



**CDM Proposed specific renewable technologies/
measures recommendation form
(Version 01.1)**

Submitting DNA:	Republic of Ecuador
Title/version of the EB guideline/procedure this submission relates to:	Guidelines for demonstrating additionality of microscale project activities (version 03) Procedure for submission and consideration of microscale renewable energy technologies for automatic additionality (version 01.0)
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Summary of the proposal:	
<p>The DNA of the Republic of Ecuador already submitted that the CDM project activities employing some grid connected renewable energy technologies with capacity up to 5MW be considered additional on June 22, 2011.</p> <p>According to the guideline for demonstrating additionality of microscale project activities(version 03) and the decision of the Board (refer to the paragraph 114 of the 65th CDM EB meeting report), the DNA of the Republic of Ecuador hereby submits the further required information concerning the total installed capacity of the following recommended renewable energy technologies.</p> <p>The recommended technologies:</p> <ul style="list-style-type: none"> • Hydro • On – shore wind technologies • Biogas • Geothermal • Renewable Biomass • Solid Biomass Wastes <p>Information presented in the attached file “Annex” refers to the last 3 years period and it is available from Consejo Nacional de Electricidad, 2012. http://www.conelec.gob.ec/indicadores/.</p> <p>Additional clarification requested In January 2013.</p> <ol style="list-style-type: none"> 1. The values of grid connected non-renewable electricity generation technologies as reported on page 4 of 5 of the form (F-CDM_PRT) were not consistent with the information provided on the website <http://www.conelec.gob.ec/indicador> referred to in your submission. Please refer to the table below for further details. 	

		As mentioned in the form (F-CDM-PRT)	As mentioned in website	
	Grid connected non-renewable electricity generation technologies	3140.9	2748.80	As a sum of 2.1, 2.2 and 2.3
2.1	Combustible Fossil fuel	3140.9	2748.80	As a sum of 2.1.1, 2.1.2, 2.1.3 and 2.1.4
2.1.1	Coal	0	0.00	
2.1.2	Oil	1362.05	1320.90	Please correct this inconsistency
2.1.3	Gas (Turbo gas)	949.3	973.90	Please correct this inconsistency
2.1.4	Others (Turbo vapour)	463.48	454.00	Please correct this inconsistency
2.2	Nuclear	0	0.00	
2.3	Other Sources (Please specify)	0	0.00	

Kindly provide the revised form F-CDM-PRT.

2. The data source used to derive the total installed capacity of renewable energy technologies of less than or equal to 5 MW (column (A) of Table 1 of the submission form) refers to pages 86 and 87 of the report available at <http://www.conelec.gob.ec/images/documentos/doc_10104_Be2011.pdf>. The report mentions that many of the companies have multiple generation units ("centrales") (total of 219 generation units), but the capacity (MW) of each unit is not provided. It appears that the data is for individual generation companies and not for individual plants. Please clarify how this data was used to determine the total installed capacity of plants of less than or equal to 5 MW for which a total of 46.64 MW has been cited.
3. With reference to the report mentioned above, it is also unclear which plants are grid-connected (and supply electricity to the grid) and which are not. For example some of the companies referred to in table 3.1 (for generating companies) are classified as belonging to S.N.I, others are said to be "non-incorporados" and it is not clear whether the "non-incorporados" are connected to the grid or they are excluded from the "servicio publico", i.e. the public commercialization, although connected to the grid. Similar concerns apply in the case of the auto-generating units ("autogeneradora", described in table 3.2) and distributed-generating units " ("distribuidora", table 3.2). Please clarify.
4. The classification of the plants in the cited documents does not seem to be consistent with the submission. The text of the submission refers to Hydro, On-shore Wind, Biogas, Geothermal, Renewable Biomass, Solid Biomass Wastes. However, tables 3.1 and 3.2 in the document for plants less than 5 MW makes reference to hydro, thermal (without specifying the source of primary energy), wind, solar, biomass. Later in the same document (e.g. table 3.5) the thermal units are classified as MCI (internal combustion engines), "Turbovapor" or "Turbogas". The webpage cited as the source of the total generation capacity <<http://www.conelec.gob.ec/indicador>> refers to renewable sources as Hydro, Solar, Wind, Turbo-vapor (which are referred to as sugar cane bagasse plants). Please clarify.
5. The document cited <http://www.conelec.gob.ec/images/documentos/doc_10104_Be2011.pdf> is marked as "in revision". Please clarify whether the reported data used have been officially accepted.

Response from the DNA received in February 2013, together with an attached document containing additional data (updated in Dec. 2012) as described below:

1. **DNA response** – The revised submission form is submitted which refers to the revised values from the CONELEC website<<http://www.conelec.gob.ec/indicadores>>. The value for grid connected oil-fired plants "1348.6 MW" is the updated value that has been reported to the Ministry of Environment which is referred in the report available on the web-link mentioned above.
2. **DNA response** – The cited document does not provide the capacity of each plant. To clarify this point, the DNA of Ecuador has requested CONELEC (Government body responsible for regulation and control of activities of generation, transmission, distribution and supply of electricity in the country) a report detailing the central renewable electricity less than 5 MW. The document referred herein the is submitted as an attachment to the email.
3. **DNA response** – The report includes the classification by: "SNI" meaning that is incorporated into the national grid, and "No Incorporado" referred to those outside the system. Also included sorting by "Autogeneradora" (Self-Generating) or "Distribuidora" (Distributor).
4. **DNA response** – Regarding the type of power source, the report attached could not name the sources according to the text of our proposal, because it is generated by a system of management of statistical information. However, in the column called "Subtipo Central" m the text "Pasada" refers to the sources "Hydro" and "Eólico" to the sources "On - Shore Wind". For sources "Turbogas" and

"Turbovapor" DNA not could identified any plants below 5 MW.

5. **DNA response** – Regarding the source of information, the paper cited is under editorial and graphic review, but statistical information was technically validated. For clarity, the DNA of Ecuador requested Secretariat to consider the submitted report from COONELEC, that has been specifically requested to support the proposal in question.

Recommendation to EB:

The Board at its sixty-third meeting specified three criteria to be satisfied by the DNA recommendations in order that automatic additionality is conferred to microscale renewable energy projects in the host country. The submission is assessed below against these criteria:

- (a) **Criteria 1:** DNA submissions shall include the specific grid-connected renewable electricity generation technologies that are being recommended and provide the required data (e.g. wind power, biomass power, geothermal power, hydropower);

The submission has provided segregated data per technology and is in accordance with the above requirement.

- (b) **Criteria 2:** The most recent data available on the percentage contributions of specific renewable energy technologies shall be provided to demonstrate compliance with the 3 per cent threshold. Data older than three years from the date of the submission shall in no case be used.

The submission has provided the most recent data available, from 2012 July. It is considered that the above requirement is met, based on the information in the submission.

- (c) **Criteria 3:** the ratio of installed capacity of the specific grid connected renewable energy technology in the total installed grid-connected power generation capacity in the host country shall be equal to or less than 3 per cent; "specific renewable energy technologies/measure" refers to grid-connected renewable energy technologies of installed capacity equal to or less than 5 MW. Total installed capacity of ALL grid-connected technologies in the country according to the latest available data in the reference year was **5118.2 MW**.

(i) **Hydro:** Based on the data provided by the DNA, the total installed capacity of grid connected hydro plants with equal to or less than 5 MW was **44.16 MW** leading to a **ratio of 0.86%** (44.16/5118.2) in the reference year. Thus, it is considered that the requirement for Hydro technologies (i.e. ratio under three per cent) has been met;

(ii) **Geothermal:** Based on the data provided by the DNA, the total installed capacity of grid connected geothermal plants with equal to or less than 5 MW was **0 MW**, leading to a **ratio of 0%** in the reference year. Thus, it is considered that the requirement for Geothermal technologies (i.e. ratio under three per cent) has been met;

(iii) **On-shore Wind:** Based on the data provided by the DNA, the aggregate plant capacity of all grid connected wind turbine installations in the country was **2.4 MW**, leading to a **ratio of 0%** (2.4/5118.2) in the reference year. Thus, it is considered that the requirement for Wind technologies (i.e. ratio under three per cent) has been met;

(iv) **Renewable Biomass:** Based on the data provided by the DNA, the total installed plant capacity of grid connected renewable biomass technologies equal to or less than 5 MW was **0 MW**, leading to a **ratio of 0%** in the reference year. Thus, it is considered that the requirement for renewable biomass technologies (i.e. ratio under three per cent) has been met.

The reported data and calculations have been verified by reviewing publicly available reports and data provided by National Electricity Council (CONELEC- Consejo Nacional de Electricidad, 2012) available at <<http://www.conelec.gob.ec/indicadores/>> and submitted by the DNA in response to the additional queries raised by Secretariat.

A small difference was noticed in the initial submission, in the value for the total installed capacity of grid connected oil-fired plants as specified in the DNA submission and the corresponding value published by CONELEC in its report available at <<http://www.conelec.gob.ec/indicadores/>>. It was satisfactorily clarified by the DNA that the submitted value (1348.6 MW), instead of the published value (1320.9 MW) is the most up to date value that has been reported to the Ministry of Environment.

The DNA explained, with reference to the CONELEC report, that renewable energy technologies such as On-shore wind and Solar with capacities equal to or less than 5 MW in Ecuador are not connected to the grid; hence the total installed capacity of grid-connected power plants of these technologies is in

fact 0 MW instead of the reported capacities of 2.4 MW and 0.8 MW respectively. Similarly, in the case of hydro, the total grid-connected capacity equal to or less than 5 MW is 40.16 MW instead of 44.16 MW as reported by the DNA. In any case, irrespective of whether grid-connected installed capacity or total installed capacity is considered for Hydro, On-shore wind and Solar, the renewable energy technologies proposed as automatically additional under the scope of this submission will be eligible for automatic additionality as the calculated ratio is still under 1%, far below the threshold of 3%.

- (d) It is noted that a call for public input was open from 21 December 2012 to 04 January 2013 as per the “Procedure for submission and consideration of microscale renewable energy technologies for automatic additionality” and no comments were received.

Recommendation to the Board

The following grid connected microscale renewable energy technologies of a capacity equal to or less than 5 MW, recommended by the DNA of Ecuador following the “Procedure for submission and consideration of microscale renewable energy technologies for automatic additionality” (version 01) and the “Guidelines for demonstrating additionality of microscale project activities” (version 03), may be considered by the Board as eligible for conferring automatic additionality in the host country:

- Hydro;
- Geothermal;
- On-shore Wind; and
- Renewable Biomass (Biogas, Wood, Wood Wastes, Solid Wastes)

The following electricity generation technologies with an installed capacity up to 15 MW are already included in the positive list of grid-connected renewable electricity generation technologies that are automatically defined as additional¹:

- (a) Solar technologies (photovoltaic and solar thermal electricity generation);
- (b) Off-shore wind technologies;
- (c) Marine technologies (wave, tidal); and
- (d) Building and household rooftop wind turbines up to 100 kW.

Therefore, these technologies do not need to be recommended under the scope of these guidelines.

SECTION TO BE FILLED IN BY THE UNFCCC SECRETARIAT

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¹ See “Guidelines on the demonstration of additionality of small-scale project activities” (available at: <http://cdm.unfccc.int/Reference/Guidclarif/index.html#meth>).

History of the document

Version	Date	Nature of revision(s)
01.1	12 April 2012	Editorial changes to include new logo and other improvements.
01.0	13 January 2012	Initial publication.

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