Programme design document form
for CDM programmes of activities
(Version 03.0)

PART I. Programme of activities (PoA)

SECTION A. General description of PoA

A.1. Title of the PoA

>>
Argentinean Wind Power Programme (AWPP)
Version Number: 3.0
Date: 11/12/2012

A.2. Purpose and general description of the PoA

>>

(a) General operating and implementing framework of PoA

The Argentinean Wind Power Programme (AWPP) aims at developing a series of grid-connected wind power plants in Argentina. In spite of the vast wind resource and ongoing efforts to establish wind power in Argentina over the last two decades including several promotion schemes, deployment of wind power has been very poor so far.

The Argentinean Wind Power Programme (AWPP) seeks to accelerate deployment of wind power in Argentina by providing a streamlined implementation process. In particular, with the introduction of a PoA, access for Argentinean wind power plants to the CDM is eased through lower transaction costs and providing certainty to investors through ex-ante defined framework conditions. The CDM is of particular importance for the deployment of wind power in Argentina since the CDM creates a certain revenue stream from outside Argentina thereby increasing the profile of such projects for international investors and easing the purchase of equipment predominantly only available on international markets.

(b) Policy/measure or stated goal of the PoA

The Argentinean Wind Power Programme (AWPP) seeks to initiate at least 500 MW of wind power plant capacity by 2020. Once the programme is well established and more wind power developers are joining in, the capacity triggered by the Argentinean Wind Power Programme (AWPP) might go well beyond the initial goal of 500 MW.

Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity.

The proposed PoA is a joint voluntary action by the two private entities wpd Argentina S.A. and Fichtner Carbon Management GmbH.

Description on how the proposed PoA contributes to sustainable development

The effects of the Argentinean Wind Power Programme (AWPP) on sustainable development are analyzed considering the country specific sustainable development criteria. The Argentinean Wind Power Programme (AWPP) will contribute to sustainable development as follows:

Environment:

The proposed PoA will help to reduce greenhouse gas emissions by displacing the combustion of fossil fuels for power generation with clean energy and therefore support the global community to counteract the growing problem of climate change. Argentina's GDP grew 7.3 % last year (2011),

driving demand for energy that is overwhelmingly derived from fossil fuels. According to the Argentine Institute of Petroleum and Gas (IAPG), the energy demand rose 5.1% in 2011. Argentina emitted roughly 167 million metric tons of CO_2 in 2009 related to its energy use, a rise of over 20% from 2000, according to the most recent data by the U.S. Energy Information Administration. It is therefore important to look to cleaner more sustainable energy options to support the environment, communities and economy. The Argentinean Wind Power Programme (AWPP) seeks to accelerate the deployment of wind power in Argentina and provides therefore a good opportunity to move towards a less carbon-intensive matrix. At the same time, other emissions from fossil fired power plants like NO_x and SO_x are reduced by introducing wind power thus helping to reduce local and regional environmental pollution.

Social

The social dimension of sustainability concerns the effects of wind power plants on the social systems within which it operates. Key aspects are:

- Effect on employment: additional jobs will be created during construction and operation of wind power plants. Direct deployment during construction is created through accommodation and food services providers which have a significant increase in sales over the period the wind farms are in construction; local businesses that benefit from contracts such as suppliers, civil engineering and construction businesses, general laborers, electricians, transport operators, competent machine operators etc.
- Further training and education, provide skills training and apprenticeships: during construction and prior to operation there will be several different kind of training. Prior to Construction all workers will be introduced into safety at working place and environmental management. Especially for environmental management an environmental manager as member of the construction team and employee of the construction company will be trained on his tasks and duties. Prior to operation of the plant, the maintenance staffs will be trained on understanding the functions and operation of the plant by the Wind Turbine Suppliers, they will learn major troubleshooting, and understanding and handling the SCADA monitoring system.
- Development programs, operations with implemented local community engagement: additional training and awareness programs will be implemented and carried out by the operator. Local schools and universities can be involved in environmental awareness programs such as projects undertaking native plantings at the wind farm for landscape amenity and environmental reasons that could be replicated within the region. Such projects could include education components e.g. detailed training on function and operation of wind farms. The developer and the contractors would also provide career talks and advice on the range of employment and training opportunities that are offered in the wind energy industry.

Economical

The economic dimension of sustainability concerns the impacts on the systems at local, national, and global levels.

- Direct economic value generated and distributed, operating costs, employee compensation, donations and other community investments.
- proportion of spending on locally-based suppliers, incorporation of local industry
- Development and impact of infrastructure investments and services provided
- Technology Transfer
- Enhance energy security without compromising economic growth

The Argentinean Wind Power Programme (AWPP) promotes and creates new employment opportunities, promotes new technologies and capacity building. It increases the national origin of equipment and services used in wind power plants through local industrial development promotion and regional economies development.

The programme contributes to the diversification of Argentinean energy grid and therefore enhances energy security and reliability, being a renewable power source not dependent on fossil fuels. The dependence on energy imports will be reduced, substituting foreign fossil fuel supply by

domestic renewable energy sources. The Argentinean Wind Power Programme (AWPP) helps to maintain a low greenhouse gas emission factor of the Argentinean grid.

A.3. CMEs and participants of PoA

>>

- Fichtner Carbon Management GmbH is a private company and participant of the PoA.
- wpd Argentina S.A. is a private company and the Coordinating/Managing Entity (CME) of the proposed PoA and is the entity which communicates with the Board.

Project participants may or may not be involved in one of the CPAs related to the PoA.

A.4. Party(ies)

Name of Party involved (host) indicates a host Party	Private and/or public entity(ies) project participants (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Argentina (host)	wpd Argentina S.A. (private)	No
Germany	Fichtner Carbon Management GmbH (private)	No

A.5. Physical/ Geographical boundary of the PoA

>>

The geographical boundary of the proposed PoA is Argentina. The geographical coordinates of Argentina are[1]: 34° 00' S, 64°00 W'.

A.6. Technologies/measures

>>

All CPAs under the proposed PoA will be wind power farms which will typically consist of one or several wind turbines. Wind power is not a technology commonly used in Argentina, thus this PoA will support bringing state of the art technology to Argentina. The capacity of each CPA may range from a few Megawatts up to several hundred Megawatts. wpd Argentina S.A. has a pipeline of wind power projects of some 1,000 MW in different stages of development. The wind farms will feed electricity into the Argentinean power grid.

A.7 Public funding of PoA

>>

No public funding is used to implement this PoA.

In case funding from Annex 1 party is involved in a CPA development the implementing agency must provide evidence through written affirmation by the funding agency that no official development assistance is diverted and is separate from and not counted towards the financial obligation of the Annex I country.

[1] https://www.cia.gov/library/publications/the-world-factbook/geos/ar.html

SECTION B. Demonstration of additionality and development of eligibility criteria

B.1. Demonstration of additionality for PoA

>>
For the underlying Argentinean Wind Power PoA additionality is demonstrated for each CPA based on an investment analysis or an investment and barriers analysis together with the common practice analysis (see PART II. B.5). A CPA that demonstrates additionality based on the guidance included under PART II. B.5 will per definition not occur in the absence of the PoA.

The following description of the Argentinean situation regarding implementation of wind power projects shall only serve as background information for better understanding the market conditions for wind power projects in the country. It shall be not viewed as a demonstration of additionality as this is proven on the CPA level.

Current energy mix in Argentina
The electricity sector in Argentina constitutes the third largest power market in Latin America. It relies mostly on thermal generation and hydropower generation, with new renewable energy technologies barely exploited.

Argentina generates electricity using thermal power plants based on fossil fuels (58.6%), hydroelectric plants (35.5%), and nuclear plants (5.9%, two operational, one incomplete), with less than 0.1% renewable. Installed nominal capacity in 2010 was 28,400 MW[2]. Thermal power plants fuelled by natural gas (CCGT) are the leading fossil source for electricity generation in Argentina. However, this scenario of gas dominance is likely to undergo changes due to gas exhaustion derived from the existing "bottlenecks" in exploration and production.

The prevailing natural gas-fired thermal generation is at risk due to the uncertainty about future gas supply. Natural gas reserves have decreased during the last decade and the country has started to import not only natural gas from neighbor Bolivia but also Liquefied Natural Gas (LNG) from Trinidad and Tobago and more recently from the middle-east. As a consequence of the diminishing availability of natural gas for electricity generation, thermal power plants have started to use fuel oil and gas oil that are also imported from other countries in the region, but at lower cost compared to the imported LNG.
So there are good reasons to diversify Argentinean energy supply by deploying wind power and other renewable energy sources. The security of supply will not only increase because more different energy sources are tapped but also because foreign fossil fuel supply is substituted by domestic renewable energy sources. The Government of Argentina further acknowledges that deployment of wind power creates employment[3].

Wind resources and existing wind generation in Argentina
With abundant winds that would achieve capacity factors above 35% in many areas of the country, the theoretical potential of wind generation in Argentina is enormous. The potential could reach more than 2,000 GW of installed capacity; equivalent to almost twice the total generation capacity exists in the United States of America[4]. Others estimated the potential of wind power to 779 GW[5]. In practical terms, given a projected total system capacity by 2016 of just under 30 GW, is technically feasible to install up to 6 GW of wind power (20% of national total). Patagonia

[2] http://portalweb.cammesa.com/MEMNet1/Documentos%20compartidos/VAnual10.pdf, p.26 and 28.
[3] Manda, A.: Market status. Emerging Latin America . Wind continues steady spread through region. In: Wind Power Monthly. March 2011.
[4] Camara Argentina de Energias Renovables: Estado de la Eolica en Argentina 2009. p.25. (Argentinean Chamber of Renewable Energy: State of Wind Energy in Argentina) http://www.argentinarenovables.org/archivos/EstudioEolicoCADER2009.pdf
[5] Labriola, Carlos V. M.(2007) Wind Potential in Argentina, situation and prospects. http://www.icrepq.com/icrepq07/205-labriola.pdf . Accessed October 27, 2011.

Argentina is without any doubt the Argentinean region with the largest potential, where the annual average wind speed exceeds 6 m/s.

Up to January 2012 the total power capacity of interconnected wind farms installed in Argentina is 133 MW see Table 1). Wind generation is made up of 14 wind farms. In terms of numbers, most of the projects have been developed by electric cooperatives between 1994 and 2002, but with only low capacity. Only very recently, two large wind farms have multiplied the total installed wind power capacity in Argentina, triggered through the GENEREN program. Nearly all farms in operation have a local network that serves users of the cooperatives as local utilities that sell the net surplus to the national grid. With regard to the total installed electricity generating capacity of approximately 26,000 MW in Argentina the share of wind power comprises only around 0.5%.

Table 1: Existing wind farms in Argentina as of January 2012 (Source: Secretaría de Energía[6], Asociación Argentina de Energía Eólica – AAEE[7], own calculations)

Wind power plant name	Site	Capacity (MW)	# turbines	Start of operation	Capacity factor	Prospective output (MWh/yr)
COMODORO RIVADAVIA - PECORSA - CERRO ARENALES	Comodoro Rivadavia	0.5	2	Jan. 1994	41%	1,796
COMODORO RIVADAVIA - ANTONIO MORAN	Comodroro Rivadavia	16.56	24	Dec. 2001	49%	71,082
CUTRAL CO (COPELCO) - MEULEN	Cutral co	0.4	1	1994	26%	911
PUNTA ALTA - PEHUEN CO	Pehuen Co	0.4	1	1998	26%	911
TANDIL - CRETAL	Tandil	0.8	2	1998	26%	1,822
RADA TILLY	Rada Tilly	0.4	1	1996	45%	1,577
MAYOR BURATOVICH	Mayor Buratovich	1.2	2	1997	30%	3,154
DARREGUEIRA - Hércules	Darragueira	0.75	1	1997	25%	1,643
PUNTA ALTA - CENTENARIO	Punta Alta	1.8	3	1998	33%	5,203
CLAROMECO	Claromecó	0.75	1	1999	30%	1,971
JORGE ROMANUTTI	Pico Truncado	2.4	6	May 2005	47%	9,839
GENERAL ACHA	Gral. Acha	1.8	2	2004	27%	4,194
ARAUCO	Aimogasta	25.2	12	2011	42%	92,716
RAWSON I /II	Rawson	80	43	Jan. 2012	40-45%	315,360
Total		**133**				

There are several barriers existing that have prevented a widespread installation of wind Farms in Argentina despite the very good wind conditions.

Legal barriers:
Securing land use rights is one of the core issues for infrastructure projects. Wind power developers need to secure land use rights as early as possible as they are a prerequisite for receiving project financing and for starting project planning. Wind farms normally require between 2 and 5 years of planning/construction. After commissioning they operate usually for 20 years resulting in an overall project life span of 22 - 25 years. The current difficulties to receive project

[6] http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=3451
[7] http://www.argentinaeolica.org.ar/portal/index.php?option=com_content&task=view&id=341&Itemid=37. Accessed December 2011, re-accessed 28/02/2012

financing for infrastructure projects in Argentina (see description of investment barriers below) adds additional time for project development thus the overall project life span of a wind power project may even exceed 25 years.

In the case of Argentina the Civil Code stipulates that lease contracts for land are time restricted to a maximum of 20 years[8]. The renewal/extension of the lease contract after that time depends on the willingness of the land owner. Taking into consideration the overall life span of a wind power project development in Argentina the restriction of the lease contracts for 20 years in Argentina with no right for renewal bears high risks that the typical technical lifetime of 20 years will not fully be exploited. Thus, there is a high risk that the electricity generation is significantly reduced resulting in negative impacts on the projects' financial viability.

Buying of land could be an option to deal with this situation. Nevertheless this requires access to additional capital which also has negative impacts on financial viability of the projects.

Investment barriers:
After the financial crisis in 2001 in Argentina the economic situation and the investment climate is still considered unstable for national and foreign investors[9]. Based on the experience of WPD local banks only grant short-term credits with an overall duration of 12 - 24 months. Longer investments are only financed by developing banks, e.g. KFW or IADB. This observation is also confirmed by the U.S. Department of State which says: *"Despite the strong banking sector performance of recent years, system-wide lending remains mostly short-term, as access to long-term financing is limited and borrowers are reluctant to borrow long-term at variable rates. Financial sector analysts have argued that the uncertainty in local capital markets complicates government and private sector efforts to develop a long-term fixed interest rate market, without which it will be difficult to deepen Argentina's financial markets or support large-scale private sector project finance. Government officials have acknowledged the lack of medium- and long-term credit facilities needed to support the expansion of domestic productive capacity, and the government has announced a number of programs aimed at expanding available credit"*[10].

When it comes to wind power, Argentina like many other Latin American countries suffers from the lack of a clear, long-term policy framework with which to demonstrate to the private sector and the finance community a clear commitment to develop renewable energy in general and wind power in particular[11].
Attracting financiers for infrastructure projects in Argentina is therefore very difficult. Income from carbon sales enhances the situation since income streams from outside Argentina are created.

Power Grid
The good wind resources are mostly distant from the centres of load in Argentina. As the power grid has been not designed to accommodate and transfer power from wind power plants this caused a major obstacles hindering the deployment of wind power in Argentina[12].

[8] Ley 13.246 - Arrendamientos y Aparcerías Rurales: Artículo 45. (Texto según Ley 22298) *Los contratos en los cuales el arrendatario o aparcero se obligue a realizar obras de mejoramiento del predio tales como plantaciones, obras de desmonte, irrigación, avenamiento que retarden la productividad de su explotación por un lapso superior a Dos (2) años, podrán celebrarse hasta por el plazo máximo de Veinte (20) años*. (Law 13.246 - Rural leases and Sharecropping: Article 45 (Amended by Law 22298). *The contracts, which lessee or sharecropper, is obliged to carry out land improvements such as plantations, clearing works, irrigation, drainage that slow the productivity of the farming for a period exceeding two (2) years, may be held for up to a maximum period of twenty (20) years.)*
[9] Hosea, M.: Wind power success lifts Argentine industry. In: Wind Power Monthly. September 2010.
[10] http://www.state.gov/e/eeb/rls/othr/ics/2010/138028.htm (accessed on 03/08/2011).
[11] Broehl, J.: South American nations to realise their power potential. In: Windpower Monthly. August 2010. p.14.
[12] GTZ: Energiepolitische Rahmenbedingungen für Strommärkte und erneuerbare Energien. Argentinien. (Legal Framework Conditions in Power markets for Renewable Energies) November 2009. p.22. http://www.gtz.de/de/dokumente/gtz2009-de-terna-argentinien.pdf

B.2. Eligibility criteria for inclusion of a CPA in the PoA

>>

(a) Eligibility criteria for inclusion of a Greenfield type CPA in the PoA

The following eligibility criteria for the inclusion of a Greenfield type project activity as CPA under the PoA apply:

1. A Greenfield type CPA must be located within the geographical boundaries of Argentina.

2. An activity that has been proposed as stand-alone CDM project activity in Argentina or which is part of another CDM project activity is not eligible for inclusion into the PoA.

3. The activity must be a single wind turbine or a wind farm consisting of several wind turbines which feed in electricity into the Argentinean grid. The activity shall be a newly built plant and must not involve retrofitting or modifying of an existing facility for renewable energy generation.

4. The installed capacity of a CPA shall not exceed 500MW; the plant load factor for a P50 scenario shall exceed 20%; the specific price of the wind turbines shall not exceed 2,500€ per kW; the tariff shall not exceed 140 USD/MWh and the operating and maintenance costs shall not exceed 2.5 USD-cent per kWh.

5. The starting date of the CPA is determined by the earliest date at which either the implementation or construction or real action of the CPA begins (i.e. civil works, wind turbines or other relevant contract is signed).

6. A Greenfield type CPA has to comply with the applicability criteria and other requirements of the latest version of the methodology ACM0002. No other methodologies will be used. The applicability criteria of the methodology ACM0002 (V.13.0.0 at the time of drafting the PoA) are outlined under PART I. B.3.

7. A Greenfield type CPA has to demonstrate additionality following the procedure outlined in PART II. B.5.

8. For each Greenfield type CPA a stakeholder consultation process has to be conducted.

9. A Greenfield type CPA has to comply with the national regulations of Argentina. A CPA must be subject to a procedure of an environmental impact assessment before execution. The type of environmental impact assessment will be defined at a provincial level, depending on the size and capacity of the CPA.

10. Affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance.

(b) Eligibility criteria for inclusion of a Capacity Addition type CPA in the PoA

The following eligibility criteria for the inclusion of a Capacity Addition type project activity as CPA under the PoA apply:

1. A Capacity Addition type CPA must be located within the geographical boundaries of Argentina.

2. An activity that has been proposed as stand-alone CDM project activity in Argentina or which is part of another CDM project activity is not eligible for inclusion into the PoA.

3. The activity must be a single wind turbine or consist of several wind turbines which feed in electricity into the Argentinean grid. The activity shall be a newly built plant and must not

involve retrofitting or modifying of an existing facility for renewable energy generation. The added capacity has to be physically distinct from the existing units.

4. The installed capacity of a Capacity Addition type CPA shall not exceed 500MW; the plant load factor for a P50 scenario shall exceed 20%; the specific price of the wind turbines shall not exceed 2,500€ per kW; the tariff shall not exceed 140 USD/MWh and the operating and maintenance costs shall not exceed 2.5 USD-cent per kWh.

5. The starting date of the CPA is determined by the earliest date at which either the implementation or construction or real action of the CPA begins (i.e. civil works, wind turbines or other relevant contract is signed).

6. A Capacity Addition type CPA has to comply with the applicability criteria and other requirements of the latest version of the methodology ACM0002. No other methodologies will be used. The applicability criteria of the methodology ACM0002 (V.13.0.0 at the time of drafting the PoA) are outlined under PART I. B.3.

7. A Capacity Addition type CPA has to demonstrate additionality following the procedure outlined in PART II. B.5.

8. For each Capacity Addition type CPA a stakeholder consultation process has to be conducted.

9. A Capacity Addition type CPA has to comply with the national regulations of Argentina. A CPA must be subject to a procedure of an environmental impact assessment before execution. The type of environmental impact assessment will be defined at a provincial level, depending on the size and capacity of the CPA.

10. Affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance.

B.3. Application of methodologies

>>

The approved baseline methodology ACM0002 V.13.0.0 *consolidated baseline methodology for grid-connected electricity generation from renewable sources* is applied to the PoA.

The methodology ACM0002 V.13.0.0 is applicable for CPAs under this PoA under the following conditions (Note: The applicability criteria correspond to the latest version of the methodology ACM0002 at the time of drafting the PoA. For individual CPA the latest version of the methodology will be applied as stated under PART I. B.2.):

Applicability criteria ACM002: "Grid connected electricity generation from renewable sources" V. 13.0.0	Compliance with each CPA	
This 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).	✓	A CPA will consist in the installation of either a new grid-connected power generation project activity (wind) where no renewable power plant was operated prior do the implementation of the CPA (a) or involve capacity addition to an existing wind farm (b).
The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit	✓	A CPA will consist in the installation of a wind farm.

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 methodology is not applicable to the following: • 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 results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than $4W/m^2$.	✓	A CPA will neither include fuel switching nor will it be a biomass fired power plant or a hydro power plant.
In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	✓	In case a CPA involves a capacity addition to an existing grid-connected renewable power plant/unit, the baseline scenario is the following: In the absence of the CPA, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted. From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur.

A CPA will either consist of the installation of a wind farm at a site where there has not been any previous non-renewable nor renewable power generation plant or will consist of a capacity addition to an existing wind farm. A CPA moreover will feed in electricity into the electricity grid of Argentina and hence fulfils the applicability criteria of ACM0002 V.13.0.0.

SECTION C. Management system

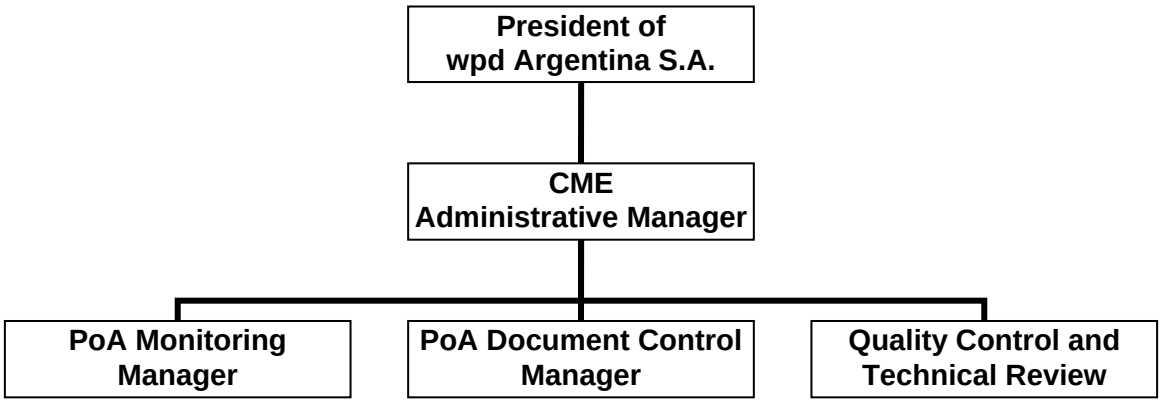
>>

wpd Argentina S.A will take over responsibility as a managing and coordinating entity. The CME has the competencies to check the features of potential CPAs and ensure that each CPA meets the requirements and eligibility criteria before inclusion in the registered PoA. The following describes the necessary operational and management arrangements for the implementation of the PoA, comprising the following aspects:

a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies

The CME has developed and implemented a management system which is made available to the DOE at the time of the validation of the PoA. The CME will demonstrate responsibility for the PoA at all levels by defining operational and management arrangements, related roles and responsibilities to ensure control over all critical activities in compliance with the requirements of

the registered design and the CDM. The structure to manage the PoA and the related roles and responsibilities are defined to give the DOE reasonable assurance that the CME´s management is in control and can accept responsibility over the PoA throughout time. The following presents the organizational structure of the CME.



Based on the above given chart the roles and responsibilities are described in more detailed in the following table.

Department	Management Responsibilities and Arrangements
President of wpd Argentina S.A.	• Accomplishment of the Programme Objectives • Ensuring proper management of the PoA • Decision of the inclusion of a CPA based on the suggestion of the PoA Monitoring Manager • Staff selection
CDM Administrative Manager	• Follow-up with registration, inclusion and issuance of CER's • Program operation in accordance with CDM guidelines and Management Board strategy • Awareness creation and promotion of the PoA • Ensuring proper CDM project operation and management following the required guidelines and management board strategy • Review of program compliance with guidelines by updating eligibility criteria of the CPA following a change of methodology • Proper and timely validation of the PoA • Single point of contact for PoA related issues inside the organization and vis-à-vis relevant actors (e.g. UNFCCC, CPAs, DOEs).
PoA Monitoring Manager	• Identification of CPAs • Review of CPA compliance in accordance with the PoA-DD of AWPP • Listing of eligible CPA's • Investment analysis for the CPA's • Ensure verification of CPA's • Validation and verification support to CPA implementer throughout the crediting period • Preparation of monitoring report for Emission Reductions • Monitoring and record keeping of monitoring parameters • Review and improvement suggestions of monitoring

	system and plan • Monitoring support to CPA implementers • Suggestion on the inclusion of eligible CPAs under the PoA Together ensuring that: • Equipments and measurements in the field are in compliance with stated measurement methods, recording frequency and storing • Each CPA produces an annual coherent and standard monitoring report
PoA Document Control Manager	• Collecting information and documentation of the CPA • Collection and scrutiny of all documents related to the eligibility criteria of CPA inclusion • Focal point for CPA Implementers • Collection of necessary statutory approvals from CPA implementers • General document control • Technical review of the CPA-DD documentation
Quality Control and Technical Review	• Process and continuous improvement proposal reporting to stakeholders and management • Quality control of supporting documents and site information

All documentation and procedures will be implemented using a permanent, transferable and understandable method, which is contained in the CME manual, together with a permanent record to demonstrate that all requirements are met.

The CME manual will contain a description of the structure of the CME and the related teams, defining roles, authority and responsibility within each structure. The critical issues that have been considered in defining the structure and allocating responsibilities are: the span of control of the people working in the project, the separation of responsibilities thus reducing the risk of failing to detect an error in a document and the allocation of tasks to competent subjects.

Effective internal communication will be guaranteed. All personnel will have the individual responsibility of notifying the management of any issues affecting the proper operation of the PoA. The CME management will keep all personnel up to date of information relevant to their respective task.

b) Records of arrangements for training and capacity development of personnel

The CME will maintain and provide the DOE with a record of past training and a plan for the training and capacity development of its personnel at time of validation of the PoA-DD.

c) Procedures for technical review of inclusion of CPAs

A technical review procedure and associated forms have been developed. These are provided to the DOE for assessment during validation of the PoA-DD and at time of validation of CPA inclusion.

d) A procedure to avoid double counting (e.g. to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA or another PoA):

A CPA that has been proposed as stand-alone CDM project activity in Argentina or which is

part of another CDM project activity is not eligible for inclusion into the PoA. In order to guarantee compliance with this criterion the geographical coordinates and the installed capacity of each CPA saved in a data base will be crosschecked with the geographical coordinates and installed capacity of new CPAs proposed for inclusion into the PoA as well as with wind power projects submitted for prior consideration of CDM/validation/registration as published on the UNFCCC website.

e) Records and documentation control process for each CPA under the PoA

The managing entity will establish an electronic data base in which the following information for each CPA will be recorded:

- Name of the CPA
- Implementing entity of the CPA
- Installed capacity of the CPA
- Detailed location of the CPA
- Compliance with eligibility criteria and evidence of compliance submitted to the CME

The CME ensures:

- Compliance of the CPA with the eligibility criteria for inclusion into the PoA
- Training of CDM monitoring team responsible for data collection and archiving at the CPAs
- Prepare monitoring reports for emission reduction verification.
- Assisting in validation and verification of the CPAs

The CPA operator is responsible for implementation and operation of the CPA as well as data collection and archiving for monitoring of the emission reductions according to the provisions outlined in PART II B.7.2.

f) Measures for continuous improvements of the PoA management system

Measures for the continuous improvement of the PoA management system are described in the designated CME Management System Manual that is available during validation of the PoA-DD and provided to the DOE for assessment at time of CPA Inclusion validation.

A quality management system will be applied to identify, develop, document and improve all procedures, covering areas such as overall management responsibility, planning and purchasing, implementation, operation, monitoring, resource management and improvement.

g) Any other relevant elements

Each implementing entity shall enter into a contractual agreement with the managing entity in order to avoid double counting and to ensure that the implementing entity of each activity under the CPA is aware of and has agreed that its activity is being subscribed to the PoA. The contractual agreement shall confirm the following:

- The activity has not been and will not be registered as CDM project activity, neither as stand-alone nor within another PoA.
- The implementing entity is aware and agrees that the CPA will be subscribed to the present PoA.

All legal rights and obligations will be clearly understood and explicitly agreed upon by all involved parties. Signed contracts will be centrally recorded and contract templates will be controlled, including management agreements with individual CPA owners or end-user agreements, financial agreements with creditors, supply agreements with technology providers and validation agreements with DOE´s.

SECTION D. Duration of PoA

D.1. Start date of PoA

>>
20/01/2012. The start date of the PoA is the date of the publication of the PoA-DD at the stage of global stakeholder consultation.

D.2. Duration of the PoA

>>
28 years.

SECTION E. Environmental impacts

E.1. Level at which environmental analysis is undertaken

>>
The environmental analysis is done at CPA level. The environmental analysis is undertaken at the CPA level as the environmental impact of wind power farms depend on their particular location and size. Nevertheless in the following section the typical environmental and social effects of wind farms are outlined.

E.2. Analysis of the environmental impacts

>>
The predicted typical environmental and social effects of Wind Farms are described in the following table for the construction, operation, maintenance and decommissioning phases. It is important to state that this type of facility is usually erected in rural and sparsely populated areas, which reduces in a significant way the importance of some of its prospective negative impacts.

Construction phase: Alignment of access roads and paths; Removal of vegetation and upper soil; Siting of infrastructure; Transport of equipment; Solid and liquid waste generation; Circulation of vehicles; Operation of equipments.		
Environmental/ Social/ Economic Item	**Brief description and classification of impacts**	**Mitigation measures**
Soils, geology, geomorphology	Negative (by the removal of upper layers of soil, digging of trenches, leveling of terrains, contamination by leakages, etc., that harm the physical, organic and chemical balance of the geological system) Low negative with implementation of mitigation measures	Make the maximum possible use of the existing paths, minimizing the need to open new ones; Close the non-required paths after completion of construction works; Perform the least possible movement of soils; Periodically condition the access paths; Forbid the movement of personal and equipments outside the working areas; Proof the floor under equipments and provide absorbent materials to avoid contamination of soil in case of leakages; Perform the appropriate management of waste.
Superficial and ground water	Negative (by contamination with residues and oils; by obstruction of the water lines with the removed soil) Low negative with implementation of mitigation measures	After a rain episode, perform visual inspections to monitor eventual changes in the draining patterns of superficial water; Dig perimetral trenches around the working area to conduct pluvial waters outside it; Proof the floor under equipments and provide absorbent materials to avoid contamination of groundwater in case of leakages of oils; Install washing facilities for the working force; Make the appropriate management of the solid and liquid waste generated in the

		construction site; Restore the drainage lines modified by the opening of access paths.
Air	Low negative (due to the non significant emissions of air pollutants in the construction phase and to the significant distance to residential zones)	Impose low maximum speed limits for vehicles circulating in the working site; Use new and well maintained vehicles and equipment; Avoid the dissemination of dust by: watering the non paved pathways and working areas, especially in windy and dry days; storing the pulverulent materials in closed compartments; covering the load of every truck transporting pulverulent materials with adequate screens.
Noise	Low negative (due to the significant distance to residential zones)	Impose low maximum speed limits for vehicles circulating in the working site; Use new and well maintained vehicles and equipment.
Flora	Negative (by removal of vegetation for the purposes of installing equipment; by stresses provoked by the circulation of vehicles) Low negative with implementation of mitigation measures	When removing soils, separate the organic part and use it to promote the natural re-vegetation after the construction works are over; Forbid the movement of personal and equipments outside the working areas; Forbid the usage of fire on the construction site.
Fauna	Low negative (due to the fact that it is expected that the affected species would experience short term disruption and would return after construction works)	Appropriate reinstatement of the habitats on site after completion of construction works; Fencing off sensitive habitats where appropriate; Siting construction infrastructure to avoid most sensitive habitats; Promote the gathering of the towers in a way not to interrupt the free circulation of the fauna.
Employment and economic activities	Low Positive (due to the need of human power and services, although in a temporary time frame)	-
Infrastructure	Positive (due to the building of new roads and transmission lines)	-

Cultural heritage	Negative (due to the possible loss of valuable archeological and other historical artifacts) Low negative or Null with implementation of mitigation measures	Educate the construction personnel for the possible existence of archaeological and cultural objects in the construction area and for the need to contact the responsible authorities in order to take the necessary rescue measures whenever needed.
Operation and maintenance phase: Functioning of the wind turbines and the power house; Circulation of vehicles; Operation of equipment; Solid and liquid waste generation; Maintenance and cleaning of equipment.		
Environmental/Social/ Economic Item	**Classification of impacts**	**Mitigation measures**
Soils	Low negative (by contamination by leakages and circulation of vehicles that harm the physical, organic and chemical balance of the soil)	Forbid the movement of personal and equipments outside the working areas; Make the appropriate management of the solid and liquid waste generated in the construction site; Proof the floor under equipments and provide absorbent materials to avoid contamination of soil in case of leakages of oils.
Superficial and ground water	Low negative (by contamination with residues and oils)	Proof the floor under equipments and provide absorbent materials to avoid contamination of groundwater in case of leakages of oils; Install washing facilities for the working force; Make the appropriate management of the solid and liquid waste generated in the site.
Air	Low negative (due to the non significant emissions of air pollutants and to the significant distance to residential zones)	Use new and well maintained vehicles and equipment.
Noise	Low negative (due to the non significant emissions of noise from vehicles and turbines and to the significant distance to residential zones)	Use new and well maintained vehicles and equipment.
Avifauna	Negative (by interfering with eventual migratory routes and by affecting the local avifauna by the noise, the shadow effect and the physical presence of equipments)	Locate the turbines in a way to minimize the interference with migratory routes, in case they exist in the area
Employment and	Low positive	-

economic activities	(due to the slight increase in the demand for man hours and services to maintenance and operation)	
Landscape	Low negative (landscape is impacted due to the physical presence of the turbines, but, since the project will be located in a isolated area, the impact is not so relevant; shadow projection effect can also impact the passing drivers)	Placement of signs informing the drivers on the nearest road of the phenomenon of shadow projection
Decommissioning phase: Dismantling of the infrastructure and equipment; Transport of equipment; Solid and liquid waste generation; Circulation of vehicles; Operation of equipments.		
The impacts are similar to the ones present for the construction phase for Soils, Geology, Geomorphology, Superficial and Ground Water, Air, Noise, Flora, Fauna, Employment and Economic activities, since the decommissioning phase implies similar activities.		

E.3. Environmental impact assessment

>>

The „Ley General del Ambiente - Ley Nacional 25.675“ (General Law of Environment - National Law 25.675) of the Argentinean Nation states that all the activities that are susceptible of degrading the environment or some of its components or affect the people's quality of life in a significant way must be subject to a procedure of an environmental impact assessment before execution. Therefore all CPAs under this PoA shall conduct an environmental impact assessment procedure.

The environmental impact assessment procedure takes place at a local/provincial level and starts by presenting a sworn statement communicating the works or activities of the project that may affect the environment. The local environmental authority shall determine which kind of environmental impact study should be presented. Environmental impact studies should include at least a detailed description of the project, work or activity to be performed, identifying impacts on the environment and actions to mitigate negative impacts.

The following description of the environmental impact assessment procedure in the Santa Cruz Province shall serve as example for better understanding of the environmental impact assessment process in Argentina.

The Santa Cruz Province states, in “Ley 2658 - Ley de Evaluación de Impacto Ambiental” (Law 2658 - Law of Environmental Impact Assessment) that all activities, projects or investments capable of directly or indirectly modifying the environment in any of its execution phases must obtain a Declaration of Environmental Impact (“Declaración de Impacto Ambiental”) issued by the Sub-Secretariat of Environment (“Subsecretaría de Medio Ambiente”).

To obtain the Declaration of Environmental Impact, an Environmental Impact Assessment must be performed by the proponent. Additionally, and before the elaboration of the EIA, an Environmental Impact Manifest, containing a brief description of the project, must be presented to the local authority. The authority will, based on the Manifest, determine the type of EIA to be performed: “Informe Medioambiental”, “Evaluación Preliminar”, “Evaluación Simplificada” or “Evaluación

Detallada” (Environmental Report, Preliminary Evaluation, Simplified Evaluation or Detailed Evaluation). These different types vary in the level of detail that is required.

SECTION F. Local stakeholder comments

F.1. Solicitation of comments from local stakeholders

>>

Local stakeholder consultation is done at CPA level. The local stakeholder consultation is undertaken at the CPA level as the impacts of a wind farm depend on its specific location.

For each CPA the following stakeholder consultation process applies:

Step 1: Preparing a Stakeholder´s list

The Implementing agency will identify the stakeholders of the CPA. They are all those institutions, persons, business entities who could be affected in any way by the CPA.

The following stakeholder groups should be considered:

- The rural population living in the neighborhood of the Project´s site,
- National associations working in the field of the Project activity,
- Governmental representatives (environmental, economical),
- Local municipalities,
- NGOs,
- Environmental organizations,
- Other interested parties.

To be able to proceed with the communication process a list of the identified stakeholders will be made with all contact information (e.g. name, address, representative, telephone, fax, email).

Step 2: Public display as part of permission processes

This step is connected to the different permission processes. The relevant national regulation can order that the preparation of the plan includes a few-week public display. E.g. public hearing may be a normal mandatory requirement if an Environmental Impact Assessment (EIA) is required. The display of the project plan generally takes place at the local municipality. Any written submissions and comments have to be answered. Possible planning disputes are settled on country level. If no objections to the plan arise during the public display, the local municipality will enforce the plan.

Step 3: Involvement of Residents

For the purpose of involving the residents within the framework of the required CDM procedure, the Implementing Agency will publish a short non-technical summary of the planned CDM Project Activity in the local newspapers regarding the planned investment and announce a date for a meeting where comments can be made and questions and concerns may be put forward by stakeholders on the project. The short project summary should consist at least a short introduction of the Project Developer, a description of the CDM Project and the expected environmental, social- and economical impacts and benefits that can be realized through the project.

The following data will be documented:

- The newspaper where the report is published,
- The time when it is published,
- The geographical location where the newspaper is issued
- The date and meeting point of the stakeholder forum where public comments and questions will be collected and answered (see step 3)
- All the questions put forward as response of project notification in the newspaper.

Step 4: Stakeholder Forum

In the fourth step a local stakeholder forum takes place. The Project Developer invites representatives of the Project's identified stakeholders.

A local stakeholder meeting should be held in the phase of the preparation of the PDD. Apart from the local residents representatives of all the identified stakeholder groups should be invited for the hearing. An invitation letter should be sent to the stakeholder group two-three weeks before the event takes place with a request to appoint one or two representatives of the group to attend the meeting. The invitation letter should contain the aim of the meeting and all relevant information regarding the meeting, such as time, place, etc. The objective of the meeting is to inform interested stakeholders on the development of the project in the framework of the CDM, the benefits arising from CDM as well as the environmental and socio-economic impacts.

The event should begin with a welcome and brief introduction to the Project activity and the current stage of the project development. Following the introduction, the project developer should open the discussion. The comments and questions from participants will be answered by the Project Developer. All comments and presentations will be documented and an official record will be made. The agenda of the meeting could be as follows:

- Welcome
- Description of the Project details, presentations
- Invitation for queries
- Providing responses from the project proponent on the raised issues in form of verbal responses

During the presentation the following issues will be addressed:

- Introduction of the Project Developer;
- Description of the project activity;
- Explanation of the Kyoto Protocol and the concept of the CDM and PoA
- Explanation of the benefits that arise from the project including GHG emission reduction
- Description of possible impacts of the project on the environment (including landscape), social condition and local economic aspects during the construction and project implementation phase;
- Discussion of potential risks and damages the Project is exposed and might lead to.

In addition, the Implementing Agency might provide means for interviewing those stakeholders after the meeting, who could not attend the meeting. This is to ensure the consultation process is as inclusive as possible.

Step 5. Documentation of the results of the stakeholder consultation process in the CPA-DD

The proceedings and results of the public hearing will become publicly available with the CPA-DD. Data such as meeting venue and date, participants, presenter/s of project details, specification of questions and comments, who asked the question, what were the responses from the project developer etc. should be summarized.

Possible areas of conflict and any unresolved issue during the stakeholder hearing should be documented, in particular. Emphasis should be put in the relevant CPA-DD section on how the project developer will deal with major concerns put forward.

F.2. Summary of comments received

>>
n/a

F.3. Report on consideration of comments received

>>
n/a

SECTION G. Approval and authorization

>>
A letter of approval from the Argentinean DNA is not available at the time of submitting the PoA-DD to the validating DOE.

PART II. Generic component project activity (CPA)

SECTION A. General description of a generic CPA

A.1. Purpose and general description of generic CPAs

>>
The purpose of each generic CPA is the installation of a wind farm at a site where there has not been any previous non-renewable nor renewable power generation plant or will consist of a capacity addition to an existing wind farm. The CPA moreover will generate electricity which will be fed into the electricity grid of Argentina. The installation of wind farms will reduce greenhouse Gas emissions occurring from electricity generation by displacing fossil fuel based electricity generation through renewable energy.

SECTION B. Application of a baseline and monitoring methodology

B.1. Reference of the approved baseline and monitoring methodology(ies) selected

>>
The approved baseline and monitoring methodology selected to be applied to a CPA in this PoA is ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (Version 13.0.0)[13].

This methodology refers also to the latest approved versions of the following tools[14]:
- "Tool to calculate the emission factor for an electricity system"
- "Tool for the demonstration and assessment of additionality"
- "Combined tool to identify the baseline scenario and demonstrate additionality"
- "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion"

B.2. Application of methodology(ies)

>>
The methodology ACM0002 V.13.0.0 is applicable for CPAs under this PoA under the following conditions:

Applicability criteria ACM002: "Grid connected electricity generation from renewable sources" V. 13.0.0	Compliance with each CPA	
This 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).	✓	A CPA will consist in the installation of either a new grid-connected power generation project activity (wind) where no renewable power plant was operated prior do the implementation of the CPA (a) or involve capacity addition to an existing wind farm (b).
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	✓	A CPA will consist in the installation of a wind farm.

[13] http://cdm.unfccc.int/methodologies/PAmethodologies/approved
[14] http://cdm.unfccc.int/methodologies/PAmethodologies/tools

(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 methodology is not applicable to the following: • 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 results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than $4W/m^2$.	✓	A CPA will neither include fuel switching nor will it be a biomass fired power plant or a hydro power plant.
In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	✓	In case a CPA involves a capacity addition to an existing grid-connected renewable power plant/unit, the baseline scenario is the following: In the absence of the CPA, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted. From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur.

B.3. Sources and GHGs

	Source	GHGs	Included	Justification/Explanation
Baseline	CO_2e emissions from electricity generation in fossil fuel 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 CH_4 and CO_2 from non-condensable gases contained in geothermal steam	CO_2	No	N/A
		CH_4	No	N/A
		N_2O	No	N/A
	CO_2 emissions from combustion of fossil fuels for electricity generation in solar thermal power plants and geothermal power plants	CO_2	No	N/A
		CH_4	No	N/A
		N_2O	No	N/A
	For hydro power plants,	CO_2	No	N/A

	emissions of CH_4 from the reservoir	CH_4	No	N/A
		N_2O	No	N/A

The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CPA power plant is connected to. The following figure illustrates the project boundary of the CPAs:

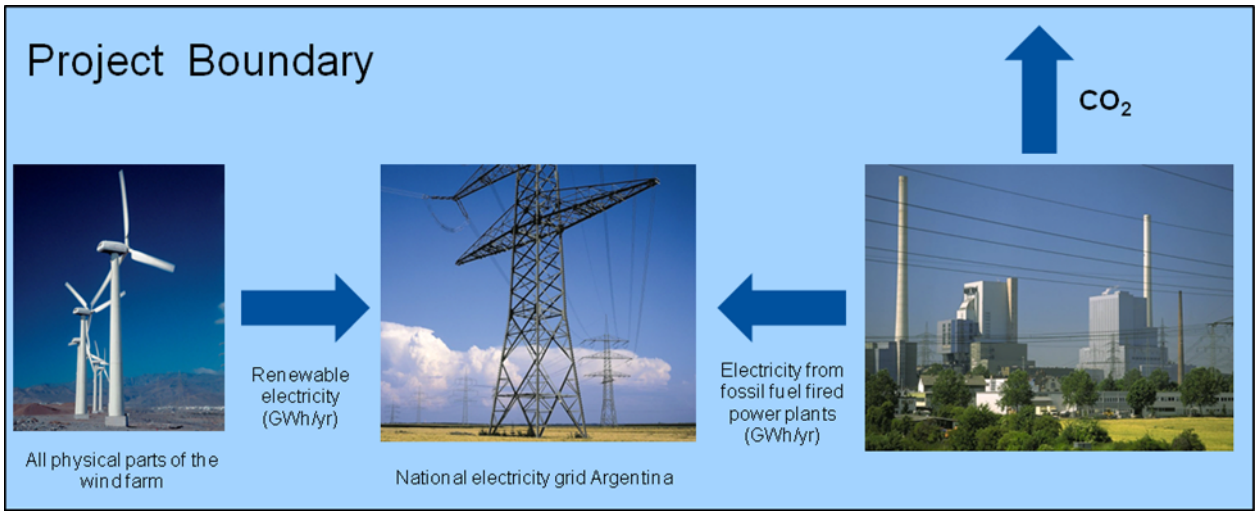


Figure 1: Illustration of the project boundary of each CPA

B.4. Description of baseline scenario

>>

ACM0002 V.13.0.0 defines that if the project activity is the installation of a new grid-connected renewable power plant unit, the baseline scenario is the following:

"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

Therefore, the baseline scenario for a new grid-connected CPA is defined as the total emissions of GHG associated with the electricity generation fed into the national grid. This is calculated with the amount of electricity generated by each power plants/units connected to the national grid multiplied by the emission factor of the grid;

As per guidance of the "Tool to calculate the emission factor for an electric system", the emission factor of the electric grid is defined as the combination of the Operating Margin and the Build Margin. The Operating Margin is the number that reflects the emission factor of the actual installed capacity of the electric grid. The Build Margin is the number that reflects the emission factor of the projection of the additions in the installed capacity of the electric grid. For calculating the Build and Operating margin, is important to analyze the information about the electricity generation in Argentina for the past few years.

The electricity production in Argentina relies mainly on fossil fuels as shown in the following figure:

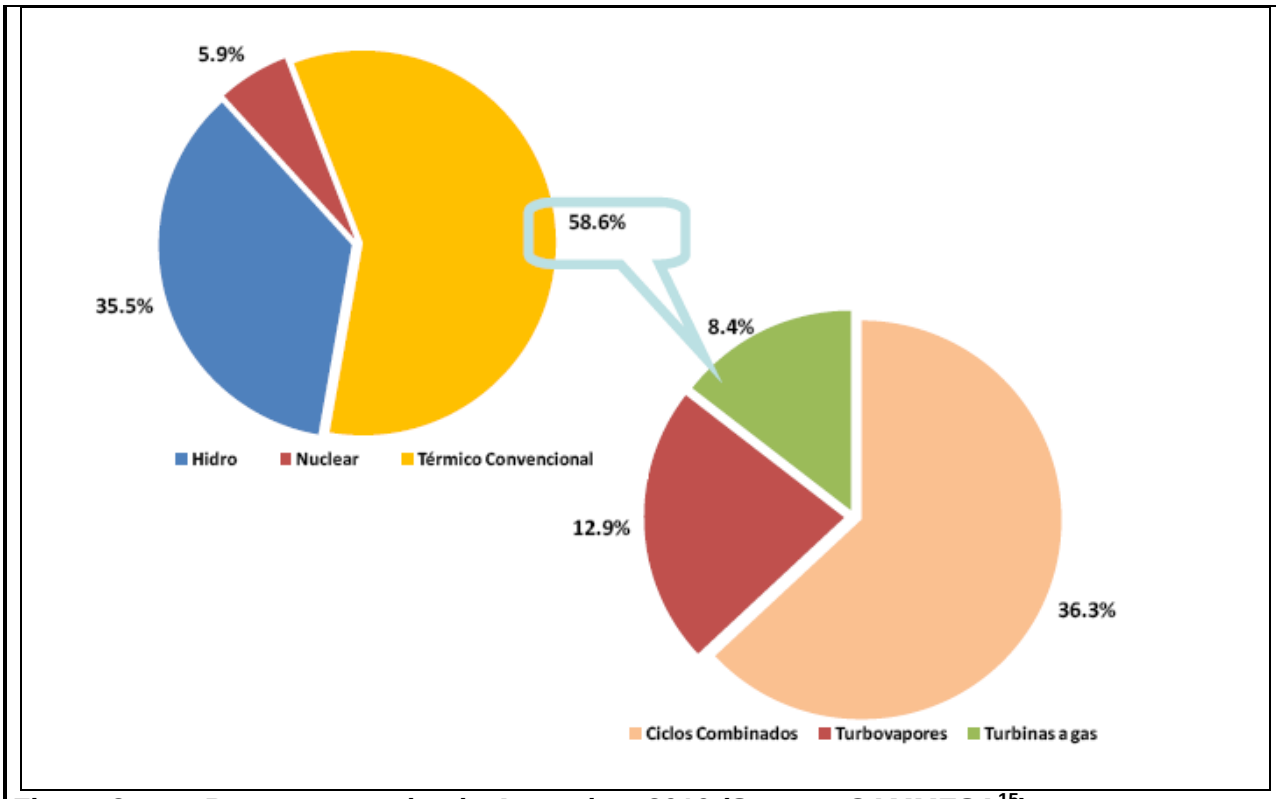


Figure 2: Power generation in Argentina, 2010 (Source: CAMMESA[15])

On the other hand the AMC0002 V.13.0.0 defines that if the project activity is a capacity addition to existing grid-connected renewable power plant/unit, the baseline scenario is the following:

"In the absence of the CDM project activity, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted ($DATE_{BaselineRetrofit}$). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur".

The baseline scenario for a capacity addition CPA of wind power plants is defined as the total emissions of GHG associated with the electricity generation that is produced by the added wind power plants and fed into the national grid. To determine the quantity of net electricity generation that is produced and fed into the grid the Option 2[16] is applied. The GHG are calculated with the amount of electricity generated by each new power plants/units connected to the national grid multiplied by the emission factor of the grid.

B.5. Demonstration of eligibility for a generic CPA

>>

(a) Demonstration of eligibility criteria for a Greenfield type CPA

Eligibility Criteria		Demonstration of eligibility for a generic CPA
1.	A Greenfield type CPA must be located within the geographical boundaries of Argentina	The CME will check this based on the geographical coordinates of the project
2.	An activity that has been proposed as stand-alone CDM project activity in	In order to guarantee compliance with this criterion the geographical coordinates and the

[15] http://portalweb.cammesa.com/MEMNet1/Documentos%20compartidos/VAnual10.pdf, p.28.
[16] AMC0002 V.13.0.0, p.10

	Argentina or which is part of another CDM project activity is not eligible for inclusion into the PoA	installed capacity of each CPA saved in a data base will be crosschecked with the geographical coordinates and installed capacity of new CPAs proposed for inclusion into the PoA as well as with wind power projects submitted for prior consideration of CDM/validation/registration as published on the UNFCCC website.
3.	The activity must be a single wind turbine or a wind farm consisting of several turbines which feed in electricity into the Argentinean grid. The plant shall be a newly built plant and must not involve retrofitting or modifying of an existing facility for renewable energy generation.	The characteristics of a proposed CPA will be checked according to these criteria.
4.	The installed capacity of a CPA shall not exceed 500MW; the plant load factor for a P50 scenario shall exceed 20%; the specific price of the wind turbines shall not exceed 2,500€ per kW; the tariff shall not exceed 140 USD/MWh and the operating and maintenance costs shall not exceed 2.5 USD-cent per kWh.	The characteristics of a proposed CPA will be checked according to these criteria. These criteria will be updated every two years in order to correctly reflect the technical and market circumstances of a CPA implementation.
5.	The starting date of the CPA is determined by the earliest date at which either the implementation or construction or real action of the CPA begins (i.e. civil works, wind turbines or other relevant contract is signed).	The implementing agency has to outline the project history including all activities related to the implementation of the project and to provide evidence on each activity e.g. through feasibility studies, financing agreements with banks, equipment purchase contracts that enable the CME to determine the start date of the CPA according to the definition in Annex 7, EB 70 "Glossary: CDM terms"*: "in the context of a CDM project activity or CPA, the earliest date at which either the implementation or construction or real action of a CDM project activity or CPA begins".*
6.	A Greenfield type CPA has to comply with the applicability criteria and other requirements of the latest version of the methodology ACM0002. No other methodologies will be used. The applicability criteria of the methodology ACM0002 (V.13.0.0 at the time of drafting the PoA) are outlined under PART I. B.3.	The implementing agency must provide documentary evidence on the compliance with the applicability criteria and other requirements of the methodology ACM0002 in the form of e.g. (pre-) feasibility study and other written proof. In case ACM0002 is revised or replaced, subsequent to being placed on hold, the CME will update the eligibility criteria to the requirements of the revised or new methodology with immediate effect. A new version of the PoA-DD and generic CDM-CPA-DD containing updating eligibility criteria validated by the DOE will submitted to the Board for approval.
7.	A Greenfield type CPA has to	The CME will assess Additionality and relevant

	demonstrate additionality following the procedure outlined in PART II. B.5.	supporting documents provided by the implementing agency to the CME.
8.	For each Greenfield type CPA a stakeholder consultation process has been conducted.	The consultation process has to be conducted following the procedure outlined in PART I. F.1 including the documentation of the stakeholder consultation process.
9.	A Greenfield type CPA has to comply with the national regulations of Argentina. A CPA must be subject to a procedure of an environmental impact assessment before execution. The type of environmental impact assessment will be defined at a provincial level, depending on the size and capacity of the CPA.	The implementing agency must provide documentary evidence on the environmental impact assessment to the CME.
10.	Affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance.	In case funding from Annex 1 party is involved the implementing agency must provide evidence through written affirmation by the funding agency that no official development assistance is diverted and is separate from and not counted towards the financial obligation of the Annex I party.

(b) Demonstration of eligibility criteria for a Capacity Addition type CPA

Eligibility Criteria		Demonstration of eligibility for a generic CPA
1.	A Capacity Addition type CPA must be located within the geographical boundaries of Argentina.	The CME will check this based on the geographical coordinates of the project
2.	An activity that has been proposed as stand-alone CDM project activity in Argentina or which is part of another CDM project activity is not eligible for inclusion into the PoA.	In order to guarantee compliance with this criterion the geographical coordinates and the installed capacity of each CPA saved in a data base will be crosschecked with the geographical coordinates and installed capacity of new CPAs proposed for inclusion into the PoA as well as with wind power projects submitted for prior consideration of CDM/validation/registration as published on the UNFCCC website.
3.	The activity must be a single wind turbine or consist of several wind turbines which feed in electricity into the Argentinean grid. The plant shall be a newly built plant and must not involve retrofitting or modifying of an existing facility for renewable energy generation. The added capacity has to be physically distinct from the existing units.	The characteristics of a proposed CPA will be checked according to these criteria.
4.	The installed capacity of a Capacity Addition type CPA shall not exceed 500MW; the plant load factor for a P50 scenario shall exceed 20%; the specific price of the wind turbines shall not exceed 2,500€ per kW; the tariff shall	The characteristics of a proposed CPA will be checked according to these criteria. These criteria will be updated every two years in order to correctly reflect the technical and market circumstances of a CPA

	not exceed US$140 per MWh and the operating and maintenance costs shall not exceed 2.5€ct per kWh.	implementation.
5.	The starting date of the CPA is determined by the earliest date at which either the implementation or construction or real action of the CPA begins (i.e. civil works, wind turbines or other relevant contract is signed).	The implementing agency has to outline the project history including all activities related to the implementation of the project and to provide evidence on each activity e.g. through feasibility studies, financing agreements with banks, equipment purchase contracts that enable the CME to determine the start date of the CPA according to the definition in Annex 7, EB 70 "Glossary: CDM terms"*: "in the context of a CDM project activity or CPA, the earliest date at which either the implementation or construction or real action of a CDM project activity or CPA begins".*
6.	A Capacity Addition type CPA has to comply with the applicability criteria and other requirements of the latest version of the methodology ACM0002. No other methodologies will be used. The applicability criteria of the methodology ACM0002 (V.13.0.0 at the time of drafting the PoA) are outlined under PART I. B.3.	The implementing agency must provide documentary evidence on the compliance with the applicability criteria and other requirements of the methodology ACM0002 in the form of e.g. (pre-) feasibility study and other written proof. In case ACM0002 is revised or replaced, subsequent to being placed on hold, the CME will update the eligibility criteria to the requirements of the revised or new methodology with immediate effect. A new version of the PoA-DD and generic CDM-CPA-DD containing updating eligibility criteria validated by the DOE will submitted to the Board for approval.
7.	A Capacity Addition type CPA has to demonstrate additionality following the procedure outlined in PART II. B.5.	The CME will assess Additionality and relevant supporting documents provided by the implementing agency to the CME.
8.	For each Capacity Addition type CPA a stakeholder consultation process has to be conducted.	The consultation process has to be conducted following the procedure outlined in PART I. F.1 including the documentation of the stakeholder consultation process.
9.	A Capacity Addition type CPA has to comply with the national regulations of Argentina. A CPA must be subject to a procedure of an environmental impact assessment before execution. The type of environmental impact assessment will be defined at a provincial level, depending on the size and capacity of the CPA.	The implementing agency must provide documentary evidence on the environmental impact assessment to the CME.
10.	Affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance.	In case funding from Annex 1 party is involved the implementing agency must provide evidence through written affirmation by the funding agency that no official development assistance is diverted and is separate from and not counted towards the financial obligation of the Annex I party.

Assessment and demonstration of additionality for a typical CPA:

As per paragraph 73 of the 47th EB meeting report "*additionality is to be demonstrated either at the PoA level or at CPA level*". Additionality for activities under this PoA will be demonstrated at CPA level in accordance with the latest version (at the time of drafting the PoA-DD) of the "Tool for the demonstration and assessment of additionality" (Version 07.0.0).

The decision to demonstrate additionality on CPA level was governed by the variability of factors that affect the possible investment or barrier analysis. Over time factors like investment cost, electricity price and exchange rates may vary to such an extent that it surpasses the scope of a generic investment analysis in a PoA. Similarly, for a barrier analysis the state of political, market, technological and investment barriers may alter significantly over the course of the PoA.

As per guidance of the "Tool for the demonstration and assessment of additionality", either the Step 2: Investment Analysis or Step 3: Barrier analysis can be selected for demonstrating the additionality of the proposed project activity. Within this PoA an investment analysis has to be undertaken for each CPA according to the latest "Tool for the demonstration and assessment of additionality".

The barrier analysis is optional, and will therefore be applied only in cases where the project participants believe that the Investment analysis (Step 2) does not, by itself, give a strong argument in favor of additionally for the activities under the CPA. The "Tool for the demonstration and assessment of additionality" has to be followed.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations

According to CDM Validation and Verification Standard Annex 4 of EB 65, (version 02.0), where the baseline scenario is not prescribed in the approved methodology, the PDD shall identify credible alternatives to the project activity in order to determine the most realistic baseline scenario. Alternatives to the proposed project is not needed to be identified, as the baseline scenario has been prescribed according to ACM0002 (v13.0.0) under PART II. B.4.

Step 2: Investment Analysis

For demonstrating additionality of a CPA *Step 2 Investment Analysis* has to be conducted according to the latest "Tool for the demonstration and assessment of additionality":

Sub-step 2a: Determine appropriate analysis method

As wind farms generate benefits from the sale of electricity Option I - Simple Cost Analysis does not apply. The latest version (v. 05, at the time of drafting the PoA) of the "Guidelines on the assessment of investment analysis" in its paragraph 19 states that "*if the alternative to the project activity is the supply of electricity from a grid this is not to be considered an investment and a benchmark approach is considered appropriate*". As the only alternative to a CPA is the supply of electricity from a grid "Option III -Benchmark Analysis" has to be conducted for demonstrating additionality of a CPA.

Sub-step 2b Benchmark Analysis (Option III)

For the benchmark analysis, the project Internal Rate of Return (project IRR) before tax shall be used to determine the project financial viability. An appropriate benchmark shall be determined at the time when a CPA is being added to the PoA and according to the requirements of the "Tool for the demonstration and assessment of additionality" and "Guidelines on the assessment of investment analysis".

According to the paragraph 13 of the "Guidelines on the assessment of investment analysis" "*in the cases of projects which could be developed by an entity other than the project participant the benchmark should be based on parameters that are standard in the market*".

Sub-step 2c Calculation and comparison of financial indicators

According to the "Tool for the demonstration and assessment of additionality" "*all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives*[17]*, ODA, etc*" are to be included while calculating a suitable financial indicator.

The "Clarifications on the consideration of national and/or sectoral policies and circumstances in baseline scenarios" (Version 02)[18] EB separate out following two types of national and/or sectoral policies that are to be taken into account when establishing baseline scenarios (paragraph 6):

(a) *National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels (so called type E+);*
(b) *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) (so called type E-).*

According to the paragraph 7 of this clarifications "*national and/or sectoral policies or regulations under paragraph 6 (b) that have been implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001) need not be taken into account in developing a baseline scenario (i.e. the baseline scenario could refer to a hypothetical situation without the national and/or sectoral policies or regulations being in place)*".

The following specifies how subsidies/fiscal incentives and other national and sectoral policies are to be considered in the CPA under the particular Argentinean conditions. In response to the long-term shortage of conventional energy supply based on fossil fuels Law 26190 was established in Argentina in the year 2006. This law sets a target of 8% share of renewable energy power consumption within a period of ten years. It mandated the creation of a trust fund whose resources will be allocated to pay a premium for electricity produced from renewable sources. Finally, the law establishes an additional payment per kWh generated and tax benefits for renewable projects that generate electricity as a public service. The incentive regime introduced by Law 26190/06 and related Regulatory Decree 562/09 apply to the entire chain of investments in electricity production from renewable sources of energy, including:

- The construction of new generating plants or expansions and / or re-powering of existing generation plants, and
- The manufacture of equipment and technology for the generation. (Article 3, Law 26190).

In Article 4 the following concepts are defined:

- Renewable energy sources are those which do not use fossil fuels. Among them are wind power, solar energy, geothermal, tidal, hydro, biomass, landfill gas, wastewater gas and biogas. Renewable resources under Law No. 26093 on bio fuels are not covered by this Law 26190. Thus, only the biogas for electricity production is governed by this rule, other uses (transport, etc.) are covered by the Law 26093.
- The power limit for Small Hydroelectric projects to be cover by the law is 30MW.
- The electricity to be covered by the provisions of the law is the electricity generated by power plants using renewable energy sources only and the electricity generated from renewable sources in hybrid plants that uses conventional energy sources.
- Equipment for generation covered by the law is that aimed at the transformation of the energy available from their raw form (wind, hydro, solar, etc.) to electrical energy.

Regarding the additional payment per kWh generated, the law establishes the amount of 15 AR$/MWh for power generated by wind turbines actually installed or to be installed that feed into

[17] *See EB guidance on the consideration of national/local/sectoral policies and measures for the baseline setting*
[18] http://cdm.unfccc.int/EB/022/eb22_repan3.pdf

the national grid or to public services (e.g. isolated generation systems). This additional payment will be adjusted by the Quarterly Adequacy Ratio (CAT, Law 25957). The CAT is a quarterly adjustment mechanism based on changes in spot market prices and seasonal prices in the wholesale electricity market. It should be noted that since November 2005 the value of CAT has not been updated. In July 2011 the value of CAT would range between 4 and 4.5, so the additional payment for wind energy would be around 60-67 AR$/MWh.[19]

Recognizing that existing policies were not enough to trigger sufficient deployment of renewable energy Resolution 712/2009 was established in 2009. Resolution 712/09 settles, that power purchase agreements can be signed between ENARSA and renewable energy generators. These types of contracts, called "MEM Supply Contracts from renewable sources", have the following main features:

- Contracts cover both energy (i.e. with wind, solar) as well as power (i.e. biofuels, geothermal).
- Bidders are to request a feed in tariff to be applied along the lifetime of the project.
- The Power Purchase Agreement will last 15 years with an option of extending it another 18 months.
- With the exception of contracts awarded to biomass fuelled thermal power supply, prices are fixed during the 15-year contract.
- A guarantee fund will be created by CAMMESA to assure future obligations.
- Projects should be selected as a result of a bid process run by ENARSA.

Under the Resolution 712/2009, the GENREN program was launched in 2010 through the National and International Public Tender Process No. 001/2009 that set a goal of installing a total of 1015 MW of power capacity. The first round of GENREN was recently awarded (June 2010). The bids were assessed on the offered electricity price requested, the percentage of local components, and the development and implementation time. The contracted prices range from 121 USD/MWh to 134 USD/MWh with an average of 126.9 USD/MWh. In the second round of the GENREN program launched during 2011 unsuccessful bidders from round 1 were able to submit a revised proposal.

Law 26190, Law 25957 and Resolution 712/2009 provide comparative advantages to renewable energy as less emission-intensive technologies over more emission-intensive technologies like fossil fired power plants and were established after 11 November 2001. Thus they are E- policies and need not be taken into account in developing a baseline scenario.

Considering the above the following approach is to be applied for determining the revenues from power generation

a. Use the power price as stipulated in the individual PPA as long as this PPA has not been initiated through GENREN or similar governmental programmes.
b. In case Step a does not apply use the market power prices determined on the Argentinean *Mercado Eléctrico Mayorista* (Wholesale Electricity Market) or similar averaged over one year.

[19] Energía eólica en Argentina: un análisis económico del derecho. Cecilia Giralt. Revista Letras Verdes N.° 9, mayo-septiembre 2011. (Wind power in Argentina: an economic analysis of the law. Cecilia Giralt. Journal Green Letters N.°9, May 2011).
http://www.flacsoandes.org/letrasverdes/component/content/article/36-dossier/76-energia-eolica-en-argentina-un-analisis-economico-del-derecho
NOTE: The value range of the CAT presented here has been estimated based on the definition CAT and related data. This is not an official value of the CAT. For the time being, Argentina's government is not publishing the CAT. Last time the government published the CAT was in July 15, 2005 and the value was 1,2432136, please go to
http://www.enre.gov.ar/web/bibliotd.nsf/369324671e2a4875032568e2005da01e/eea08aee5db5b0bc0325704900424de5?OpenDocument

However, the Sensitivity Analysis (Step 2d) shall consider the average contracted price of the latest GENREN round, if a call for tender has been published under GENREN three years or later than the date of submitting the CPA to the CME.

The "Guidelines on the assessment of investment analysis" stipulates in paragraph 3 that the IRR calculations "*shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period. In general a minimum of 10 years and a maximum of 20 years will be appropriate.*" The Argentinean Civil Code stipulates that lease contracts for land are time restricted to a maximum of 20 years.[20] The renewal/extension of the lease contract after that time depends on the willingness of the land owner. Taking into consideration the overall life span of a wind power project development of 22 to 25 years the restriction of the lease contracts for 20 years in Argentina with no right for renewal bears high risks that the normal operation time of 20 years will not fully be exploited. Irrespectively of the previously said the investment analysis shall be conducted for an assessment period of 20 years to maintain a conservative approach.

The following Table 2 shows typical input data that is required to calculate the project IRR for a CPA.

Table 2: Input data to calculate project IRR before tax for each CPA

Parameter	Unit	Data source/comment
Capacity of the wind farm	MW	Project developer or Feasibility Study, EIA or Basic assessment, PPA or other official documents.
Load factor of the wind farm	ratio	
Period of assessment	years	The period of assessment shall be determined based on commercial lifetime of the wind farm, but limited to 20 years.
Electricity tariff	USD/kWh	a. Use the power price as stipulated in the individual PPA as long as this PPA has not been initiated through GENREN or similar governmental programmes. b. In case Step a does not apply use the market power prices determined on the Argentinean Mercado Eléctrico Mayorista or similar averaged over one year.
Total investment cost	USD	Documents from the project developer such as (Pre-) Feasibility Study, offers from manufactures, EIA or Basic assessment, PPA or others as well as from any official document, public announcement, or information that was made officially available in any other way by Argentinean authorities , the UNFCCC or the project participants of the CPA
O&M costs	USD/kWh	
ARS exchange rate	ARS/ Currency	Publically available data source

[20] Ley 13.246 - Arrendamientos y Aparcerías Rurales: Artículo 45. (Texto según Ley 22298) *Los contratos en los cuales el arrendatario o aparcero se obligue a realizar obras de mejoramiento del predio tales como plantaciones, obras de desmonte, irrigación, avenamiento que retarden la productividad de su explotación por un lapso superior a Dos (2) años, podrán celebrarse hasta por el plazo máximo de Veinte (20) años.* (Law 13.246 - Rural leases and Sharecropping: Article 45 (Amended by Law 22298). *The contracts, which lessee or sharecropper, is obliged to carry out land improvements such as plantations, clearing works, irrigation, drainage that slow the productivity of the farming for a period exceeding two (2) years, may be held for up to a maximum period of twenty (20) years.)*

These values are used to calculate and compare the project IRR before tax for each activity under the CPA with the benchmark (as calculated according to Sub-step 2b of this section).

If the CPA has a less favorable project IRR than the benchmark, then the CPA cannot be considered as financially attractive. This serves as a strong argument in favor of additionality. Proceed to Sub-step 2d (Sensitivity analysis). If the project IRR is larger than the benchmark, the proposed CPA is economically feasible without the revenue from the sale of CERs. Proceed to Step 3 (Barrier analysis).

Sub-Step 2d Sensitivity Analysis

A sensitivity analysis is included to show that the conclusion regarding the financial attractiveness is robust to reasonable variations in the critical assumptions. The investment analysis provides a valid argument in favor of additionality as this sensitivity analysis consistently supports (for a realistic range of assumptions) the conclusion that the activity under the CPA is likely or unlikely to be economically attractive.

The sensitivity analysis is to be conducted according to the latest “Tool for the demonstration and assessment of additionality” under particular consideration of the latest “Guidelines on the Assessment of Investment Analysis”.

According to the paragraph 20 of the “Guidelines on the assessment of investment analysis” only variables that constitute more than 20% of either total project costs or total project revenues should be included in the sensitivity analysis. The sensitivity analysis should at least cover the range of +10% and -10%. According to these guidelines the following variables are normally included in the sensitivity analysis:

- Income from electricity sale
- Investment cost; and
- Operations and Maintenance (O&M) costs.

Apart from the above mentioned variables, the net energy yield and economic lifetime should also be included in the sensitivity analysis.

For the sensitivity analysis of the income from electricity sale shall consider additional to the range of +/-10% the average contracted price of the latest GENREN round, if a call for tender has been published under GENREN three years or later than the date of submitting the CPA to the CME.

The results of the sensitivity analysis shall be displayed in table format as illustrated in Table.

Table 3: Sensitivity analysis of the project IRR before tax of CPA

Variable	Variation					Additional calculation	
	-10%	-5%	0%	+5%	+10%	Result	Input parameter
Electricity Price							
Investment Cost							
O&M Cost							
Net energy yield							
Economic lifetime							

In the sensitivity analysis all variables are varied individually. If none of the IRR values calculated in Table 3 are higher than the benchmark the CPA is deemed NOT to be economically feasible without the sale of CERs. The investment analysis provides a valid argument in favor of additionality. Proceed to Step 4 (Common practice analysis).

In cases where a variation results in passing the benchmark an assessment of the probability of the occurrence of this scenario shall be provided in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the CPA as stipulated in Paragraph 21 of the "Guidelines on the assessment of investment analysis". If the occurrence of a variation is rated unlikely than the investment analysis provides a valid argument in favor of additionality. Proceed to Step 4 (Common practice analysis). If the occurrence of a variation is rated likely than the investment analysis provides no valid argument in favor of additionality. Proceed to Step 3 (Barrier analysis).

Step 3 - Barriers analysis

The barrier analysis is optional, and will therefore be applied only in cases where the project participants believe that the *Investment analysis (Step 2)* does not, by itself, give a strong argument in favour of additionally for the activities under the CPA.

If Step 3 is applied, determine whether the proposed project activity faces barriers that:

a. Prevent the implementation of this type of proposed project activity (Sub-step 3a); and
b. Do not prevent the implementation of at least one of the alternatives (Sub-step 3b).

The identified barriers are only sufficient grounds for demonstration of additionality if they would prevent potential project proponents from carrying out the proposed activity undertaken without being registered under this PoA.

Typical barriers include: investment barriers, technological barriers, political barriers, and barriers due to prevailing practice. The latest version (at the time of drafting the CPA-DD) of "Guidelines for objective demonstration and assessment of barriers" shall be used to demonstrate applicable barriers to the CPA.

If both Sub-steps 3a-3b are satisfied, proceed to Step 4 (Common practice analysis). If one of the Sub-steps 3a-3b are not satisfied, the CPA is not additional.

Step 4: Common practice analysis

The aim of this step is the analysis of the extent to which the proposed project activity has already diffused in Argentina. According to the "Tool for the demonstration and assessment of additionality" "*this test is a creditability check to complement the investment analysis (Step 2) or barrier analysis (Step 3)"*. Besides this Tool also the latest "Guidelines on Common Practice" shall be taken into account.

According to paragraph 57 of the "Tool for the demonstration and assessment of additionality" (Version 07.0.0), if the proposed CPA corresponds to one of the measures listed in paragraph 13, then the common practice analysis has to carry out only Sub-step 4a of the tool.

The measures listed in paragraph 13 are the following:

(i) Fuel and feedstock switch (example: switch from naphtha to natural gas for energy generation, or switch from limestone to gypsum in cement clinker production);
(ii) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy);
(iii) Methane destruction (example: landfill gas flaring);
(iv) Methane formation avoidance (example: use of biomass that would have been left to decay in a solid waste disposal site resulting in the formation and emission of methane, for energy generation).

As any proposed Component Project Activity within this PoA belongs to measure (ii): *"Switch of*

technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies (example: energy efficiency improvements, power generation based on renewable energy)" only Sub-step 4a needs to be carried out.

Sub-Step 4a: The proposed CDM project activity applies measure(s) that are listed in the definitions section of the tool

The "Guidelines on common practice" provide a stepwise approach for common practice which steps are described as follows:

Step 1: calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

Step 2: identify similar projects (both CDM and non-CDM) which fulfill all of the following conditions:
(a) The projects are located in the applicable geographical area;
(b) The projects apply the same measure as the proposed project activity;
(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Step 3: within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all}.

Step 4: within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number N_{diff}.

Step 5: calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

The proposed project activity is a "common practice" within the National Energy Sector of the Argentina if the factor F is greater than 0.2 and $N_{all}-N_{diff}$ is greater than 3.

If outcome of Step 4 is that the proposed project activity is not regarded as "common practice", then the proposed project activity is additional.

If outcome of Step 4 is that the proposed project activity is regarded as "common practice", then the proposed CDM project activity is not additional.

Key criteria and data for assessing additionality of a CPA:
The requirements for demonstration of additionally are defined above and in PART I. B.1. The key steps are investment analysis (benchmark analysis and sensitivity analysis), barrier analysis and common practice analysis.

Investment analysis
The following information is required for the investment analysis to prove that each activity under

the CPA is not financially attractive:

1. An appropriate benchmark (Sub-step 2b);
2. CPA specific information as per Table 2 (Sub-step 2c);
3. Calculation of the real project IRR before tax of the CPA (Sub-step 2c);
4. Result of sensitivity analysis on the variation of income from electricity sale, investment costs and O&M costs (sub-step 2d).

Barrier analysis

The barrier analysis may be conducted to prove that realistic and credible barriers prevent the implementation of the proposed CPA from being carried out.

Common practice analysis

Conducted to assess how well the technology for each respective CPA is established within the National Energy Sector of the Argentina at the time of CPA drafting. If the technology proposed by the CPA is similar to technology that is established it should be proven that this technology enjoyed financial benefits, or favorable political conditions which enabled the construction of these projects.

B.6. Estimation of emission reductions of a generic CPA

B.6.1, Explanation of methodological choices

>>

The latest version of ACM0002 will be used to determine the baseline emissions and to calculate the GHG emissions reductions.

Project emissions:

According to the chosen methodology, for wind power generation activities, $PE_y = 0$

Baseline emissions:

The ACM0002 V.13.0.0 defines that if the project activity is the installation of a new grid-connected renewable power plant unit, the baseline scenario is the following:

"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

And in case of a capacity addition the AMC0002 V.13.0.0 defines the baseline scenario as the following:

"In the absence of the CDM project activity, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted ($DATE_{BaselineRetrofit}$). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur".

Baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

$$BE_y = EG_{CPA,y} * EF_{grid,CM,y}$$

Where:

BE_y	=	Baseline emissions in year *y* (tCO_2/yr)
$EG_{CPA,y}$	=	Net electricity fed into the grid by the CPA in year *y* (MWh/yr)
$EF_{grid,CM,y}$	=	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)

Calculation of $EG_{CPA,y}$

(a) Greenfield wind farm plants

When a CPA is the installation of new grid-connected renewable power plant/unit at a site where no power plant was operated prior to the implementation of the CPA, the $EG_{CPA,y}$ is calculated as follows:

$$EG_{CPA,y} = EG_{facility,y}$$

Where:

$EG_{CPA,y}$	=	Quantity of net electricity fed that is produced and fed into the grid as a result of the implementation of the CPA in year *y* (MWh/yr)
$EG_{facility,y}$	=	Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh/yr)

(b) Capacity addition to an existing renewable energy power plant

When the CPA is the capacity addition of a wind power plant(s) or unit(s), it is assumed that the addition of new capacity does not significantly affect the electricity generated by existing plant(s) or unit(s). The electricity fed into the grid by the added power plant(s) or unit(s) could be directly metered and used to determine $EG_{CPA,y}$. Option 2 will be used to determine to determine the electricity fed into the grid by the added power plant(s) as follows:

$$EG_{CPA,y} = EG_{CPA_Add,y}$$

Where:

$EG_{CPA,y}$	=	Quantity of net electricity fed that is produced and fed into the grid as a result of the implementation of the CPA in year *y* (MWh/yr)
$EG_{CPA_Add,y}$	=	Quantity of net electricity generation supplied to the grid in year *y* by the project plant/unit that has been added under the project activity (MWh/yr)

Calculation of $EF_{grid,\ CM,\ y}$

In accordance with the approved methodology ACM0002 V. 13.0.0 the emission factor of the grid $EF_{grid,CM,y}$ is calculated based on the *Tool to calculate the emission factor for an electricity system* (Version 02.2.1). Remark: The Argentinean Designated National Authority (DNA) Secretaría de Ambiente y Desarrollo Sustentable together with the Secretaría de Energía have calculated the combined grid emission factors for Argentina based on the "Tool to calculate the emission factor for an electricity system , Version 2.2.0". The following calculation approach relies on the data source and calculation approach as used by the DNA. [21] The calculation approach corresponds to the "Tool to calculate the emission factor for an electricity system, Version 2.2.1" as published by the EB in September 2011 as the latest version mainly contains editorial changes.

The tool provides for the following six steps:

STEP 1. Identify the relevant electricity systems;
STEP 2. Choose whether to include off-grid power plants in the project electricity system (optional);
STEP 3. Select a method to determine the operating margin (OM);

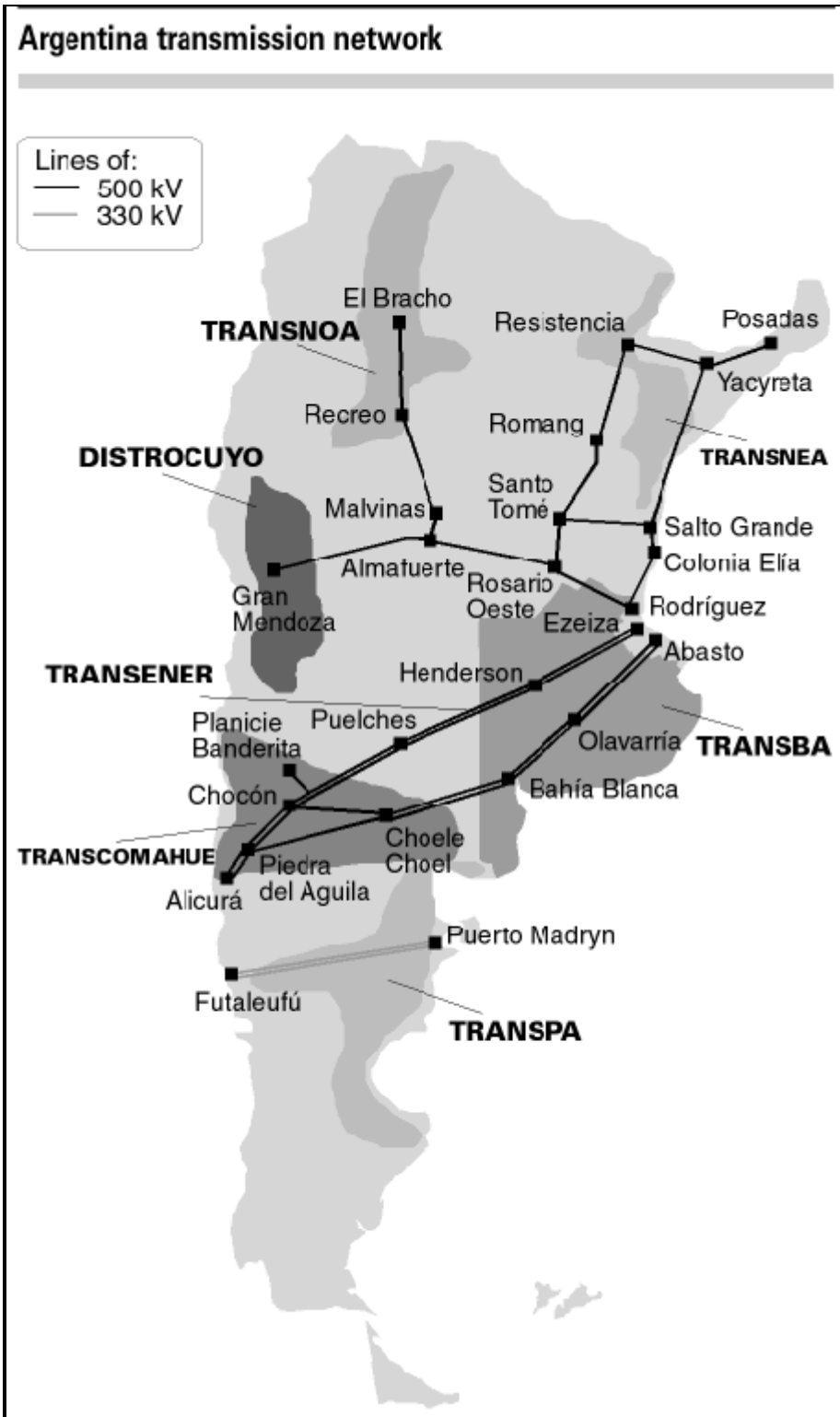
[21] Secretaría de Energía: Cálculo Factor de emission 2010, (Energy Secretariat: Emission Factor Calculation) see: http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=2311

STEP 4. Calculate the operating margin emission factor according to the selected method;
STEP 5. Calculate the build margin (BM) emission factor;
STEP 6. Calculate the combined margin (CM) emissions factor.

Step 1: Identify the relevant electricity system

For determining the electricity emission factors, a project electricity system is defined by the spatial extent of the power plants that are physically connected through transmission and distribution lines to the project activity (e.g. the renewable power plant location or the consumers where electricity is being saved) and that can be dispatched without significant transmission constraints.

For the PoA the relevant electricity system is the Argentinean grid.



Source: Ente Nacional Regulador de la Electricidad, 1999 Annual Report

<u>Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)</u>

Project participants may choose between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.
Option II: Both grid power plants and off-grid power plants are included in the calculation.

For the proposed PoA, only grid power plants are included in the calculation (option 1).

Step 3: Select a method to determine the operating margin (OM)

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods:

(a) Simple OM; or
(b) Simple adjusted OM; or
(c) Dispatch data analysis OM; or
(d) Average OM.

For the PoA option a) simple OM is applied.

The simple OM method (option a) can only be used if low-cost/must-run resources constitute less than 50% of total grid generation in:

1) average of the five most recent years, or
2) based on long-term averages for hydroelectricity production.

Low cost/must-run resources are defined as power plants with low marginal generation costs or power plants that are dispatched independently of the daily or seasonal load of the grid. They typically include hydro, geothermal, wind, low-cost biomass, nuclear and solar generation. If coal is obviously used as must-run, it should also be included in this list, i.e. excluded from the set of plants.

The following table shows that low-cost/must-run resources constitute less than 50% of total grid generation in the last five years:

Table 4: Share of low-cost/must-run resources over the last five years in Argentina[22]

Electricity Generation (MWh)					
			Low-cost		
Year		Thermal	Hydro	NUCLEAR	Total
1	2010	66,231,292.48	40,226,934.88	6,691,638.27	46,918,573.15
2	2009	61,339,110.78	40,318,305.95	7,588,703.38	47,907,009.33
3	2008	66,839,984.00	36,863,486.00	6,835,072.00	43,698,558.00
4	2007	60,994,489.00	37,294,429.00	6,720,686.00	44,015,115.00
5	2006	53,905,973.00	42,974,212.00	7,153,285.00	50,127,497.00
Average		61,862,169.85			46,533,350.50
Share		57.07%			42.93%

The simple OM will be calculated utilizing an Ex ante data vintage. With this option, the emission factor will be determined at the validation stage, and no monitoring and recalculation of the emission factor during the crediting period will be required. Information of the past 3 years of the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system is publicly available on the website of the *Secretaría de Energía* (Energy Secretariat) of Argentina which belongs to the *Ministerio de Planificación Federal, Inversión Pública y Servicios* (Ministry of Federal Planning, Public Investment and Services).[23]

[22] Secretaría de Energía: Cálculo Factor de emission 2010, 2009, 2008 (Energy Secretariat: Emission Factor Calculation) see: http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=2311
[23] Secretaría de Energía: Cálculo Factor de emission 2010, 2009, 2008 (Energy Secretariat: Emission Factor Calculation) see: http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=2311

Step 4: Calculate the operating margin emission factor, according to the selected method.
The simple OM emission factor is calculated as the generation-weighted average CO_2 emissions per unit net electricity generation (tCO_2/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.

The simple OM may be calculated by one of the following two options:

Option A: Based on the net electricity generation and a CO_2 emission factor of each power unit; or
Option B: Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system.

Option B can only be used if:

a. The necessary data for Option A is not available; and
b. Only nuclear and renewable power generation are considered as low-cost/must-run power sources and the quantity of electricity supplied to the grid by these sources is known; and
c. Off-grid power plants are not included in the calculation (i.e. if Option I has been chosen in Step 2).

For the calculation of the grid emission factor Option B has been followed due to the following reasons:

a. Data on the net electricity generation and fuel consumption of each power unit feeding into the grid for the last three years are not available. Only hourly data on total electricity generation and total consumption per type of fuel are available.
b. Only nuclear and renewable power generation are considered as low-cost/must-run power sources and the quantity of electricity supplied to the grid by these sources is known; and
c. Off-grid power plants are not included in the calculation.

Option B - approach for calculating the operating margin based on total fuel consumption and electricity generation of the system.

Under this option, the simple OM emission factor is calculated based on the net electricity supplied to the grid by all power plants serving the system, not including low-cost/must-run power plants/units, and based on the fuel type(s) and total fuel consumption of the project electricity system, as follows:

$$EF_{grid,OMsimple,y} = \frac{\sum_i (FC_{i,y} * NCV_{i,y} * EF_{CO2,i,y})}{EG_y}$$

Where:

$EF_{grid,OMsimple,y}$	=	Simple operating margin CO_2 emission factor in year y (tCO_2/MWh)
$FC_{i,y}$	=	Amount of fossil fuel type *i* consumed in the project electricity system in year *y* (mass or volume unit)
$NCV_{i,y}$	=	Net calorific value (energy content) of fossil fuel type *i* in year *y* (GJ/mass or volume unit)
$EF_{CO2,i,y}$	=	CO_2 emission factor of fossil fuel type *i* in year *y* (tCO_2/GJ)
EG_y	=	Net electricity generated and delivered to the grid by all power sources serving the system, not including low-cost/must-run power plants/units, in year *y* (MWh)
i	=	All fossil fuel types combusted in power sources in the project electricity system in year *y*
y	=	The relevant year as per the data vintage chosen in Step 3

The Argentinean Designated National Authority (DNA) *Secretaría de Ambiente y Desarrollo Sustentable* (Secretariat of Environment and Sustainable Development) together with the *Secretaría de Energía* (Energy Secretariat) have used emission factors per mass or volume unit of the fossil fuel combusted in the project electricity system which is the result of the term ($NCV_{i,y}$ * $EF_{CO2,i,y}$).[24] According to their calculation sheet these emission factors have been taken from the Second National Communication of Argentina.

The resulting $EF_{grid,OMsimple}$ is: **0.541 tCO_2/MWh**

Step 5: Calculate the build margin (BM) emission factor

In terms of vintage of data, between one of the following two options can be chosen:

Option 1: For the first crediting period, calculate the build margin emission factor ex ante based on the most recent information available on units already built for sample group *m* at the time of PoA submission to the DOE for validation. For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period.

Option 2: For the first crediting period, the build margin emission factor shall be updated annually, ex post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emissions factor shall be calculated ex ante, as described in Option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used.

For the PoA option 1 is chosen where the build margin emission factor is calculated ex ante based on the most recent information available on units already built for sample group *m* at the time of PoA DD submission to the DOE for validation.

The sample group of power units *m* used to calculate the build margin will be determined as per the following procedure, consistent with the data vintage selected above:

(a) Identification of the set of five power units, excluding power units registered as CDM project activities, that started to supply electricity to the grid most recently (SET5-units) and determination of their annual electricity generation (AEGSET-5-units, in MWh);

(b) Determination of the annual electricity generation of the project electricity system, excluding power units registered as CDM project activities (AEGtotal, in MWh). Identification of the set of power units, excluding power units registered as CDM project activities, that started to supply electricity to the grid most recently and that comprise 20% of AEGtotal (if 20% falls on part of the generation of a unit, the generation of that unit is fully included in the calculation) (SET≥20%) and determine their annual electricity generation (AEGSET-≥20%, in MWh);

(c) From SET5-units and SET≥20% select the set of power units that comprises the larger annual electricity generation (SETsample); Identification of the date when the power units in SETsample started to supply electricity to the grid. If none of the power units in SETsample started to supply electricity to the grid more than 10 years ago, then SETsample is used to calculate the build margin. In this case steps (d), (e) and (f) will not be conducted.

Otherwise:

[24] Secretaría de Energía: Cálculo Factor de emission 2010, 2009, 2008 (Energy Secretariat: Emission Factor Calculation) see: http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=2311

(d) The power units which started to supply electricity to the grid more than 10 years ago are excluded from SETsample. Inclusion of the power units registered as CDM project activities in that set, starting with power units that started to supply electricity to the grid most recently, until the electricity generation of the new set comprises 20% of the annual electricity generation of the project electricity system (if 20% falls on part of the generation of a unit, the generation of that unit is fully included in the calculation) to the extent is possible. Determination for the resulting set (SETsample-CDM) the annual electricity generation (AEGSET-sample-CDM, in MWh);

If the annual electricity generation of that set comprises at least 20% of the annual electricity generation of the project electricity system (i.e. AEGSET-sample-CDM ≥ 0.2 × AEGtotal), then the sample group SETsample-CDM is used to calculate the build margin. Steps (e) and (f) are ignored.

Otherwise:

(e) In the sample group SETsample-CDM the power units are include that started to supply electricity to the grid more than 10 years ago until the electricity generation of the new set comprises 20% of the annual electricity generation of the project electricity system (if 20% falls on part of the generation of a unit, the generation of that unit is fully included in the calculation);

(f) The sample group of power units m used to calculate the build margin is the resulting set (SETsample-CDM->10yrs).

The build margin emissions factor is the generation-weighted average emission factor (tCO_2/MWh) of all power units m during the most recent year y for which electricity generation data is available, calculated as follows:

$$EF_{grid,BM,y} = \frac{\sum_m EG_{m,y} * EF_{EL,m,y}}{\sum_m EGm,y}$$

Where:

$EF_{grid,BM,y}$	=	Build margin CO_2 emission factor in year "y" (t CO_2/MWh)
$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power plant "m" in year "y" (MWh)
$EF_{EL,m,y}$	=	CO_2 emission factor of power plant "m" in year "y" (t CO_2/MWh)
m	=	Power units included in the build margin
y	=	Most recent historical year for which power generation data is available.

The power units included in the build margin *m* correspond to the sample group SETsample-CDM . The emission factor of each power unit *m* has been determined as follows:

$$EF_{EL,m,y} = \frac{\sum_i FC_{i,m,y} * NCV_{i,y} * EF_{CO2,i,y}}{EG_{m,y}}$$

Where:

$EF_{EL,m,y}$	=	CO_2 emission factor of power unit m in year *y* (tCO_2/MWh)
$FC_{i,m,y}$	=	Amount of fossil fuel type i consumed by power unit m in year *y* (Mass or volume unit)
$NCV_{i,y}$	=	Net calorific value (energy content) of fossil fuel type i in year *y* (GJ/mass or volume unit)
$EF_{CO2,i,y}$	=	CO_2 emission factor of fossil fuel type i in year *y* (tCO_2/GJ)

$EG_{m,y}$	=	Net quantity of electricity generated and delivered to the grid by power unit m in year *y* (MWh)
m	=	All power units serving the grid in year y except low-cost/must-run power units
i	=	All fossil fuel types combusted in power unit m in year *y*
y	=	The relevant year as per the data vintage chosen in Step 3

The Argentinean Designated National Authority (DNA) *Secretaría de Ambiente y Desarrollo Sustentable* (Secretariat of Environment and Sustainable Development) together with the *Secretaría de Energía* (Energy Secretariat) have used emission factors per mass or volume unit of the fossil fuel combusted in the project electricity system which is the result of the term ($NCV_{i,y}$ * $EF_{CO2,i,y}$).[25] According to their calculation sheet these emission factors have been taken from the Second National Communication of Argentina.

The resulting Build Margin comprises:

0.422 tCO_2/MWh

<u>Step 6: Calculate the combined margin emissions factor</u>

According to the tool the calculation of the combined margin (CM) emission factor ($EF_{grid,CM,y}$) can be done based one of the following methods:

(a) Weighted average CM; or
(b) Simplified CM.

The weighted average CM method (option A) has been used and calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * w_{OM} + EF_{grid,BM,y} * w_{BM}$$

Where:

$EF_{grid,OM,y}$	=	Operating margin emission factor in year "y" (tCO_2/MWh)
$EF_{grid,BM,y}$	=	Build margin emission factor in year "y" (tCO_2/MWh)
w_{OM}	=	Weighting of operating margin emissions factor (%)
w_{BM}	=	Weighting of build margin emissions factor (%)

For solar and wind power generation activities, the values for wOM and wBM are 0.75 and 0.25.

The resulting combined margin for Argentina is:

$EF_{grid,CM,y} =$ **0.511 tCO_2/MWh**

Leakage:

No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). These emissions sources are neglected.
Therefore: $LE_{grid,y}$ = 0 tCO2e

[25] Secretaría de Energía: Cálculo Factor de emission 2010, 2009, 2008 (Energy Secretariat: Emission Factor Calculation) see: http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=2311

Emission reductions:
Emission Reductions for each CPA shall be calculated according to the following formula:

$$ER_y = BE_y - PE_y$$

Where:

ER_y	=	Emission reductions in year y (t CO_2e/yr)
BE_y	=	Baseline emissions in year y (t CO_2e/yr)
PE_y	=	Project emissions in year y (t CO_2e/yr)

For wind power projects PE_y= 0 t CO_2e/yr.
The Emission Reductions is thus equal to the Baseline Emissions.

B.6.2. Data and parameters that are to be reported ex-ante

>>

Data / Parameter:	**$EF_{grid,CM,y}$**
Data unit:	tCO_2/MWh
Description:	Combined Margin CO_2 grid emission factor
Source of data:	Argentinean Designated National Authority (DNA) *Secretaría de Ambiente y Desarrollo Sustentable* (Secretariat of Environment and Sustainable Development) together with the *Secretaría de Energía* (Energy Secretariat) http://energia3.mecon.gov.ar/contenidos/verpagina.php?idpagina=2311 The emission factor of the grid was calculated based on the *Tool to calculate the emission factor for an electricity system* (Version 02.2.1)
Value(s) applied:	0.511 CO_2/MWh
Choice of data or Measurement methods and procedures:	Parameter calculated ex-ante as per ACM0002 (Version 13.0.0) baseline methodology. A share of 75% OM and 25% BM was applied as per ACM0002 baseline methodology. The figure is calculated ex-ante and remains valid during the crediting period.
Purpose of data	Calculation of baseline emissions
Additional comment:	

B.6.3. Ex-ante calculations of emission reductions

>>
The total emission reductions presented here are calculated on the basis of the equations and parameters presented and explained in PART II. B.6.1. For parameters contained in PART II. B.7.1 an estimation is given.

Project emissions:
According to the chosen methodology, for wind power generation activities, $PE_y = 0$

Baseline emissions:
According to the chosen methodology baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.

The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

$$BE_y = EG_{CPA,y} * EF_{grid,CM,y}$$

Where:

BE_y	=	Baseline emissions in year *y* (tCO_2/yr)
$EG_{CPA,y}$	=	Net electricity fed into the grid by the CPA in year *y* (MWh/yr)
$EF_{grid,CM,y}$	=	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)

Calculation of $EG_{CPA,y}$

$EG_{CPA,y}$ is different for greenfield plants, retrofits and replacements and capacity additions. Since the CPA will consist in the installation of either a new grid-connected power generation project activity (wind) where no renewable power plant was operated prior do the implementation of the CPA (a) or involve capacity addition to an existing wind farm (b), the $EG_{CPA,y}$ is calculated as follows:

(a) Greenfield wind farm plants

$$EG_{CPA,y} = EG_{facility,y}$$

Where:

$EG_{CPA,y}$	=	Quantity of net electricity fed that is produced and fed into the grid as a result of the implementation of the CPA in year *y* (MWh/yr)
$EG_{facility,y}$	=	Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh/yr)

As example the anuual electricity delivered by the CPA San Julián - Parque Eólico to the grid is:

53,108.976 MWh/yr

Combined margin CO_2 emission factor for grid connected power generation for the first crediting period is as follows (see **Fehler! Verweisquelle konnte nicht gefunden werden.**).

0.511 tCO_2/MWh

The resulting baseline emissions are:

$$BE_y = 53{,}108.976 * 0.511$$

BE_y **= 27,139 tCO_2/yr**

Emission reductions:

Emission Reductions are calculated according to the following formula:

$$ER_y = BE_y - PE_y$$

Where:

ER_y	=	Emission reductions in year y (t CO_2e/yr)
BE_y	=	Baseline emissions in year y (t CO_2e/yr)
PE_y	=	Project emissions in year y (t CO_2e/yr)

As for wind power projects PEy= 0 t CO2e/yr the resulting annual emission reductions are, the resulting emissions reductions are:

$$ER_y = 27{,}139 - 0$$

ER_z **= 27,139 t CO2e/yr**

B.7. Application of the monitoring methodology and description of the monitoring plan

B.7.1. Data and parameters to be monitored by each generic CPA

Data / Parameter:	$EG_{facility,y}$
Data unit:	MWh/yr
Description:	Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y*
Source of data:	Measured by electricity meter
Value(s) applied	Specific for each CPA
Measurement methods and procedures:	Main bidirectional meter and a bidirectional control meter; the bidirectional meters allow for measuring simultaneously the quantity of electricity supplied by the project plant to the grid and the quantity of electricity delivered to the project plant from the grid. See also PART II. B.7.2 below
Monitoring frequency:	Continuous measurement and at least monthly recording
QA/QC procedures:	See PART II. B.7.2 below
Purpose of data	Calculation of baseline emissions for Greenfield wind farm plants
Additional comment:	

Data / Parameter:	$EG_{CPA_Add,y}$
Data unit:	MWh/yr
Description:	Quantity of net electricity generation supplied to the grid in year y by the project plant/unit that has been added under the project activity
Source of data:	Measured by electricity meter
Value(s) applied	Specific for each CPA
Measurement methods and procedures:	Main bidirectional meter and a bidirectional control meter; the bidirectional meters allow for measuring simultaneously the quantity of electricity supplied by the project plant to the grid and the quantity of electricity delivered to the project plant from the grid. See also PART II. B.7.2 below
Monitoring frequency:	Continuous measurement and at least monthly recording
QA/QC procedures:	See PART II. B.7.2 below
Purpose of data	Calculation of baseline emissions for a Capacity Addition to an existing wind farm plant
Additional comment:	

B.7.2. Description of the monitoring plan for a generic CPA

>>

The monitoring will be implemented in such a way that the annual net electricity generation delivered to the grid from either a new grid-connected wind power generation project activity or a capacity addition to an existing wind farm can be determined exactly as these figures are vital for calculation of the CO_2 e emission reductions. The baseline CO_2 grid emission factor is determined ex-ante and therefore remains unchanged during the first crediting period. Electricity delivered to the Argentinean national grid is key data to be monitored during project implementation. The monitoring plan below describes the following aspects in detail:

- Monitoring organization, roles and responsibilities;
- Measuring, recording and archiving of data including specification of measurement equipment
- Quality assurance / quality control
- Training
- Calculation of emission reductions and preparation of monitoring report

Monitoring organization, roles and responsibilities

Practical data collection, monitoring and archiving will be handled by the CPA implementing entities. A data collection unit will be established consisting of a monitoring team leader and technicians with clear defined roles and responsibilities. The data collection unit will be responsible for:

- Automatic collection of all measured data, archiving (including back-up) and forwarding of data to the CME
- Organisation and surveillance of calibration of the installed meters,
- Cross checks of meter readings with sales invoices
- Meter failure and repair

The monitoring team leader reports to the plant manager on a regular basis on the above mentioned activities. The team leader acts furthermore as the point of contact for the CDM managing entity as well as the DOE in the course of verification of the emission reductions achieved by a CPA.

Measuring, recording and archiving of data

Measuring, recording and acquisition of data consists of two components:

- Measuring system of net active energy in the interconnection point, consisting of a main bidirectional meter and a bidirectional control meter; the bidirectional meters allow for measuring simultaneously the quantity of electricity supplied by the project plant to the grid and the quantity of electricity delivered to the project plant from the grid.
- Integrated system for recording and archiving of data

Specification of measurement equipment:

The measurement equipment will be installed by the CPA implementing entity at the connection point to the national grid of Argentina and will comply with Argentinean standards (Sistema de Medición Comercial - SMEC[26]) as follows:

- Two bidirectional meters will be installed: A main meter and a control meter. The control meter will replace the main meter in the event of failure or disconnection, ensuring this way the continuity of the measurement.
- Both the main energy meter and the control meter will be of accuracy class 0.2s, three-phase, four-wire, with energy pulse output (potential-free). The pulse duration will not be lower as 30

[26] http://www.cammesa.com/sistemas.nsf/WEstadistica/8D077642FADA68FF03256B84005F0B07

milliseconds. The meter shall have a numeric display. If the display is digital it must have a nonvolatile memory.

- The meters are static and will comply with the latest versions of IEC 687.
- Calibration of the meters will be carried out by manufacturer or authorized entities. Calibration certificates will be archived.

In the case of a capacity addition to an existing wind farm new meters will be installed for measuring only the net electricity fed into the national grid of Argentina by the added wind power plant(s) or unit(s).

Integrated system for recording and archiving
The meters will have data recording system that will collect and store the data. Each meter (main and control) will have their own recording system. These data will also be transmitted daily to the System Operator.
The recording system will comply with IEC 225-4, IEC 68-2-38 and IEC 801.
All meter readings will be acquired by remote access via modems using telephone connections, archived electronically and be kept at least for 2 years after the end of the last crediting period. Electronic files with all meter readings will be backed up.
The monitoring team leader will provide the managing entity with meter readings for electricity delivered to the grid on a monthly basis and will provide calibration certificates of the project-owned meter.

Quality assurance / quality control
Dedicated emergency procedures are not provided as there is no possibility to overstating emission reductions due to emergency cases. In case the main meter should be broken measurements will be still be conducted by the control meter.

In case both meters are out of control power fed into the grid will not be counted towards the emission reduction calculations. In case of failure of metering equipment it will be repaired or replaced by an accredited equipment testing organization following the standards and requirements of the grid operator.

The electricity sale receipt that will be provided by the grid operator to the implementing entity will help for double check of the amount of energy supplied to the grid

Training
The implementing entity's monitoring team will be trained adequately for the task. The technical, operational and maintenance trainings provided for the personnel will be detailed in the first monitoring report.

Calculation of emission reductions and preparation of monitoring report
The CME will be responsible for calculation of emission reductions and preparation of the monitoring report for each CPA. The Monitoring team leader of e will be responsible to carry out the verification process at the wind farm and will provide the DOE with all required information.

Appendix 1. Contact information on entity/individual responsible for the PoA

Organization	Fichtner Carbon Management GmbH
Street/P.O. Box	Sarweystrasse 3
Building	
City	Stuttgart
State/Region	
Postcode	70191
Country	Germany
Telephone	+49-711-8995-0
Fax	+49-711-8995-459
E-mail	info@fichtner.de
Website	www.fichtner.de
Contact person	
Title	Dr.
Salutation	
Last name	Langniß
Middle name	
First name	Ole
Department	
Mobile	

Organization	wpd Argentina S.A.
Street/P.O. Box	Suipacha 530. Piso 6.
Building	
City	Buenos Aires
State/Region	Ciudad Autónoma de Buenos Aires
Postcode	C1008AAL
Country	Argentina
Telephone	+54 11 52 36-1155
Fax	+54 11 52 36-1156
E-mail	info@wpd-argentina.com
Website	www.wpd-argentina.com
Contact person	
Title	Mr.
Salutation	
Last name	Meyer-Ohlendorf
Middle name	
First name	Lars
Department	
Mobile	

Appendix 2. Affirmation regarding public funding

Appendix 3. Application of methodology(ies)

Appendix 4. Further background information on ex ante calculation of emission reductions

Appendix 5. Further background information on the monitoring plan

- - - - -

Document information

Version	*Date*	*Description*
03.0	3 December 2012	Revision to clarify the determination of the start date for a PoA and the documentation requirement for generic CPA-DDs. (EB 70, Annex 6).
02.0	11 May 2012	EB 66, Annex 12 Revision required to ensure consistency with the "Guidelines for completing the programme design document form for CDM programmes of activities".
01.0	2 March 2012	EB 33, Annex 41 Initial adoption.

Decision Class: Regulatory
Document Type: Form
Business Function: issuance
Keywords: project design document, programmes of activities