nd floor
01435-001 – São Paulo - SP
Brazil

A.4.2. Duration of the CPA:

A.4.2.1. Starting date of the CPA:

22/12/2012 (DD/MM/YYYY)

According to the CDM Glossary of Terms the starting date of a CDM project activity is "*the earliest date at which either the implementation or construction or real action of a project activity begins*". Furthermore the guidance also clarifies that "*the start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity (...), for example, the date on which contracts have been signed for equipment or construction/operation services required for the project activity*".

[5] The information refers to the location of the first generation unit (wind turbine) of the plant as provided in the construction permit and wind certification provided by a third party.

Considering the above information, in order to determine project activity's starting date the forecasted date for the following events were considered: **financing agreement, Power Purchase Agreement, major equipment orders, construction permit issuance and start of construction.**

The wind power plant considered in this CPA is qualified to participate in the government energy auction that will take place in 2012[6]. In this sense, the main events related to the plants' implementation are connected to the assumption that plant may win the auction, which are forecasted to happen as follows:

Table 2: Main events related to *Lajeado Grande I* implementation.

Actions†	***Lajeado Grande I***	***Justification***
Construction Permit Issuance	01/06/2013	One month before the construction starts
Major Equipment Orders	01/01/2013	Six months before the construction starts
Starting Date of Construction	01/07/2013	18 months before the operation starts
Power Purchase Agreement (PPA)	22/12/2012	9 months after the auction[7].
*Financing Agreement**	22/06/2013	6 months after the PPA is signed

† Estimated based on A-3 2012 New Energy Auction which requires the plant to be operational by January 1st, 2015.

As observed above, the first event related to the implementation of the proposed project activity is expected to occur in December 2012. This is the date when the PPA is expected to be signed. Commonly, several necessary steps to build the wind power plants, such as the financing contract, are only obtained after the signature of the Power Purchase Agreement. Nevertheless, if the company decides not to build the plant after the signature of the PPA there would be relevant penalties.

Hence, although this event neither can be considered as the financial closure nor represents a significant expenditure related to the implementation of the plant, the project developer will be committed to the terms of the contract assuming that the wind power plant is in fact going to be implemented. Therefore, this must be considered the project starting date.

From the above, the identified starting date of the proposed project activity is 22/12/2012.

A.4.2.2. Expected operational lifetime of the CPA:

20 years - 0 months

[6] Ministry of Mines and Energy Ordinance #554, dated September 23rd, 2011. The document is available at http://www.ccee.org.br/StaticFile/Arquivo/biblioteca_virtual/Leiloes/3%20Energia%20Nova/prt2011554mme.pdf. The auction was postponed as detailed in the Mines and Energy Ordinance #102, dated March 6th, 2012 available at http://www.ccee.org.br/StaticFile/Arquivo/biblioteca_virtual/Leiloes/2_Energia_Nova/prt2012102mme.pdf.

[7] This stretch of time was based on the time elapsed between the auction and PPA signature observed in the previous A-3 auction (http://www.aneel.gov.br/aplicacoes/editais_geracao/documentos/Cronograma_02-12-11.pdf)

A.4.3. Choice of the crediting period and related information:

Renewable crediting period

A.4.3.1. Starting date of the crediting period:

01/01/2015 (DD/MM/YYYY)

A.4.3.2. Length of the crediting period, first crediting period if the choice is renewable CP:

7 years – 0 months

NOTE: The end date of the PoA to which this CPA will be added is 28/10/2039.

A.4.4. Estimated amount of emission reductions over the chosen crediting period:

The full implementation of proposed project activity will generate the estimated annual reductions as in Table 3 below.

Table 3: Project Emissions Reductions Estimation

Years	Annual estimation of emission reductions in tonnes of CO_2e
2015 (from January, 1st)	21,063
2016	21,063
2017	21,063
2018	21,063
2019	21,063
2020	21,063
2021 (up to December, 31st)	21,063
Total estimated reductions (tonnes of CO_2e)	**147,441**
Total number of crediting years	7
Annual average over the crediting period of estimated reductions (tonnes of CO_2e)	21,063

A.4.5. Public funding of the CPA:

Not applicable. The project proponents hereby confirm that there is no public funding is used in the development of the proposed CPA.

A.4.6. Confirmation that CPA is neither registered as an individual CDM project activity nor is part of another Registered PoA:

As of today the wind power plants registered under UNFCCC as CDM Project Activity are: *Osório Wind Power Plant* (Ref#0603), *Horizonte Wind Power Plant* (Ref# 0486) and *Água Doce Wind Power Plant* (Ref#0575).

Yet, there is one Brazilian PoA registered which is related to the agriculture sectorial scope, or rather, does not correspond to the implementation of wind power plants.

In this sense, the coordinating and managing entity and CPA implementer confirm that the proposed CPA is neither registered as an individual CDM Project Activity nor is part of another Registered PoA.

SECTION B. Eligibility of CPA and Estimation of emissions reductions

B.1. Title and reference of the Registered PoA to which CPA is added:

This CPA will be added to the Registered PoA named "*Wind Power Programme of Activities in Brazil*".

B.2. Justification of the why the CPA is eligible to be included in the Registered PoA :

The eligibility conditions of the proposed PoA as well as the justification of why the proposed CPA is eligible to be included in the Registered PoA are further detailed below.

(a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA;

The wind power plant considered in the CPA is located in the São Francisco de Paula, Rio Grande do Sul state, Southern region of Brazil. For a detailed description of the CDM programme activity please refer to section A.4.1.2. above. ✓

(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);

The geographic coordinates, starting date and date of the crediting period are described in this CDM-CPA-DD. Please refer to sections A.4.1.2., A.4.3.1 and A.4.3.2, respectively. This information is also included in the *Wind Power Programme of Activities in Brazil* database and uniquely identifies the plant considered in this CPA. Additionally, this information is consistent with the ones available in the environmental permit. ✓

(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications

The *Lajeado Grande I* Wind Power Plant wind certification was provided to the DOE. The technology to be applied, the plant load factor and the net electricity to be generated by the plant are described in the document. ✓

(d) Conditions to check the start date of the CPA through documentary evidence;

The identification of the starting date of the proposed CPA has followed the definition presented in the *CDM Glossary of terms* and the dates when all the actions listed in the CDM-PoA-DD are forecasted to happen were assessed. Details on how the starting date of the proposed CPA was identified are provided above in section A.4.2. ✓

(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs

The *Lajeado Grande I* Wind Power Plant consists of a Greenfield wind power plant that will be connected to the Brazilian Interconnected System. In this sense, it complies with the applicability conditions of ACM0002 (version 12.3.0) as further detailed below: ✓

According to the applicability conditions the ACM0002 methodology *is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).*

The *Lajeado Grande I* Wind Power Plant is a grid connected Greenfield wind power plant, thus corresponding to option (a) provided in the above paragraph.

The methodology also provides the following conditions:

- *The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;*

The *Lajeado Grande I* Wind Power Plant consists of the installation of new wind power plant.

- *In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity addition or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;*

The *Lajeado Grande I* Wind Power Plant consists of the implementation of Greenfield wind power plants. Therefore, this applicability condition is not applicable.

- *In case of hydro power plants*
  - *At least one of the following conditions must apply:*
    - *The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or*
    - *The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoirs, as per definitions given in the Project Emissions section, is greater than 4 W/m^2 after the implementation of the project activity; or*
    - *The project activity results in new single or multiple reservoirs and the power density*

of each reservoir, as per definitions given in the Project Emissions section, is greater than 4 W/m^2.

In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4W/m^2 after the implementation of the project activity all of the following conditions must apply:

- *The power density calculated for the entire project activity using equation 5 is greater than 4W/m^2;*
- *All reservoirs and hydro power plants are located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant;*
- *The water flow between the multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;*
- *The total installed capacity of the power units, which are driven using water from the reservoirs with a power density lower than 4W/m^2, is lower than 15MW;*
- *The total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4W/m^2, is less than 10% of the total installed capacity of the project activity from multiple reservoirs.*

Not applicable. The proposed CPA does not correspond to a hydropower plant.

Finally, the methodology has the following restrictions – *i.e.* project activities may not be applicable in the following cases:

- *Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;*
- *Biomass fired power plants;*
- *A hydro power plant that result in new single reservoir or in the increase in existing single reservoir where the power density of the reservoir is less than 4 W/m^2.*

The proposed CPA is still eligible to the use of ACM0002 since it does not correspond to any of the restrictions listed above. In addition to the applicability conditions of the ACM0002 methodology, the applicability conditions of the tools used must also be assessed.

In order to estimate the baseline emissions occurring after the implementation of the CPA the "*Tool to calculate the emission factor for an electricity system*" is used. This tool provides the steps required to estimate the CO_2 emission factor, which consists of a "*combined margin*", for the displacement of electricity generated by plants connected to an electric grid.

As described in section E.6.1 of the CDM-PoA-DD, off-grid power plants were not considered. Hence, the requirements of Annex 2 of the tool, referring to the applicability conditions that shall be met when this kind of plants are considered, are not applicable. Besides, the Brazilian Electric System is neither partially nor totally located in any Annex-I country.

In this sense, it can be concluded that there are no applicability conditions preventing the use of this tool to estimate the CO_2 emission factor of the Brazilian Electricity System in the context of the proposed CPA project activity.

(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in Section A above;

The proposed CPA passes the additionality test as demonstrated in section B.3. below. ✓

(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;

As discussed in the CDM-PoA-DD, the local stakeholder consultation was carried out at the PoA level. The results of the environmental impact assessment conducted specifically to this proposed CPA are presented in section C below. ✓

(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance;

The CPA implementer confirms that the proposed CPA does not result in a diversion of Official Development Assistance from an Annex I country. ✓

(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, gridconnected/off-grid) and distribution mechanisms (e.g. direct installation;

As discussed in item *(e)* above as well as in line with the requirements of ACM0002, the *Lajeado Grande I* Wind Power Plant consists of a grid connected wind power plant. ✓

As discussed in the CDM-PoA-DD, the eligibility conditions *j*, *k*, and *l* are not applicable to the proposed CPA.

B.3. Assessment and demonstration of additionality of the CPA, as per eligibility criteria listed in the Registered PoA:

The additionality of the CPA is assessed and demonstrated following the eligibility criteria listed in the registered PoA which are in compliance with the "*Tool for the demonstration and assessment of additionality*". The results are presented below.

Step 1 *– It has to be confirmed that the alternative scenarios presented in section E.5.1 of the CDM-PoA-DD are credible and are in compliance with mandatory laws and regulations at the time of the CPA validation.*

The only credible alternative scenarios for the proposed CDM programme activity are the ones identified in the registered PoA. Further, these scenarios are in full compliance with applicable laws and regulations of the country.

***Step 2** – The investment analysis of a typical CPA must be conducted as described in section E.5.1.in the CDM-PoA-DD. The result shall demonstrate that the financial indicator of a project is lower than the correspondent benchmark, thus unequivocally show that the project is unattractive/unfeasible from the project sponsor perspective.*

The applicable benchmark and financial indicator were calculated following the procedures described in the registered PoA. Specifically for the proposed CPA the project IRR will be compared to the WACC of the electricity sector. The results are presented below.

Benchmark - Weighted Average Cost of Capital (WACC)

The WACC of the sector considered is the one calculated for 2011 – *i.e.* most recent year for which the information is available – and is equal to 9.38%. This value was calculated through the formula below:

$$WACC = Wd \times Kd + We \times Ke$$

We and **Wd** are, respectively, the weights of equity and debt typically observed at the sector. Usually, for alternative energy generating project, BNDES finances up to 80% of the items eligible for financing[8]. Considering the total investment necessary to build a plant, it can be assumed that approximately 70% of the project is financed. Therefore, the 70% percentage corresponds to the Initial Debt/Equity ratio for the energy generation companies, which is the portion disbursed by the bank to the investor and paid on the beginning of the project.

Nevertheless, for the WACC calculation it should be considered the Long-term Debt/Equity structure, which considers not only the debt/equity ratio in the beginning of the project but also how this structure is expected to vary during the project. As a consequence of using the long term debt/equity structure, the 70% proportion decreases with the duration of the project.

In general, the investor has a grace period before starting to pay the amortization and, at the same time, receives all the financing from BNDES on the beginning of the project. For the remaining time, the investor does not receive additional financing (debt proportion decreases), while investor starts to pay the amortization from the financing with his equity capital (equity proportion increases), increasing the ratio between Equity/Debt until there is no Debt in the 16th year of the BNDES funding period. This rationale is illustrated using a hypothetical example in the below figure.

Figure 2 – Hypothetical example for the Long term Debt/Equity structure.

Total Investment ($)	500,000
BNDES Tranche	70%
Amortization (years)	16
Inflation	5%

	Year 0	Year 1	Year 2	Year 3	...	Year 17	Year 18	Year 19	Year 20
Debt		350,000	0	0	...	0	0	0	0
Equity	150,000		21,875	21,875	...	21,875	0	0	0
Debt/Equity		70%	0%	0%	...	0%	0%	0%	0%
Equity/Debt		30%	100%	100%	...	100%	0%	0%	0%

Debt ($)	333,333
Equity ($)	387,076
Debt/Equity ratio	46%

Despite of the explanation provided above, this information is not readily available for similar project being developed in Brazil. Then, in accordance with the "*Guidelines on the assessment of investment analysis*" (paragraph 18, Annex 5, EB62), 50% debt (**Wd**) and 50% (**We**) equity are assumed as a default value.

Cost of Debt (Kd)

Kd is the cost of debt, which is observed in the market related to the project activity, and which already accounts for the tax benefits of contracting debts. This parameter is calculated through the following equation: [1 + (a+b+c) x (1-t)]/ [(1+ π) -1] (Table 4).

Table 4: Cost of debt (Kd) calculation

Cost of Debt (Kd)	
(a) Financial cost[9]	6.53%
(b) BNDES fee[10]	0.9%
(c) Spread[11]	2.00%
(a+b+c) Pre-Cost of Debt	9.43%
(t) Marginal tax rate[12]	0.00

[8] http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Apoio_Financeiro/Produtos/FINEM/energias_alternativas.html

[9] http://www.bndes.gov.br/SiteBNDES/bndes/bndes_pt/Institucional/Apoio_Financeiro/Custos_Financeiros/Taxa_de_Juros_de_Longo_Prazo_TJLP/index.html

[10] http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/conhecimento/bnset/Set2901.pdf

[11] http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/conhecimento/bnset/Set2901.pdf

[12] http://www.receita.fazenda.gov.br/Aliquotas/ContribCsll/Aliquotas.htm http://www.receita.fazenda.gov.br/Aliquotas/ContribPj.htm

(π) Inflation forecast[13]	4.5%
After tax Cost of Debt	4.71%p.a.

According to the table above, **Kd** is of 4.71%.

Cost of Equity (Ke)

Ke is the cost of equity and was estimated using the best financial practices through the Capital Asset Pricing Model - CAPM (mentioned as an appropriate method to determine benchmarks in guidance 14, Annex 5, EB62). It represents the rate of return for equity investments and is estimated through the equation: [(1 + Rf) / (1 + π') - 1] + (β x Rm) + Rc (Table 5).

Table 5: Cost of equity (Ke) calculation

Cost of Equity (Ke)	
(Rf) Risk-free rate[14]	4.25%
(Rm) Equity risk premium[15]	6.03%
(Rc) Estimated country risk premium[16]	2.45%
(β) Sectorial Risk[17]	1.55%
(π') US expected inflation[18]	1.98%
Cost of Equity with Brazilian Country Risk (p.a.)	14.05% p.a.

In line with the table above, Ke is of 14.05% . As can be seen, Ke derives from a risk free rate plus the market risk premium adjusted to the sector through Beta (β).

Plugging these numbers into WACC formulae:

$$WACC = 50.00\% \times 4.71\% + 50.00\% \times 14.05\% = 9.38\%$$

[13] http://www.bcb.gov.br/pec/metas/InflationTargetingTable.pdf
[14] http://pages.stern.nyu.edu/~adamodar/
[15] http://pages.stern.nyu.edu/~adamodar/
[16] http://www.cbonds.info/all/eng/index/index_detail/group_id/1/
[17] http://pages.stern.nyu.edu/~adamodar/
[18] http://www.federalreserve.gov/econresdata/researchdata.htm

Financial Indicator – Project Internal rate of return (P-IRR)

The financial indicator identified is the Project Internal Rate of Return (P-IRR). The cash flow was calculated considering an expected lifetime of 20 years (maximum assessment period and expected operational lifetime of the project as recommended by the guidance 3, Annex 5, EB 62). The table presented below provides a list of the main input values as well as a brief justification for their use.

Table 6: Parameters and the justification of data used in the investment analysis.

Parameter	Values	Justification/source of information used
Installed Capacity (MW)	25.2	Based on the project design of the wind farm and supported by the wind certification available at the time the GSP of the proposed CPA started. The wind certification was revised afterwards. Nevertheless, the impact of its revision will be assessed below while conducting the sensitivity analysis.
Plant Load Factor (%)†	36.4	Value estimated by the wind certification company at 50% of probability (P50). The use of the wind certification report is in compliance with paragraph 3(b) of Annex11, EB 48. This range of probability represents 50:50 of chance of higher or lower generation of electricity by the plant and can be deemed conservative. As an example, the financing institutions usually consider P90 for the financing agreement.
Price (R$/MWh)	97.00 to 129.00	The price considered in the investment analysis is the one based on the Settlement Price for the Differences (from the Portuguese *Preço de Liquidação das Diferenças – PLD*) of the Southern region of Brazil in a study conducted by a third party. The price varies through the years as verified in the project activity cash flow.
100% TUSD fee	100% of 3.13	In Brazil, electricity producers using renewable sources receive a 50% discount in the Tariff for the Use of the Distribution System - TUSD fee (from the Portuguese *Tarifa de Uso do Sistema de Distribuição*). This discount aims at boosting investments in renewable energy projects and shall be considered as a Type E- policy as defined by

		Annex 3, EB 22. Additionally, according to this clarification, type E- policies[19] do not need to be considered in the development of the baseline scenario if implemented after 11 November 2001. The reduction in the TUSD fee was established by ANEEL Resolution nr. 77 dated 18/08/2004[20]. Therefore, the discount is not going to be taken into account. The value of the tariff considered in the analysis was taken from ANEEL Ordinance #1180, dated 18/07/2011.
IPI%	Already considered in the total investment	*IPI* stands for a tax over industrialized products (from the Portuguese *Imposto sobre Produtos Industrializados*). Since 2009 the federal government agreed to exempt wind turbines from paying this tax. Considering that this policy is specific for wind turbines, or rather, the policy creates incentives for less GHG emission intensive technology (Type E- policy), the exemption was not considered
Investment (1,000BRL)	98,876	Based on quotations from the manufacturers as well as from the EPC services providers for similar projects being developed by the CPA implementer.
P-IRR%	**0.55**	**Project Internal Rate of Return of the Lajeado Grande I Wind Power Plant**

† Depending on the connection point of the plant (distribution or transmission system) this value may consider the transmission losses of the system. The transmission losses are determined at the Gravity Point of the Brazilian Interconnected System and can be confirmed using the Report Published by the Chamber for the Commercialization of Electric Power available at www.ccee.org.br

Comparison of financial indicators

The Project IRR presented to the DOE, is 0.55%. This number is lower than the benchmark of the sector – 9.38%. Hence, it is evident that the project activity is not financially attractive to the investor (Table 7).

Table 7 - Comparison between Project's IRR and WACC of the sector

Project	**P-IRR (%)**	**WACC (%)**
Lajeado Grande I	0.55	9.38%

[19] From paragraph 6.b) of Annex 3, EB 22 Type E- policies are *National and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programs)*.

[20] Available in Portuguese at <http://www.aneel.gov.br/cedoc/ren2004077.pdf>. Accessed on 02/09/2011. ANEEL is the regulatory agency that provides favourable conditions for the electric power market to develop a balance between suppliers and benefits to society (http://www.aneel.gov.br/).

Sensitivity analysis

The sensitivity analysis was performed as per the procedures described in the registered PoA. First, the selected parameters were altered by 10% and the impact on the Project IRR was assessed. See results in the Table below.

Table 8 – Sensitivity analysis

Scenario	**% change**	**P-IRR (%)**
Original	-	0.55
Increase in electricity generation	10 %	2.04
Increase in electricity tariff	10 %	2.04
Reduction in expected investments	10 %	1.60

As can be observed from the results presented above, the Project IRR remains lower than the benchmark (9.38%) either increasing project revenues or reducing project costs. Yet, a simulation was conducted in order to verify possible scenarios where the P-IRR would equal the benchmark. The result is presented in the table below.

Table 9 – Scenarios when P-IRR of the project equals the applicable benchmark.

	P-IRR %	***PRICE (BRL/MWh)***	***INVESTMENT (1,000BRL)***	***ELECTRICITY (MWh/yr)***	***Variation (%)***
Original	0.55	97.00 to 129.00	98,876	80,269	N/A
Price	9.38%	166.99 to 222.07	98,876	80,269	72.15
Investment	9.38%	97.00 to 129.00	45,977	80,269	53.50
Electricity	9.38%	97.00 to 129.00	98,876	138,183	72.15

The results presented above were achieved considering the most updated information by the time the GSP of the proposed CPA started. As discussed above, the wind certification was revised after the commencement of the GSP. Therefore, in addition to the analysis presented above, another simulation can be conducted considering the revised installed capacity and plant load factor, which are 30MW and 35.7%, respectively. The results are presented in the table below.

Table 10 – Scenarios when Project IRR equals the benchmark (9.38%), considering the revised installed capacity and plant load factor.

	P-IRR %	***PRICE (BRL/MWh)***	***INVESTMENT (1,000BRL)***	***ELECTRICITY (MWh/yr)***	***Variation (%)***

Original	0.75	97.00 to 129.00	117,710	93,699	N/A
Price	9.38%	167.18 to 222.33	117,710	93,699	72.35
Investment	9.38%	97.00 to 129.00	55,794	93,699	52.60
Electricity	9.38%	97.00 to 129.00	117,710	161,490	72.35

As it can be seen from the results presented above, even considering the highest electricity generation, significant variations have to be observed in order the P-IRR of the project equals the benchmark. Nevertheless, it shall be noted that the variations presented in both scenarios regarding the price, electricity and investment are not expected to occur as further substantiated below.

The electricity generation by the plant is not expected to rise because the estimative are based on the guaranteed power as measured at the plants' site by a third party at 50% of probability (P50). This range means that there is a 50:50 chance of a higher or lower generation of electricity generation by the plant. At this range, more wind is captured indicating an optimistic estimative. For a reference, financing institutions consider wind measurements at 90% of probability (P90) as a conservative approach. Therefore, an increase in project revenues due to an increase in the electricity generation above the assumption presented in the cash-flow is very unlikely.

The price used in the investment analysis is based on the PLD of the Southern region of Brazil. The study was conducted by PSR, an independent consultant company specialized in studies of the electrical sector in Brazil. The *PLD* identify the purchase and the sale of electric power in the short term market and is defined as the "*spot price*", disclosed by the Chamber of Electrical Energy Commercialization (CCEE – *Câmara de Comercialização de Energia Elétrica*). The *PLD* is determined considering the Electric System National Operator (from the Portugues *Operador Nacional do Sistema Elétrico – ONS*) data for the optimization of the Brazilian Interconnected System operation. Furthermore, the last auctions show that the energy price has decreased, as observed in the 2nd, 3rd and 4th Reserve Energy Auctions occurred in 2009, 2010 and 2011, respectively. The average price per MWh in the mentioned auctions are respectively, R$148.39, R$122.69 and R$99.57 Hence, an increase in the project P-IRR due to an increase in the price of electricity is very unlikely.

The total investment necessary to build the plants as it is presented in the cash flow corresponds to the estimated investment cost made by the project owner. Specifically for this project activity the project owner is planning to sign an EPC contract. This type of contract fixes the price to build a plant and any variation either in favor or against the project is in charge of the construction company which means that no variation in project P-IRR can be attributed to a variation in the investment costs.

Step 2 Outcome

The P-IRR of the project activity without being registered as a CDM project is significantly below the sector benchmark, evidencing that project activity is not financially attractive to investor. Then, scenario 1

would be the most plausible alternative to the project activity, *i.e.* the continuation of the current situation with additional electricity supplied by the Brazilian Interconnected Grid.

Step 3 – Not applicable.

***Step 4** – The common practice analysis of a typical CPA shall be conducted analysing wind power plants implemented within the PoA's boundary, by applying the stepwise approach presented in section E.5.1. of the CDM-PoA-DD to official and publicly available database (e.g. ANEEL database). If any similar option is identified, why the existence of a similar project does not contradict the outcome of step2 and/or 3 of the additionality test shall be discussed.*

The result for each step described in the CDM-PoA-DD, following the requirements of paragraph 47 of the additionality tool, is presented below. For details, please refer to the registered CDM-PoA-DD.

Step 1: The installed capacity of the plant being considered in the proposed CPA is 30MW. Therefore, only wind power plants possessing an installed capacity ranging from 15MW to 45MW are going to be considered.

Step 2: The wind power plant considered in the proposed CPA is located in the Rio Grande do Sul state. Therefore, plants located in this state which are not considered in CDM Projects Activities are taken into account. In addition, the starting date of the project activity is after the commencement of the validation. Therefore, only plants that became operational before the proposed CPA was published for GSP (October 29th, 2011) were considered. The result is that $N_{all} = 0$.

Step 3: As discussed above in Step 2, no similar wind power plant located in Rio Grande do Sul was identified. Hence, $N_{diff} = 0$.

Step: 4: From the results discussed above, we have:
$N_{all} - N_{diff} = 0 < 3$ and,
$F = 1 - N_{diff}/N_{all} = 0 < 0.2$

Step 4 Outcome: No comparable activities occur without incentives, the project cannot be considered common practice and therefore is not a business as usual type scenario. In this sense, it is clear that, in the absence of the incentive created by the CDM this project would not be the most attractive scenario.

Final Outcome: The proposed CPA is additional since it meets the eligibility criteria listed in the Registered PoA, as discussed above.

B.4. Description of the sources and gases included in the project boundary and proof that the CPA is located within the geographical boundary of the registered PoA.

The geographical boundary of the registered PoA is Brazil. As described above in section A.4.2. the *Lajeado Grande I* Wind Power Plant is being developed in the municipality of São Francisco de Paula, Rio Grande do Sul state, Southern region of Brazil. The geographic coordinates presented in this section unequivocally proof that the project is being implemented within the PoA boundary, as defined previously.

The greenhouse gases and emission sources included in or excluded from the CPA boundary are shown in the table below.

Table 11: Emissions sources included or excluded in the project boundary

	Source	Gas	Included?	Justification/Explanation
Baseline	CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.	CO_2	Yes	Main emission source.
		CH_4	No	Minor emission source.
		N_2O	No	Minor emission source.
Project Activity	For geothermal power plants, fugitive emissions of CH_4 and CO_2 from noncondensable gases contained in geothermal steam.	Not applicable.		
	CO_2 emissions from combustion of fossil fuels for electricity generation in solar thermal power plants and geothermal power plants	Not applicable.		
	For hydro power plants, emissions of CH_4 from the reservoir.	Not applicable.		

B.5. Emission reductions:

B.5.1. Data and parameters that are available at validation:

Data and parameters presented in this section are the ones mentioned in section E.6.3. of the CDM-PoA-DD.

Data / Parameter:	$EF_{CO2,m,i,y}$
Data unit:	tCO_2/GJ
Description:	CO_2 emission factor of fossil fuel type *i* used in power unit *m* in year *y*
Source of data used:	IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories
Value applied:	Large amount of data. Please refer to the emission factor calculation spreadsheet which is attached to the CDM-PoA-DD and also to be attached to the CDM-CPA-DD.
Justification of the choice of data or	As per the recommendation of the *"Tool to calculate the emission factor for an electricity system"*. IPCC default values are being used since this information is

description of measurement methods and procedures actually applied :	neither provided by fuel suppliers nor regional and/or local default values are publicly available.
Any comment:	-

Data / Parameter:	$EG_{m,y}$ *and* $EG_{k,y}$
Data unit:	MWh
Description:	Net electricity generated by power plant/unit *m* or *k* in year *y*
Source of data used:	Official publications. Data from the Electric System National Operator was used.
Value applied:	Large amount of data. Please refer to the emission factor calculation spreadsheet which is attached to the CDM-PoA-DD and also to be attached to the CDM-CPA-DD.
Justification of the choice of data or description of measurement methods and procedures actually applied :	Once for each crediting period using the most recent three historical years for which data is available at the time of submission of the CDM-PoA-DD to the DOE for validation (*ex-ante* option).
Any comment:	For methodological choices details, please refer to section E.6.1.

Data / Parameter:	$\eta_{m,y}$
Data unit:	-
Description:	Average net energy conversion efficiency of power unit *m* in year *y*
Source of data used:	Default values provided in Annex 1 of the *"Tool to calculate the emission factor for an electricity system"*
Value applied:	Large amount of data. Please refer to the emission factor calculation spreadsheet which is attached to the CDM-PoA-DD and also to be attached to the CDM-CPA-DD.
Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the recommendation of the *"Tool to calculate the emission factor for an electricity system"*.
Any comment:	For methodological choices details, please refer to section E.6.1.

Data / Parameter:	$EF_{grid,OM-adj,y}$
Data unit:	tCO_2/MWh
Description:	Simple adjusted operating margin CO_2 emission factor in year *y*
Source of data used:	Official publications (data from ONS), IPCC default values and default values provided by the *"Tool to calculate the emission factor for an electricity system"*
Value applied:	0.2609
Justification of the	The *ex-ante* calculation vintage of this parameter was chosen as per the

choice of data or description of measurement methods and procedures actually applied :	procedures of the *"Tool to calculate the emission factor for an electricity system"*.
Any comment:	For methodological choices details, please refer to section E.6.1.

Data / Parameter:	$EF_{BM,2010}$
Data unit:	tCO_2/MWh
Description:	Build Margin CO_2 emission factor in year *y*
Source of data used:	Official publications (data from ONS), IPCC default values and default values provided by the *"Tool to calculate the emission factor for an electricity system"*
Value applied:	0.1166
Justification of the choice of data or description of measurement methods and procedures actually applied :	The *ex-ante* calculation vintage of this parameter was chosen as per the procedures of the *"Tool to calculate the emission factor for an electricity system"*.
Any comment:	For methodological choices details, please refer to section E.6.1.

B.5.2. Ex-ante calculation of emission reductions:

Baseline emissions (BE_y)

The proposed CPA corresponds to a Greenfield wind power plant. Therefore, the baseline emissions are calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y} \quad \textbf{Equation 1}$$

Where,

BE_y = Baseline emissions in year *y* (tCO_2);

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year *y* (MWh);

$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year *y* calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_2/MWh).

For this kind of project, $EG_{PJ,y}$ is determined as follows.

$$EG_{PJ,y} = EG_{facility,y} \quad \textbf{Equation 2}$$

Where,

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year *y* (MWh);

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh).

The quantity of net electricity generation supplied by the project' plant to the grid in year *y* ($EG_{faciclity,y}$, in MWh) is determined, for the purpose of ex-ante estimative as being equal to the installed capacity of each plant multiplied by the capacity factor - as determined by the Wind Certification specially conducted for the site considered in the CPA – and by the number of hours in which the plant is forecasted to be operational during year *y*.

The installed capacity of *Lajeado Grande I* Wind Power Plant is 30MW, as described previously in this CPA. The Wind Certification at the project site was conducted by Camargo Shubert, a reputed wind certification company. The results of the study show that the capacity factor of the plant is 35.7%. Considering the plant will be operational 8760 hours/year, the electricity generated by the plant is 93,699MWh/year.

As described in the registered PoA, the calculation of the combined margin CO_2 emission factor for grid connected power generation ($EF_{grid,CM,y}$) follows the steps established in the "*Tool to calculate the emission factor for an electricity system*". For methodological choices and details as to how the emission factor was calculated, please refer to the PoA. The final results to be applied while calculation the emission reductions by each CPA are presented below.

$EF_{grid,CM,y} = 0.2248tCO_2e/MWh$

Finally, baseline emissions can be determined applying the results of $EG_{facility,y}$ and $EF_{grid,CM,y}$ to Equation 1 as follows,

$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$

$EG_{PJ,y} = EG_{facility,y} = 93{,}699MWh$

$BE_y = 93{,}699MWh * 0.2248tCO_2/MWh$

$BE_y = 21{,}063tCO_2$

Project Emissions (PE_y)

As explained in section E.6.1. of the registered PoA-DD, there are no sources of project emissions associated with the implementation of the proposed CPA.

Therefore, PE_y **= 0.**

Leakage Emissions (LE_y)

As explained in section E.6.1. of the registered PoA-DD, there are no sources of leakage emissions associated with the implementation of the proposed CPA.

Therefore, LE_y **= 0.**

Emission Reductions (ER_y)

According to ACM0002 emission reductions by a typical CPA are calculated as follows.

$$ER_y = BE_y - PE_y$$ **Equation 3**

Where,

ER_y = Emission reductions in year y (t CO_2e);

BE_y = Baseline emissions in year y (t CO_2);

PE_y = Project emissions in year y (t CO_2e).

Applying the results discussed above to Equation 3 we obtain,

$ER_y = BE_y - PE_y$

$ER_y = 21{,}063 tCO_2 - 0\ tCO_2$

$ER_y = 21{,}063 tCO_2$

B.5.3. Summary of the ex-ante estimation of emission reductions:

Year*	Estimation of project activity emissions (tonnes of CO_2 e)	Estimation of baseline emissions (tonnes of CO_2 e)	Estimation of leakage (tonnes of CO_2 e)	Estimation of overall emission reductions (tonnes of CO_2 e)
2015	0	21,063	0	21,063
2016	0	21,063	0	21,063
2017	0	21,063	0	21,063
2018	0	21,063	0	21,063
2019	0	21,063	0	21,063
2020	0	21,063	0	21,063
2021	0	21,063	0	21,063
Total (tonnes of CO_2 e)	**0**	**147,441**	**0**	**147,441**

* *January, 1st 2015 - December, 31st 2021*

B.6. Application of the monitoring methodology and description of the monitoring plan:

B.6.1. Description of the monitoring plan:

In accordance with the monitoring methodology the parameter that needs to be monitored is the quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* ($EG_{facility,y}$). Information regarding the monitoring procedures to be applied is presented in the table below.

Data / Parameter:	$EG_{facility,y}$
Data unit:	MWh
Description:	Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y*
Source of data to be used:	Project Activity site.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	93,699
Description of measurement methods and procedures to be applied:	The quantity of electricity delivered to the grid by the project will be quantified through the energy meter located at the substation. The monitoring of this parameter will be conducted separately for each plant. Information will be continuously monitored and monthly recorded, at least.
QA/QC procedures to be applied:	Energy metering QA/QC procedures are explained in below in this section (the equipments used have by legal requirements extremely low level of uncertainty m- 0,2 precision class). In addition, there will be another meter at the substation (backup) to ensure that electricity will be properly measured. The information will be cross checked using documented evidence from the local power utility or CCEE – Câmara de Comercialização de Energia Elétrica, a Brazilian governmental entity which monitors the quantity of electricity in the national interconnected grid.
Any comment:	Since *Lajeado Grande I* Wind Power Plant consists of a Greenfield wind power plant, this parameter corresponds to $EG_{PJ,y}$ used to determine baseline emissions.

The Project sponsor of *Lajeado Grande I* Wind Power Plant will proceed with the necessary monitoring measures as established in the procedures detailed in the CDM-PoA-DD form.

SECTION C. Environmental analysis

C.1. Please indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken. Justify the choice of level at which the environmental analysis is undertaken:

☐ Please tick if this information is provided at the PoA level. In this case sections C.2. and C.3. need not be completed in this form.

C.2. Documentation on the analysis of the environmental impacts, including transboundary impacts:

In general, the environmental impacts of a wind power plant are considered small given the other sources of electricity generation. As per Resolution #279[21], dated June 27th, 2001, issued by the National Environmental Council Resolution – CONAMA (from the Portuguese *Conselho Nacional do Meio Ambiente*) Wind Power Plants must do a simplified environmental impact assessment in order to obtain the necessary permits to the project. Permits required by this resolution are:

- The Preliminary Permit (*Licença Prévia* or LP);
- The Construction Permit (*Licença de Instalação* or LI); and
- The Operating Permit (*Licenca de Operação* or LO).

The process starts with a previous analysis (preliminary studies) conducted by the project sponsor which is submitted to the environmental agency. Once the environmental local agency has a positive understanding about the environmental project concept, the Preliminary Permit (LP) is issued.

In order to obtain the Construction Permit (LI) it is necessary to present (a) additional information about previous assessment; (b) a new simplified assessment; or (c) the Environmental Basic Project, according to the environmental agency decision informed at the LP.

The Operation Permit (LO) is a result of pre-operational tests during the construction phase to verify if all exigencies made by environmental local agency were completed.

The simplified environmental impact assessment developed specifically to the *Lajeado Grande I* Wind Power Plant evaluated the possible impacts occurring during two different phases of the project implementation: construction and operation. The impacts were also classified according to its effect (positive or negative), duration (short term or long term), scope (local or regional), reversibility (reversible or not). Depending of the identified impact, mitigation measures were proposed.

Negatives impacts are mostly expected to occur during the implementation phase and are related to influences in the soil, air quality, and vegetation. Examples of these impacts are the increase in the particulate matter production due to the construction, vegetation suppression, noise, fauna disturbances and erosion.

[21] Available at <http://www.mma.gov.br/port/conama/res/res01/res27901.html>. Accessed on 14th July, 2011.

However, the duration of these impacts is short (only while the project is being constructed) and the majority of them are reversible and fully mitigated.

Positive impacts are expected to be observed since in the socio-economic field. The implementation of wind farms commonly increases job opportunities and municipal income trough the payment of royalties. In contrast with the negative aspects, these impacts are forecasted to occur in the operational phase of the project, have a long duration and a regional influence.

Project sponsor has already presented the environmental assessment to the local environmental agency while requesting the preliminary environmental permit. Relevant documentation will be presented to the DOE validating the CPA and are available upon request.

C.3. Please state whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA),:

According to the Brazilian environmental regulations, an environmental impact assessment is required for every Greenfield wind power plant to be included in a typical CPA under the proposed Programme of Activities.

Resolution #279[22], dated June 27th, 2001, issued by the National Environmental Council Resolution – CONAMA (from the Portuguese *Conselho Nacional do Meio Ambiente*) establishes that Wind power plants must do a simplified environmental impact assessment in order to obtain the necessary permits to the project.

In this sense, a simplified environmental impact assessment was done specifically to the power plant considered in this CDM-CPA – i.e. *Lajeado Grande I* Wind Power Plant. The simplified environmental impact assessment will be supplied to the DOE validating this CPA and is available for consultation upon request.

SECTION D. Stakeholders' comments

D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:

☑ Please tick if this information is provided at the PoA level. In this case sections D.2. to D.4. need not be completed in this form.

D.2. Brief description how comments by local stakeholders have been invited and compiled:

Not applicable.

[22] Available at <http://www.mma.gov.br/port/conama/res/res01/res27901.html>. Accessed on 14th July, 2011.

D.3. Summary of the comments received:

Not applicable.

D.4. Report on how due account was taken of any comments received:

Not applicable.

Annex 1

CONTACT INFORMATION ON ENTITY/INDIVIDUAL RESPONSIBLE FOR THE CPA

Organization:	Zeta Energia S.A.
Street/P.O.Box:	Av. São Gabriel, 477, 2nd floor
Building:	
City:	São Paulo
State/Region:	São Paulo
Postfix/ZIP:	01435-001
Country:	Brazil
Telephone:	+55 (11) 3254-9810
FAX:	
E-Mail:	Marco.garcia@zetaenergia.com.br
URL:	
Represented by:	Mr. Marco Antônio Garcia
Title:	-
Salutation:	Mr.
Last Name:	Garcia
Middle Name:	Antonio
First Name:	Marco
Department:	-
Mobile:	-
Direct FAX:	-
Direct tel:	-
Personal E-Mail:	Marco.garcia@ecopart.com.br

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

There's no public funding involved in the proposed CPA.

- - - - -

Annex 3

BASELINE INFORMATION

This section is intentionally left blank.

- - - - -

Annex 4

MONITORING INFORMATION

This section is intentionally left blank.

For details please refer to section B.6.1. above.

- - - - -