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Validation Report

**Empresa de Transporte Masivo del Valle de Aburrá Ltda.
(ETMVA)**

**VALIDATION OF THE CDM-PROJECT:
CABLE CARS METRO MEDELLÍN, COLOMBIA**

REPORT NO. 1241689

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TÜV SÜD Industrie Service GmbH
Carbon Management Service
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Subject: Validation of a CDM Project	
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Project Participant: Empresa de Transporte Masivo del Valle de Aburrá Ltda. (ETMVA) Calle 44 # 46 – 001 Bello Antioquia – Colombia	Project Site(s): Metro de Medellín, Metropolitan Area of Medellín, Departamento de Antioquia, Colombia.
Project Title: CABLE CARS METRO MEDELLÍN, COLOMBIA	
Applied Methodology / Version: AMS-III.U / Version 1.0	Scope(s): 7 Technical Area: 7.1
First PDD Version: Date of issuance: 14-10-2008 Version No.: 01 Starting Date of GSP 18-10-2008	Final PDD version: Date of issuance: 28/11/2009 Version No.: 1.3
Estimated Annual Emission Reduction: 17,290 tCO ₂ e	
Assessment Team Leader: Thomas Kleiser	Further Assessment Team Members: Víctor C. Abarca A. Léster Saldías
Summary of the Validation Opinion: <p><input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.</p> <p><input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.</p>	

Abbreviations

ACM	Approved Consolidated Methodology
AM	Approved Methodology
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CR / CL	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
ETMVA	Empresa de Transporte Masivo del Valle de Aburrá Ltda.
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Green House Gas(es)
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM Executive Board (CDM-EB). The ultimate decision on the registration of a proposed project activity rests at the CDM-EB and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:
CABLE CARS METRO MEDELLÍN, COLOMBIA

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- The Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions and specific guidance by the EB published under <http://cdm.unfccc.int>
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- Baselines and monitoring methodologies (including GHG inventories)
- Management systems and auditing methods
- Environmental issues relevant to the sectoral scope applied for
- Applicable environmental and social impacts and aspects of CDM project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice

The validation is not meant to provide any consulting towards the project participant (PP). However, stated requests for clarifications, corrective actions and/or forwards actions may provide input for improvement of the project design.

Once TÜV SÜD receives a first PDD version, it is made publicly available at the UNFCCC webpage and at TÜV SÜD's webpage for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP could be repeated) and the final PDD will form the basis for the final evaluation as presented in this report. Information on the first and the final PDD version is presented in page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

2 METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the “Clean Development Mechanism Validation and Verification Manual” version 01. The work starts with appointment of team covering the technical scope(s), sectoral scope(s) and relevant host country experience for evaluating the CDM project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB “climate and energy” before submission to the CDM-EB.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. TÜV SÜD developed methodology-specific checklists and protocol customised for the project. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

It organises, details and clarifies the requirements a CDM project is expected to meet;

It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation and any adjustment made to the project design.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

The completed validation protocol is enclosed in Annex 1 to this report.

Validation Protocol Table 1: Conformity of Project activity and PDD				
Checklist Topic / Question	Reference	Comments	PDD in GSP	Final PDD
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any Request has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (✓), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CR) is used when the validation team has identified a need for further clarification. Forward action request to highlight issues related to project implementation that require review during the first verification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	Ref. to table 1	Summary of project owner response	Validation team conclusion
<i>If the conclusions from table 1 are either a Corrective Action, a Clarification or a Forward action Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the issue is explained.</i>	<i>The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the discussion on and revision to project documentation together with the validation team's responses and final conclusions. The conclusions should be reflected in Table 1, under "Final PDD".</i>

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	Id. of CAR/CR 1	Explanation of the Conclusion for Denial
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion with a clear reference to the requirement which is not complied with.</i>

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body (CB) ensuring that the required skills are covered by the team. The CB TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the scope and technical area linked to the methodology have to be covered by the assessment team.

Name	Qualification	Coverage of Scope	Coverage of Technical Area	Host country experience
Thomas Kleiser	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Víctor Abarca	GHG-A	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Léster Saldías	GHG-T			<input checked="" type="checkbox"/>

Thomas Kleiser is a lead auditor for CDM and JI projects at TÜV SÜD Industrie Service GmbH and head of the Certification Body "Climate and Energy". In his position he is responsible for the implementation of verification and certifications processes for GHG mitigation projects. He has received

extensive training in the CDM and JI validation processes and participated already in many CDM and JI project assessments.

Víctor Abarca is a local Freelance GHG Auditor for TÜV SÜD, having an academic education as constructor Engineer and is specialized during their work in waste management is well familiar with the assessment of anaerobic and aerobic treatment of effluents. He is an auditor for environmental management systems (according to ISO 14001) and quality management systems (ISO 9001). He has received extensive training in the CDM validation process, is an appointed auditor for CDM projects and participated already in several CDM project assessments all over Latin America.

Lester Saldías is an Environmental Engineer working as a Freelance Auditor on Chile. He is an auditor for integrated management systems (ISO 9001/ISO 14001/OHSAS 18001). He has received intensive training in the CDM validation process and now is working as GHG auditor on the verification and validation of several CDM projects on Latin America.

2.2 Review of Documents

A first version of the PDD was submitted to the DOE in October 2008. The first PDD version submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information, furthermore a cross check between information provided and information from other sources (if available) have been done as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

2.3 Follow-up Interviews

On 24 November 2008 TÜV SÜD performed interviews, telephone conferences and physical site inspection with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Name	Organisation
María Elena Restrepo (Planning Director)	ETMVA
Juan Esteban Martínez (Professional 1)	ETMVA
Luis Pérez (Professional 1)	ETMVA
Juan Álvaro González (Professional 1)	ETMVA
Carlos Arango (Executive Director)	CNPL
Ana María Zapata (Advisor Professional)	CNPL
Susana Ricaurte (Representative)	GRÜTTER Consulting
Tomás Elejalde (Operation Manager)	ETMVA
Norelly Vélez	ETMVA
Julio Moreno	CNPL
Patricia Bustarat (Arquitecto)	ETMVA
Paola Posada (Environmental Eng.)	ETMVA
Claudia Martínez (Professional)	AMVA

Eugenio Gaviria (Controlling and surveillance leader)	AMVA
María del Pilar Restrepo (Director)	AMVA
María Lucelly Prisco (Director)	PRECOAMBIENTAL
Vitorlina Rimeón	Neighbour Cable
Olga Muñoz	Neighbour Cable
Ricardo Cano (Operation leader)	ETMVA
Diego Silva (Operation supervisor)	ETMVA
Leonardo Salgado (Manager)	TAXMAYA S.A.
Marta Lucía Suárez (Technical Subsecretary)	Environmental Office
Andrea García (Leader and adviser Ministry Dispatch)	Climate Change Mitigation Group
Sandra López (Adviser)	Climate Change Mitigation Group
Sandra Garavito (Adviser)	Climate Change Mitigation Group

2.4 Further cross-check

During the validation process, the team makes reference to available information related to similar projects or technologies as the CDM project activity. The documentation has also been reviewed against the approved methodology/ies applied to confirm the appropriateness of formulae and correctness of calculations.

2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD's conclusion on the project design. The CARs and CRs raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are documented in more detail in the validation protocol in annex 1.

The final PDD version that was submitted in November 2009 serves as the basis for the final assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM, i.e. to achieve a reduction of anthropogenic GHG emissions and to contribute to a sustainable development.

2.6 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the CB "climate and energy", i.e. each report has to be finally approved either by the head of the CB or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

3 SUMMARY

The assessment work and the main results are described below in accordance with the VVM reporting requirements. The reference documents indicated in this section and Annex 1 are stated in Annex 2.

3.1 Approval

The project participants are 2 of Colombia and 1 of Switzerland. The host Party Colombia and further participant Party Switzerland meet the requirements to participate in the CDM.

The DNA of Colombia has issued a LoA on 23 December 2008 (IRL 60) and an official confirmation of the Project Participants (IRL 77) authorizing ETMVA and CNPL as project participants. The DNA of Switzerland has also issued a LoA (IRL 76) on 26 March 2009 authorizing Grütter Consulting as a project participant. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

The Colombian LoA has further been double-checked with the Colombian DNA, which further confirming the approval of this CDM project. Also the Switzerland LoA has further been double-checked with the Switzerland DNA, which further confirming the approval of this CDM project

Furthermore, after checking the provided LoAs, TÜV SÜD confirms that both letters refer to the precise proposed CDM project activity title in line with the title in the PDD "CABLE CARS METRO MEDELLÍN, COLOMBIA".

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the CABLE CARS METRO MEDELLÍN, COLOMBIA project is voluntary. The Colombian LoA also confirms that the proposed CDM project activity contributes to the sustainable development of Colombia (host country). Based on the information given in these letters, TÜV SÜD considers the approval as unconditional with respect to these items.

Both LoAs have been issued by the respective Party's DNA, Ministry of Environment, Housing and Territorial Development and the Federal Office for the Environment FOEN, respectively.

TÜV SÜD considers the requirements of the VVM (§§ 45-48) to be complied with.

The LoA does not specify a version number of the PDD or validation report. The corresponding references included to LoA, PDD and validation report are consistent.

3.2 Participation

The participants of the project activity have been approved by the corresponding Parties, which is confirmed by the issued LoAs.

The means of validation were equivalent to those described in section 3.1 in regard to the approval process of the project activity.

3.3 Project design document

The PDD is compliant with relevant form and guidance as provided by UNFCCC.

The most recent version of the PDD form was used.

TÜV SÜD considers that the guidelines for the completion of the PDD in their most recent version have been followed. Relevant information has provided by the participants in the applying PDD sections. Completeness was assessed through the checklist included to Annex 1 of this report.

3.4 Project description

The following description of the project as per PDD could be verified during the on-site audit:

The project is the construction and operation of six cable cars in the city of Medellin, Colombia. All lines are operated by Empresa de Transporte Masivo del Valle de Aburrá Ltda. (ETMVA). They are used as mass transit options in hilly areas of the city. The cable cars are an integrative part of the metro system of Medellin with a pre-pay fare system and seamless transfer to the metro. Three of these lines are already constructed and two are already in operation (K Line and J Line)

The baseline transport mode of cable car passengers is consisted on small and medium buses having numerous accidents, high costs and considerable time lost for travel to the workplace downtown. The cable car substitutes to a certain extent these conventional transport modes, and reduces travel-time as well as travel cost - both important aspects for the people living in this zone. The zones where the cable cars operate are considered the poorest economic areas of Medellin. Seamless transfer to the Metro allows for hassle free and lower cost travel as tickets are integrated.

The project has an important impact on sustainable development including positive environmental and positive socio-economic benefits of the people in the area of influence of the project.

The information presented in the PDD on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- Review of data and information (see annex 2), cross check the same with other sources as the webpage of metro Medellin <http://www.metrodemedellin.org.co/> and related web pages, as <http://www.chispaisas.info/colombia3.htm>.
- An on-site visit has been performed and relevant stakeholder and personnel with knowledge of the project were interviewed, in case of doubt further cross checks through additional interviews have been done.

In light of the above, TÜV SÜD confirms that the project description as included to the PDD is sufficiently accurate and complete in order to comply with the requirements of the CDM.

3.5 Baseline and monitoring methodology

3.5.1 Applicability of the selected methodology

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology AMS-III.U Version 1 has been demonstrated.

The assessment was carried out for each applicability criteria and included among others the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources which sustain that applicability conditions are complied with.

The Methodology specific protocol included to the Annex 1 documents the assessment process, including the steps taken. The results on the compliance check as well as the relevant evidence are explicitly presented in annex 1.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

3.5.2 Project boundary

The project boundary was assessed in the context of physical site inspection, interviews and based on the secondary evidence received on the design of the project.

The boundary of the project, in accordance with the selected methodology, corresponds to the geographical area of trips of passengers using the cable car. The methodology indicates if electricity is sourced from an interconnected grid for the operation of the transport system, the project boundary also includes the power plants physically connected to the grid supplying power to the project.

The most relevant documentation assessed in order to confirm the project boundary are following:

- Feasibility Study of Metro Cable Car Project (IRL 36)
- PIN of Metro Cable Project (IRL 49)
- Official website of Metro medellín:
http://www.metrodemedellin.org.co/index.php?option=com_content&view=article&id=61&id_link=165&parent_link=153&Itemid=165&lang=es

Also GPS tracks (between initial and last station of each operative line) were checked during on site audit.

The same have been validated during the validation process using standard audit techniques, further details of any observation are transparently presented in the annex 1.

Hence TÜV SÜD confirms that the identified boundary and the selected sources as documented in the PDD are justified for the project activity.

3.5.3 Baseline identification

In the PDD the following baseline scenario has been defined:

Baseline emissions are those which would have been caused by passengers using the cable car and in absence of latter would have used baseline modes of transport from their trip origin to their trip destination. Baseline emissions per PKM (Passenger Kilometre) per mode are fixed ex-ante and are annually updated based on a technology improvement factor. Total baseline emissions are calculated based on the number of project passengers, the baseline emission factor per PKM and the trip distance on the respective mode. The baseline emissions include total trip emissions of project passengers from their trip origin to their trip destination.

GHG emission reductions are achieved through an improved efficiency of transporting passengers with the cable car compared to the traditional transport mode passengers would have used in absence of the project.

The baseline transport mode of cable car passengers is basically small and medium buses having numerous accidents, high costs and considerable time lost for travel to the workplace downtown.

During the on-site visit it was verified the use of the small and medium buses in absence of the project activity, and the using of the current Cable Car System.

The information presented in the PDD has been validated by a first document review of all the data, further confirmation based on the on-site visit and a final step by cross checking the information with similar relevant projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was cross-checked based on verifiable and credible sources, such as:

- IEA/OECD, Bus Systems for the Future Study, 2002 (IRL 79)
- Origin Destination Poll 2005 (IRL 78)
- Feasibility Study (IRL 36)
- Official Links to the “Transmilenio” Project:
<http://www.transmilenio.gov.co/WebSite/Default.aspx> (IRL 16)

TÜV SÜD has determined that no reasonable alternative scenario has been excluded.

Based on the validated assumptions on calculations TÜV SÜD considers that the identified baseline scenario is reasonable.

TÜV SÜD confirms that all relevant CDM requirements, including relevant and / or sectoral policies and circumstances, have been identified correctly taken into account in the definition of the baseline scenario.

A verifiable description of the baseline scenario has been included to the PDD.

In regard to item 86 of VVM, TÜV SÜD confirms that:

1. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
2. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
3. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
4. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
5. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.5.4 Algorithm and/or formulae used to determine emission reductions

3.5.4.1 Baseline Emissions

TÜV SÜD has assessed the calculations of project emissions, baseline emissions and leakage and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets. The parameters and equations presented in the PDD and further documentation have been compared with the information and requirements presented in the methodology and respective tools. The equation comparison has been made explicitly following all the formulae presented in the calculation files.

The calculation of the baseline emissions followed the procedures described in the methodology AMS-III.U Version 1. Baseline emissions are calculated based on the relevant vehicle categories, the emission per km of those vehicle categories, the emissions per passenger-kilometre that used the system, and the trip modes and trip distances used in absence of the project.

In order to obtain this data, all sources are correctly linked on the PDD and on the parameters table. TÜV SÜD confirms that the identified sources are correctly linked. (Public information was cross-checked with their sources (e.g.: http://alcaldia.medellin.gov.co/sttm_biblioteca/)

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The baseline methodology has been correctly applied following the requirements.

The estimated of the baseline emissions can be confirmed as the same have been replicated by the audit team using the information provided.

Detailed information on the verification of the parameters used in the equations can be found in the annex 1.

3.5.4.2 Project emissions

There are two types of project emissions, according to the PDD and the Methodology: Direct project emissions and indirect project emissions.

- Direct project emissions are based on the electricity consumption of the cable car. The value is then multiplied by a Carbon Emission Factor which was calculated by the project participants based on information from the National Dispatch Center (CND) and the Mining And Energy Planning Unit (UPME) on an ex-ante basis. Every calculation step is reproduced on Annex 3 of the PDD. Each value is correctly linked with their source.
- Indirect project emissions are those caused by passengers from their origin point up to the project entry station and from the project exit station up to the final trip destination. Specific surveys were performed in order to estimate these emissions.

As a result, the project emissions are the sum of direct and indirect emissions.

The assumptions and data used to determine the project emissions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The methodology has been correctly applied following the requirements.

The estimated of the project emissions can be confirmed as the same have been replicated by the audit team using the information provided.

Detailed information on the verification of the parameters used in the equations can be found in the annex 1.

3.5.4.3 Leakage emissions

Leakage is only included if the total annual effect is to reduce estimated emission reductions. Leakage monitored concerns significant (10% or more) change in the occupancy rate of considered vehicle categories. Only vehicle categories are included for leakage calculations where a significant change would lead to an actual change of emissions. This is correctly explained on section B.6.1. of the PDD.

The assumptions and data used to determine the leakage emissions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The methodology has been correctly applied following the requirements.

The estimated of the leakage emissions can be confirmed as the same have been replicated by the audit team using the information provided.

Detailed information on the verification of the parameters used in the equations can be found in the annex 1.

3.5.4.4 Emission Reductions

In summary, the calculation of the baseline emissions; project emissions, leakage and the emission reductions, respectively, can be considered as correct.

3.6 Additionality

The additionality of the project has been presented in the PDD according to Attachment A of Appendix B of the simplified modalities and procedures for CDM small-scale project activities. Evidence as to why the proposed project is additional can be produced by conducting an analysis of at least one of the following: (a) investment barriers, (b) technological barriers, (c) prevailing practice or (d) other barriers. The analysis carried out was performed following all those barriers. The approach used in the PDD has been assessed first based on a document review, where following relevant documents have been reviewed:

- Official links to the approved CDM projects by the Colombian DNA (IRL 80):
http://www.minambiente.gov.co/documentos/3412_proyectos_mdj_aprobados.pdf
- IEA/OECD, Bus Systems for the Future Study, 2002 (IRL 79)
- Feasibility Study (IRL 36).

On site the additionality has been discussed principally with María Elena Restrepo (ETMVA Planning Director), Carlos Arango (CNPL Executive Director), Susana Ricaurte (Grutter Consulting Representative) and Andrea García (Climate Change Mitigation Group adviser). Furthermore some documents have been reviewed on-site (for details see annex 2).

Finally the data, rationales, assumptions, justifications and documentation provided have been checked using local knowledge and sectoral and financial expertise, the same has been cross checked by:

- Letter of “First of its Kind”, delivered by the Colombian Transport Sub secretary. (IRL 81)

Based on this validation steps we can confirm that the documentation assessed is appropriate for this project.

3.6.1 Prior consideration of the clean development mechanism

The starting date of the project activity is determined by the Contract and construction start of line K. This is considered as the first real action of project implementation. The Line K was the first line in Cable Project in order to be constructed. So this is considered the point of no return in order to continue with the project. In order to confirm the same the assessment team has reviewed the following document: Act of Beginning of Construction for Line K Signed between the General Manager of Medellín Subway and the contractor representant (IRL 82). Additionally the assessment team cross checked this information in interviews with María Restrepo, Planning Director of Medellín Subway.

The starting date of the project has been determined to be 11/04/2003 which is before 02 August 2008, and also before the GSP. In order to evidence the prior consideration of CDM, the PP had submitted the following documentation:

- Presentation template of CDM Projects by the Ministry of Environment, Housing and Territorial Development , dated on February 2002. (IRL 83)
- Technical proposal for the CDM Metro Cable Project, dated on 13/02/2002 (IRL 84). The document itself identifies the project as a CDM project since 2002.

The original of the documentation presented has been reviewed based in crosschecks with Maria Restrepo, Planning Director of Medellín Subway and Carlos Arango (CNPL Executive Director).

Hence the project complies with the requirements to demonstrate the prior consideration of the CDM. The documents presented, as well as the persons interviewed and the information provided by them are consistent, hence the requirements are fulfilled.

Additionally in order to confirm that the PPs have taken real actions to continue the activity as CDM, following timeline has been reviewed against the respective documents presented in the table below and presented also in section B.5 of the PDD:

Activity/Document	Date	Auditor conclusion
Request to CAF for finance of cable car due to	11.2.2002	Document checked and consistent.
PIN draft cable car (2 versions) PIN draft 1 and CAEMA PIN Metrocable authored by Isabel Crisitina Giraldo (ETMVA) and CAEMA	16.1.2003 - 13.1.2003	Document checked and consistent.
Contract and construction start line K (starting date act)	11.4.2003	Ok, consistent with the time line.
Presentation of cable car as CDM project by Metro Medellin at an international event of CAEMA/ Resolution 2975	2.5.2003	Consistent with the time line.
Delivery of final PIN for project	5.5.2003	Checked and consistent with the time line.
Negotiations with MGM as project developer for cable car project	16.1.2004	Checked and consistent with the time line.
Meeting with DNA to discuss advances of CDM postulation of cable car/ (Letter to DNA)	28.5.2004	Ok, According to the time line.
Negotiations with CDM project developer MGM and CAF as well as discussions with Ministry of Environment	21.7.2005	Checked and consistent with the time line.
Presentation of cable car as climate change Project under preparation for IADB (Inter-American Development Bank)	2.3.2006 17.6.2006	Ok, According to the time line.
Negotiation CDM project development with CNPMLTA	4.7.2007	Ok, According to the time line.
Contract signature with CNPMLTA for CDM development of cable car	21.12.2007	Ok. According to the time line, supports the previous information.
Methodology submitted to the	14.2.2008	Supports the time line.

UNFCCC		
Methodology approval	EB 42 report 26.09.2008	According to the time line.

A complete and detailed table can be found on table 5 in the PDD.

Hence the project complies with the requirements to demonstrate the prior consideration of the CDM.

3.6.2 Identifications of alternatives

The output of the project is the solution to reduce CO₂ emission to the atmosphere using a Cable car (grid electric powered), instead of the use of fossil fuel vehicles or reducing the use of them.

The list of alternatives to supply the outputs mentioned above, which is presented in the PDD includes the project activity undertaken without being registered as CDM project. The rest of the alternatives presented do include all plausible scenarios taking into account the local and sectoral situations for the outputs mentioned. Hence the list of alternatives is considered to be complete.

3.6.3 Barrier analysis

As explained on section 3.6, project participants have used the following barriers analysis in order to demonstrate the additionality of the project. The presented barriers are:

- First of its Kind
- Investment Barrier
- Technological Barrier

It is important to notice that the project initially had decided to carry on an investment analysis along with barrier analysis. Due to the clarifications and corrective actions raised by the audit team (See CAR8), project proponent decided to apply for barrier analysis only, giving special importance to the barrier first of its kind, as can be seen below.

The assessment team checked first if the barrier has a clear impact on the financial returns which can be expressed with reasonable certainty in monetary terms. The final PDD does include only barriers without such impact on the financial returns.

The First of its Kind Barrier has been assessed against official documents such as:

- Presentation template of CDM Projects by the Ministry of Environment, Housing and Territorial Development, dated on February 2002. (IRL 83)
- Official links to the approved CDM projects by the Colombian DNA (IRL 80):
http://www.minambiente.gov.co/documentos/3412_proyectos_mdj_aprobados.pdf
- Letter of "First of its Kind", delivered by the Colombian Transport Subsecretary. (IRL 81)

Furthermore, interviews with relevant representatives of the Medellin Subway and Authorities, as indicated on section 3.6 above, have been performed. The result of this assessment shows clearly that the barrier presented in the PDD can be considered real. It is important to notice that in order to evidence this barrier, the selected geographical area is the country of Colombia. As this is the common approach it can be accepted by TUV SÜD.

The Investment Barrier has been assessed against documents such as:

- Public documents as:

<http://www.metrodemedellin.gov.co/images/Felipe/demanda%20reconvencion.pdf>, and
<http://www.metrodemedellin.gov.co/images/Felipe/tribunal%20arbitramento.pdf>

- XLS file Economics Arvi (IRL 12)

The Technological Barrier is sustained with the same documents of the First of its kind barrier. As the project is pioneer on its type in the country, neither technology nor know how transfer can be found locally on the country. This barrier has been assessed against official documents such as:

- Presentation template of CDM Projects by the Ministry of Environment, Housing and Territorial Development, dated on February 2002. (IRL 83)
- Official links to the approved CDM projects by the Colombian DNA (IRL 80):
http://www.minambiente.gov.co/documentos/3412_proyectos_mdj_aprobados.pdf
- Letter of “First of its Kind”, delivered by the Colombian Transport Subsecretary. (IRL 81)

Those barriers do prevent the project activity and would not prevent at least the baseline of the project; this can be confirmed based on the documentation review, interviews and local and sectoral expertise of the assessment team. As explained in section 3.6, the documentation reviewed (With online links that validate their originality), the representatives of government (environmental authorities), and representatives of the Medellin Subway permit to conclude this statement.

Taken into account the description of the validation of the barrier presented above, the assessment team can confirm with reasonable certainty that the barrier is credible and correctly presented to demonstrate the additionality of the project.

3.7 Monitoring plan

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant for the project activity have been found in the plan.

The procedures have been revised by the assessment team through document review and interviews with the relevant personnel; this information together with a physical inspection allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The major parameters to be monitored have been discussed with the PPs especially regarding the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project. The Passengers transported by each cable car will be monitored based on automated ticketing control and stations. The parameters that will be monitored through surveys or polls (e.g. **IPE_P**, and **BLE_P**), will be performed assuring a 95% of confidence level. Hence it is expected that the PPs will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

3.8 Sustainable development

The LoA of the Host country clearly present a statement that the project contributes to the sustainable development of the host Party.

3.9 Local stakeholder consultation

The relevant local stakeholders have been invited via numerous meetings with stakeholders starting at a very early stage. The evidence of these invitations are IRL's 53,54,55. The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirm that the communication method used to invite the stakeholders

can be considered appropriate. The summary of comments presented in the PDD has been cross check with the documentation of the stakeholder consultation and it is found to be complete.

The relevant comments presented by the local stakeholders have been taken due account by the PP, the same has been cross check with the information obtained during the interviews.

Hence the local stakeholder consultation has been adequately performed according to the CDM requirements.

3.10 Environmental impacts

The project participants undertake an environmental impact assessment plus an environmental management plan (EMP). The assessment team made a document review of the information presented. The IRL 51 “Permiso Ambiental” translated as “Environmental Permit”, confirms the correctness of the approach used by the PPs. Hence the PPs followed the requirements of the host country regarding the environmental impacts.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

webpage: http://www.netinform.net/KE/Wegweiser/Guide2_1.aspx?ID=5629&Ebene1_ID=26&Ebene2_ID=1751&mode=1	
Starting date of the global stakeholder consultation process: 2008-10-18	
Comment submitted by: None	Issues raised: -
Response by TÜV SÜD: -	

5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:
CABLE CARS METRO MEDELLÍN, COLOMBIA.

Standard auditing techniques have been used for the validation of the project. Methodology-specific protocol customised for the project has been prepared to carry out the audit and present the outcome in a transparent and comprehensive manner.

The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed following the VVM requirements. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, 02/12/2009



Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 02/12/2009



Assessment Team Leader

Validation of the CDM Project:
CABLE CARS METRO MEDELLÍN, COLOMBIA



Industrie Service

Annex 1: Validation Protocol

Validation Protocol

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of small-scale project activity				
A.1. Title of the small-scale project activity				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1,7	Yes. The title identifies clearly the CDM activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1,7	The version of the PDD is the number 1 and the date of the revision is October 14 th , 2008.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3. Is this consistent with the time line of the project's history?	1,7,8 2,83, 84	Yes (See Section B.5 of the PDD).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2. Description of the small-scale project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1,7	The description is transparent giving a clear overview of the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1,7	The project description shows the steps as today, and which are the new steps ongoing. <u>Corrective Action Request No.1.</u> Project proponent should correct on page 3 the thousand separation from 3'000 to 3,000 (last paragraph)	GAR	<input checked="" type="checkbox"/>
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1,7, 36	Yes, information provided is enough and consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1,7, 36	Yes. Information provided on this section is consistent with further chapters of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the green-	1,7, 36	The description on this section provides a sufficient and transparent input which permits evaluate it's impact on the greenhouse gas balance reducing the use of fuel based vehicles (Bus, taxi,	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
house gas balance?		cars, etc.).		
A.2.6. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?	1,7, 36, 78, 79	Yes. Evidence shown during on site audit plus information provided on the PDD permits the audit team have a clear view how the project reduce greenhouse gas emissions. Moreover METRO has a CRM system which permits have feedback from the users. <u>Corrective Action Request No.2.</u> Project proponent should describe the documents indicated as numbers at the footnotes (check this issues for the whole document).	CAR	<input checked="" type="checkbox"/>
A.3. Project participants				
A.3.1. Is the form required for the indication of project participants correctly applied?	1,7	Yes, is correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1,7, 60, 76	As indicated, the confirmation is confirmed by each of them. <u>Corrective Action Request No.3.</u> Nonetheless Letter of approval of each country should be provided before registration	CAR	<input checked="" type="checkbox"/>
A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1,7, 60, 76, 77	Yes. Clearly indicated. Nonetheless see CAR 3	See CAR	<input checked="" type="checkbox"/>
A.4. Technical description of the small-scale project activity				
A.4.1. Location of the small-scale project activity				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1,7, 36	Yes, location of the project is clearly indicated. Coordinates of each cable car route were checked and confirmed during on site audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1,7,5 7	Description on this section of the PDD and documentation from local authorities and ownership or rental of sites was shown to the audit team. Municipality permits (construction licence) for construction were shown during on site audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2. Type and category(ies) and technology/measure of the small-scale project activity				
A.4.2.1. To which type(s) does the project activity belong to? Is the type correctly identified and indicated?	1,2,7	<u>Corrective Action Request No.4.</u> Please indicate Type and Category clearly on this section.	CAR	<input checked="" type="checkbox"/>
A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated?	1,2,7	See CAR 4	See CAR	<input checked="" type="checkbox"/>
A.4.2.3. Does the technical design of the project activity reflect current good practices?	1,2,7	Yes, as indicated on the PDD the project reflects good practices. Several certificates of standards were provided to improve the better management of the Company. Also a report included on a web link (www.medellincomovamos.org translated as "Medellin how we go") indicating the good practice from the company, was shown and confirmed during on site audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?	1,2,7 36	Yes, technology transfer is required due to the inexistence of the technology locally. It was clearly indicated and was provided by a french company, POMA. Evidence was shown during on site audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	1,2,7 ,36, 53, 54, 55.	Yes, because the project replaces fuel based vehicles with electricity based cable cars. Diesel backup is not considered as a valid leakage when it works based on a discussion with the EB due to marginal values. This diesel backup will be used during emergencies (electric blackouts) and only to move the Cabin to the nearest station by security	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		means. Only some complains from the neighbours about the noise produced by the operation of the system. Nonetheless this complains were taken in account by the owner of the project (using the CRM system) to solve the problem. Evidence shown during on site activities confirms the solution, improving the system, to avoid the noise. Moreover interviews performed by the audit team to people who lives directly in the nearness of the project considers the noise as low and not uncomfortable.		
A.4.2.6. Is the information provided in compliance with actual situation or planning?	1,2,7	Yes. A description of the steps on work yet and also a timeline provided is in compliance with the actual situation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.7. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1,2,7,81	The project is the first of its kind in the country, and has a better performance than any commonly used technologies in the host country (fuel based vehicles).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,7	Is not considered to be replaced during the project activity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.9. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1,2,7,65,66,67	This issue is not clear on the PDD. <u>Corrective Action Request No.5.</u> Project proponent should include scheduled trainings for the related CDM activity for each step. And also a maintenance calendar should be provided.	CAR	<input checked="" type="checkbox"/>
A.4.2.10. Is information available on the demand and requirements for training and maintenance?	1,2,7,65,66,67	No. See CAR 5.	See CAR	<input checked="" type="checkbox"/>
A.4.2.11. Is a schedule available for the im-	1,2,7	The project is working yet. Two lines of the described ones are in	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
plementation of the project and are there any risks for delays?	, 47, 56, 82	operation (Line K and Line J), and a third, line ARVI is under construction yet. Evidence was shown to the audit team. Documents confirming the reception of the civil works and equipment for both lines were provided to the audit team.		
A.4.3. Estimated amount of emission reductions over the chosen crediting period				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	1,7	It's clearly indicated.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	1,7	Yes. As indicated on the methodology in section 4 the limit is 60 kt CO ₂ annually and the project has 16,909 t CO ₂ eq annually.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	1,7	Yes, figures are consistent with the small-scale criteria.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4. Public funding of the small-scale project activity				
A.4.4.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1,7,9	Yes. No public fundings were used for the project. As indicated by the project proponent in the person of Mrs. María Elena Restrepo, future incomes from the operation of the METRO activities, were used for the project. So, the future revenues after the registration of the project will return these funds to. This statement was evidenced accordingly.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1,7,9	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity				

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD										
A.4.5.1. Is there a registered small-scale CDM project activity or an application to register another small-scale CDM project activity with the following characteristics:	1,7	<table><tr><td>Debundling checklist</td><td>Yes / No</td></tr><tr><td>the same project participants?</td><td>No</td></tr><tr><td>In the same project category and technology/measure?</td><td>No</td></tr><tr><td>Registered within previous two years? Or in registration process?</td><td>No</td></tr><tr><td>Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?</td><td>No</td></tr></table>		Debundling checklist	Yes / No	the same project participants?	No	In the same project category and technology/measure?	No	Registered within previous two years? Or in registration process?	No	Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Debundling checklist	Yes / No														
the same project participants?	No														
In the same project category and technology/measure?	No														
Registered within previous two years? Or in registration process?	No														
Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?	No														
A.4.5.2. If the answer to all the above question is 'Yes' then does the total size of the small scale project activity combined with previously registered small scale CDM project activity exceeds the limits of small scale CDM project activities?	1,7	There is no registered small-scale CDM project activity or an application to register another small-scale CDM project activity with the same project participants, in the same project category and registered within the previous 2 years.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B. Application of a baseline and monitoring methodology															
B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity															
B.1.1.1.Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1,2,7	Methodology used is-AMS III.U, version 1.0, Cable Cars for Mass Transit Systems (MRTS)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B.1.1.2.Is the applied version the most recent one and / or is this version still applicable?	1,2,7	Yes.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B.2. Justification of the choice of the project category															
B.2.1. Is the applied methodology considered the most appropriate one?	1,2,7	Yes, is specific for this project.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD								
Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with “No”; Replace blue text												
B.2.1.1.Criterion 1: Measures are limited to those that result in emission reductions of less than or equal to 60’000t CO ₂ eq annually.	1,2,7	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p><u>Corrective Action Request No.6.</u> The units of thousand should be corrected to 60,000 instead 60’000.</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	GAR	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.2.Criterion 2: A new cable car is built. Extensions of existing cable cars are not applicable	1,2,7 , 47, 56, 82	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>On files provided by the project developer before the on site audit the start of the construction is demonstrated (see file 47, 56, 82): start of the construction and Initial Acts of the beginning of the project.</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.3.Criterion 3: Cable cars are for passenger transport only. The passenger performs partially or totally his trip on the cable car.	1,2,7 ,36	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

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B.2.1.4.Criterion 4: Cable cars are established as mass transit mean. The cable car must be built in an area that is accessible by road (origin and final destination of the cable car).	1,2,7,36	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.5.Criterion 5: The methodology is applicable if fuels used in the baseline and or project case are electricity, gaseous or liquid fossil fuels. If bio-fuel blends are used as liquid fuels, the specific fuel consumption value and emission factors used for determining baseline and project emissions shall be adjusted accordingly	1,2,7,36	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.1.6.Criterion 6: The methodology is applicable if the analysis of possible baseline scenario alternatives leads to the result that a continuation of the current public transport system is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases (GHG) that would occur in the absence of the proposed project activity (i.e. the baseline scenario).	1,2,7,36	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

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B.3. Description of the project boundary				
B.3.1. Does the project boundary include physical, geographical site where the project activity takes place?	1,2,7,36	It's clearly indicated on the PDD (the metropolitan area of the city of Medellín in total).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1,2,87,36	Yes. See Document No. 1 (UPME CM Colombia). This was checked also in the on site audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4. Description of baseline and its development				
Integrate questions concerning the determination of the additionality as provided by the methodology applied or insert the module provided when applying the "additionality tool"; Replace blue text, if necessary				
B.4.1. Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete?	1,2,7	Yes. The alternatives are as follows: 1. Metro extension, tram or light duty rail 2. Bus lanes 3. Continuation of the current public transport system 4. Implementation of the project without CDM.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.2. Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?	1,2,7	As stated on the PDD all alternatives are compatible with legal requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.3. Have applicable regulatory or legal requirements been identified?	1,2,7,36	Yes. On the files provided before the audit (files 48 a, b, c and d) the regulatory requirements are indicated and scrutinized by the audit team and appears as correct.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.4. Does the PDD identify the most likely baseline scenario in absence of the project activity?	1,2,7,36	Yes. As indicated on the PDD: 1. Metro extension as well Bus Lanes is not feasible due to the topographic conditions of the project areas where the cable car lines are established, due to the large invest-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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		<p>ment cost and due to the limited passenger density in the project areas not warranting mass transit systems of this type.</p> <p>2. A continuation of the existing public transport system does not require investments, nor does it face resistance of bus operators. Also, albeit with deficiencies, the current public transport systems is working and operational. This is thus an alternative without major negative points and without risk for ETMVA.</p> <p>3. The implementation of the project in absence of the CDM is not probable and is demonstrated on section B.5. with the "Tool for the demonstration and assessment of additionality" (version 05, EB 39 Annex 10) and the guideline on "Non-binding best practice examples to demonstrate additionality for SSC project activities" (EB 35 Annex 34).</p>		
B.4.5. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc)?	1,2,7 , 36	Evidence was shown during audit activities. See also CAR 2.	See CAR	<input checked="" type="checkbox"/>
B.4.6. Is the identified baseline scenario in line with regulatory or legal requirements?	1,2,7 , 36	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered small-scale CDM project activity:				
Integrate questions concerning the determination of the additionality when applying the "additionality tool"; Replace blue text, if necessary				
B.5.1. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1,2,7 , 36, 43, 59, 81	<p>Please note that on the final PDD this discussion was neglected. See Corrective Action Request No.8</p> <p>Yes it's appears to be consistent with the last version of the Tool. Information regarding the timeline is indicated on table 3 named</p>	CAR	<input checked="" type="checkbox"/>

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			<p>CDM Project Chronology. Nonetheless is necessary to mention the initial adoption of the CDM as a requirement for this project from a directory meeting minute or other source.</p> <p><u>Corrective Action Request No.7.</u></p> <p>Project proponent should provide information regarding the CDM as a requirement for this project in form of a board of directors meeting or other source to put on work this project.</p> <p><u>Corrective Action Request No.8.</u></p> <p>Additionality demonstration is based on two approaches, the SSC barrier analysis and the additionality tool. However, demonstration of additionality according to the tool is incomplete (e.g. investment analysis, analysis of alternatives, compliance with laws and regulations).</p>		
B.5.2.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.3.	In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1,2,7, 36, 43, 59, 81	<p>Yes the IRR and NPV was used as comparison analysis on the PDD for GSP . Value provided by ETMVA, was included and the benchmark (national value of IRR, is lower. Evidence was shown to the audit team.</p> <p>The PDD version 1.1. has been amended including the company internal cost of capital as well as the publicly available central bank interest rate on certificates of deposit for 360days. Both benchmarks are higher than the IRR of the respective cable cars</p> <p>See Corrective Action Request No.8</p>	Open	<input checked="" type="checkbox"/>
B.5.4.	In case of Option III (benchmark analysis): Is the most suitable financial indicator		N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?					
B.5.5.	In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1,2,7 , 36, 43, 59, 81	Yes. Evidence was shown (File 45, 46, 50)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.6.	In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1,2,7 , 36, 43, 59, 81	Yes. The detailed spreadsheets for each line were available to the Validator, the EB and the UNFCCC secretariat but are not public domain, due to containing sensitive contractual data. <u>Clarification Request No. 1.</u> Project Proponent should clarify why could not be publicly available the spreadsheet.	CR	<input checked="" type="checkbox"/>
B.5.7.	In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1,2,7 , 36, 43, 59, 80 81	Yes. A complete list of barriers was developed. It includes Investment barriers, Technological barriers and first of its kind.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.8.	In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1,2,7 , 36, 43, 59, 81	Yes. All documentation was provided during validation activities. <u>Clarification Request No. 2.</u> Documented evidence for the barrier “first of its kind” is required, which can be uploaded to the EB.	CR	<input checked="" type="checkbox"/>
B.5.9.	In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1,2,7 , 36, 43, 59,	Yes. A continuation of current practices does not face any of above mentioned barriers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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riers?	81																		
B.5.10. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1,2,7, 36, 43, 59, 81	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
B.5.11. If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	1,2,7, 36, 43, 59, 81	No other mass transit system for urban public transport based on cable cars operates in Colombia or in Latin America at the time of the project design. Only one comparable system operated (USA) and even this system had a far lower capacity than the cable car of Medellin.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
If the additionality tool has not been used please answer B.5.12 to B.5.17																			
B.5.12. If the starting date of the project activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the project activity?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
B.5.13. Is a complete list of barriers developed that prevents the project activity to occur?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
B.5.14. Does this list include at least one of the following barriers?	1,2,7	<table><tr><th>Barrier</th><th>Discussed?</th><th>Verifiable?</th></tr><tr><td>Investment</td><td></td><td></td></tr><tr><td>Technological</td><td></td><td></td></tr><tr><td>Due to prevailing practice</td><td></td><td></td></tr><tr><td>Other</td><td></td><td></td></tr></table> N/A	Barrier	Discussed?	Verifiable?	Investment			Technological			Due to prevailing practice			Other			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Barrier	Discussed?	Verifiable?																	
Investment																			
Technological																			
Due to prevailing practice																			
Other																			

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B.5.15. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
B.5.16. Is transparent and documented evidence provided on the existence and significance of these barriers?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
B.5.17. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
B.6. Emissions reductions										
Integrate questions concerning methodological choices and selection of options, if necessary										
B.6.1. Explanation of methodological choices										
B.6.1.1.Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1,2,7	Yes. All procedures were provided on the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
B.6.1.2.Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1,2,7	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
B.6.1.3.Determination of project emissions (Comment on any line answered “No”) Replace blue text										
B.6.1.3.1. Component 1: Emissions per Kilometre per vehicle category	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table> <p>Nonetheless see on the PDD to be consistent the title of the factor is Emissions per Kilometre per vehicle category.</p> <p>Corrective Action Request No.9.</p>	Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	CAR	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No									
Component discussed in the PDD?	Yes									
Formulae correctly applied?	Yes									

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		Project Proponent should correct the parameter from “Emissions per Kilometre” (as stated on the PDD) to “Emissions per Kilometre per vehicle category” as stated on the Methodology.								
B.6.1.3.2. Component 2: Emissions per PKM	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>	Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No									
Component discussed in the PDD?	Yes									
Formulae correctly applied?	Yes									
B.6.1.3.3. Component 3: Total Baseline Emissions	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>	Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No									
Component discussed in the PDD?	Yes									
Formulae correctly applied?	Yes									
B.6.1.3.4. Component 4: Baseline Passengers per Mode	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table> <p><u>Corrective Action Request No.10.</u> Project Proponent should correct the parameter from “Passengers per Mode” (as stated on the PDD) to “Baseline Passengers per Mode” as stated on the Methodology.</p>	Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	GAR	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No									
Component discussed in the PDD?	Yes									
Formulae correctly applied?	Yes									
B.6.1.3.5. Component 5: Indirect Project Emissions	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>	Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No									
Component discussed in the PDD?	Yes									
Formulae correctly applied?	Yes									
B.6.1.3.6. Component 6: Passengers per	1,2,7		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						

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Mode		<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>		Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes		
Project emission checklist	Yes / No										
Component discussed in the PDD?	Yes										
Formulae correctly applied?	Yes										
B.6.1.3.7. Component 7: Total Project Emissions	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>		Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No										
Component discussed in the PDD?	Yes										
Formulae correctly applied?	Yes										
B.6.1.3.8. Component 8: Leakage	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>		Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No										
Component discussed in the PDD?	Yes										
Formulae correctly applied?	Yes										
B.6.1.3.9. Component 9: Emission Reductions	1,2,7	<table><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>Yes</td></tr><tr><td>Formulae correctly applied?</td><td>Yes</td></tr></table>		Project emission checklist	Yes / No	Component discussed in the PDD?	Yes	Formulae correctly applied?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Project emission checklist	Yes / No										
Component discussed in the PDD?	Yes										
Formulae correctly applied?	Yes										
B.6.1.4.Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameters to be used	1,2,7,8,10-27,	No. <u>Corrective Action Request No.11.</u> Additional information on assumptions and calculations of base-line emissions is required (studies and default data used have to		CAR CR	<input checked="" type="checkbox"/>						

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and / or monitored?	97	be submitted to the audit team). Project Proponent should provide additional background information in the PDD so that the reader can easier verify the approach chosen by the PPs and the as- sumptions behind the calculations. Clarification Request No. 3. The Excel calculation file of emission reductions need to be clari- fied, in particular with regard to the factor “Average baseline emission factor gr CO2/pax” in sheet “baseline”. It is not clear how the average factor has been determined. If assumptions on travel distances have been used, these need to be described in the PDD.				
B.6.1.5.Are the formulae required for the de- termination of leakage emissions cor- rectly presented, enabling a complete identification of parameter to be used and / or monitored?	1,2,7	Yes. As stated on the PDD and on the Methodology, Leakage is only included if the total annual effect is to reduce estimated emission reductions, this accordingly to the methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
B.6.1.6.Are the formulae required for the de- termination of emission reductions cor- rectly presented?	1,2,7	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
B.6.2. Data and parameters that are available at validation						
B.6.2.1.Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1,2,7	No. See CAR below	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
B.6.2.2.Comment on any line answered with “No”						
B.6.2.2.1. Parameter Title: SFCx,i: Specific fuel consumed of	1,2,7	<table border="1"> <tr> <td>Data Checklist</td> <td>Yes / No / NA</td> </tr> </table>	Data Checklist	Yes / No / NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA					

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vehicle category i of fuel type x		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
		Different values are stated for this parameter which includes (i) Specific fuel consumption diesel and gasoline taxis, (ii) Specific fuel consumption passenger cars, (iii) Specific fuel consumption motorcycles, (iv) Specific fuel consumption diesel of medium and small buses.			
B.6.2.2.2. Parameter Title: Nx,i: Number of vehicles of category i using fuel type x	1,2,7	Data Checklist	Yes / No / NA	GR-2	☑
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		Clarification Request No. 4. Project Proponent should clarify why this parameter was not included.			

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B.6.2.2.3. Parameter Title: NCVx: Net calorific value of fuel x	1,2,7	<table> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>No</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>Yes</td> </tr> </table> <p>Parameter includes diesel and gasoline</p> <p>Clarification Request No. 5.</p> <p>Project Proponent should clarify why changes the unit of the parameter. As indicated on the Methodology the unit is J/gr, even though the considered parameter is (MJ/ton) is similar. To avoid any inconsistency in further calculation, this issue should be checked.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	No	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	CR	☑
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.2.4. Parameter Title: EF _{CO2,x} : CO ₂ emission factor for fuel type x	1,2,7	<table> <tr> <th>Data Checklist</th> <th>Yes / No / NA</th> </tr> <tr> <td>Title in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly expressed?</td> <td>Yes</td> </tr> <tr> <td>Appropriate description of parameter?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided?</td> <td>Yes</td> </tr> <tr> <td>Has this value been verified?</td> <td>Yes</td> </tr> <tr> <td>Choice of data correctly justified?</td> <td>Yes</td> </tr> <tr> <td>Measurement method correctly described?</td> <td>Yes</td> </tr> </table>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	☑	☑
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
		Parameter includes Carbon emission factor of diesel and gasoline																				
B.6.2.2.5. Parameter Title: OCi: Average occupation rate of vehicle category i		<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> <p>Different values are stated for this parameter which includes (i) buses, (ii) taxis, (iii) passenger cars, (iv) motorcycles.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.2.6. Parameter Title: DD _B : Total distance driven of buses of various sub-categories prior project start (kilometer)	1,2,7	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p><u>Clarification Request No. 6.</u></p>	Data Checklist	Yes / No / NA	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	CR	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	No																					

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		Project Proponent should clarify why this parameter was not included.																				
B.6.2.2.7. Parameter Title: EC _R : Quantity of electricity consumed by the baseline rail based transit system	1,2,7	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> <p>This parameter applies for Electricity consumption of Metro.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.2.8. Parameter Title: EF _{Grid} : Emission factor for the grid	1,2,7 , 85	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>This parameter was not included. Clarification Request No. 7. Project Proponent should clarify why this parameter wasn't in-</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	CR	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	No																					

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		cluded. Moreover the discussion of this parameter should be demonstrated including the official information (provided by decree by UPME) and also the calculation data to support this value because this value should be scrutinized by the audit team.																				
B.6.2.2.1. Parameter Title: P _R : Total passengers transported by baseline rail based transit system per year.	1,2,7	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> <p>The parameter considers the Passengers transported by Metro.</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.2.2. Parameter Title: TD _{PR} : Average trip distance of urban rail based transit passengers	1,2,7	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table> <p>Applies for Metro passengers</p>	Data Checklist	Yes / No / NA	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No / NA																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					

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B.6.3. Ex-ante calculation of emission reductions				
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1,2,7	Yes. Data is the same. The surveys should be performed during operational activity of the project (Monitoring activities).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1,2,7	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.3. If there is more than one component of the project activity, then, are emission reduction calculations provided separately for each component?	1,2,7	No more components are included.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.4. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1,2,7	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4. Summary of the ex-ante estimation of emission reductions				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1,2,7 , 36	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1,2,7 , 36	Is applied according the template.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.3. If the project activity involves more than one component, is separate table included for each of the component.	1,2,7 , 36	The whole lines are considered as one activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.4. Do these values comply with small-scale criteria for every year?	1,2,7 , 36	Yes. ERs are below 60 kTon per year.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.5. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated credit-	1,2,7 , 36	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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ing period?																												
B.6.4.6.Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1,2,7	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																								
B.7. Application of the monitoring methodology and description of the monitoring plan																												
B.7.1. Data and parameters monitored																												
B.7.1.1.Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1,2,7	No. <u>Clarification Request No. 8.</u> Project Proponent should clarify why some parameters mentioned on the Methodology are missing on the PDD.	CR	<input checked="" type="checkbox"/>																								
B.7.1.2.Comment on any line answered with “No”																												
B.7.1.2.1. Parameter Title: P: Total passengers transported by the project	1,2,7	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table> Passengers transported by each cable car	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.2.2. Parameter Title:	1,2,7		CR	<input checked="" type="checkbox"/>																								

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IPE _p : Indirect project emissions per passengers		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		Clarification Request No. 9. Project Proponent should clarify why this parameter is not in line with the described ones on the Methodology.			
B.7.1.2.3. Parameter Title: BLE _p : Baseline emissions per passengers	1,2,7	Monitoring Checklist	Yes / No	Open	<input checked="" type="checkbox"/>
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		

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		See CR 9																										
B.7.1.2.4. Parameter Title: EC _{elec, cc} : Electricity consumption per cable car		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table> <p>Nonetheless the parameter on the methodology is described different.</p> <p>See CR 9</p> <p>See response given in CR 9</p>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	Open	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.2.5. Parameter Title: OC: Occupation rate of vehicles	1,2,7	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											

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		<table><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>		Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes																				
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.2.6. Parameter Title: EF _{CO2,Elec} : Carbon emission factor electricity	1,2,7 , 40, 85	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> <u>Clarification Request No. 10.</u> Project Proponent should explain this parameter.		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	No	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	CR	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	No																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.2. Description of the monitoring plan																													
B.7.2.1.Is the operational and management structure clearly described and in compliance with the envisioned situation?	1,2,7 , 70	Nevertheless the description is developed on the PDD a more detailed description was shown during on site audit (see file 50).		☑	☑																								
B.7.2.2.Are responsibilities and institutional arrangements for data collection and ar-	1,2,7 , 70	A procedure was shown during on site activities (see file 50).		☑	☑																								

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chiving clearly provided?				
B.7.2.3.Does the monitoring plan provide current good monitoring practice?	1,2,7, 70	A procedure including the responsables and QC/QA activities the good monitoring practices could be achieved. Project proponent will develop a procedure for this activity and will be presented in the verification activities. For this step, the definition described is enough.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.4.If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1,2,7, 70	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1.1.Is there any indication of a date when the baseline was determined?	1,2,7, 70	Baseline was determined on October 14 th , 2008	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.2.Has dd/mm/yyyy format been used to indicate the date.	1,2,7	No <u>Corrective Action Request No.12.</u> Project Proponent should change the format as indicated: dd/mm/yyyy	CAR	<input checked="" type="checkbox"/>
B.8.1.3.Is this consistent with the time line of the PDD history?	1,2,7, 47, 56, 82, 96	The baseline determination was performed before this PDD issuance but after the project implementation. <u>Clarification Request No. 11.</u> PP should clarify the timelines	GR	<input checked="" type="checkbox"/>
B.8.1.4.Is the information on the person(s) / entity (ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual	1,2,7	The company and persons who developers the PDD is clear, but not clear if they perform the baseline analysis. <u>Corrective Action Request No.13.</u> Include on the PDD clearly the company which performs the	CAR	<input checked="" type="checkbox"/>

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situation?		baseline analysis.		
B.8.1.5. Is information provided whether this person / entity is also considered a project participant?	1,2,7	Not clear, and is inconsistent with information provided in other section of the PDD. <u>Corrective Action Request No.14.</u> PP should clarify whether this person / entity is also considered a project participant?	CAR	<input checked="" type="checkbox"/>
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1,2,7,47,56,82,96,	The time line was defined as indicated on Section B.5. However some inconsistencies were found. <u>Corrective Action Request No.15.</u> Currently the additionality of the project cannot be validated. The document for "Early CDM consideration" was not available (Letter dated 23.4.2003 of ETMVA referring to CDM project proposal to DNA as of early 2002). Evidence documents for continued action from the starting date to the start of the GSP need to be provided according to EB41, Annex 46.	CAR	<input checked="" type="checkbox"/>
C.2. Choice of the crediting period and related information				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1,2,7	Is defined in periods of 7 years with potential 2 renewals.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period.	1,2,7	<u>Corrective Action Request No.16.</u> Project Proponent should correct the date format to dd/mm/yyyy.	CAR	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
D. Environmental impacts				
D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved? If yes answer also D.1.2 to D.1.4	1,2,7, 51, 52	Host party requires EIA. The project has performed an EIA and the issuance of the permits is shown to the audit team. Also an environmental management plan was required by local regulations.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1,2,7, 51, 52	Yes. The document is clear and all environmental impacts are considered before and after the operation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3. Will the project create any adverse environmental effects?	1,2,7, 51, 52	<p>All adverse environmental effects were taken in account and mitigation measures were applied to reduce them. In general the document should describe more in extense the results of such study.</p> <p><u>Corrective Action Request No.17.</u></p> <p>Project Proponent should include into the PDD, results of the EIA, with negative and positive impacts, eventhough the evidence was provided during on site activities.</p> <p><u>Corrective Action Request No.18.</u></p> <p>Project Proponent should provide the information included in annex 5 and also Annex 6 as evidence and not as part of the PDD to avoid the risk of rejection by the EB, because its not part of the PDD template.</p>	CAR CAR	<input checked="" type="checkbox"/>
D.1.4. Were transboundary environmental impacts identified in the analysis?		<p>Information of the results of the EIA regarding transboundary impacts should be included.</p> <p>See CAR 16</p>	See CAR	<input checked="" type="checkbox"/>

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D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1,2,7 , 51, 52	Yes on this section the identified environmental impacts has been addressed in the project design.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2. Does the project comply with environmental legislation in the host country?	1,2,7 , 51, 52	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E. Stakeholders' comments				
E.1. Brief description how comments by local stakeholders have been invited and compiled				
E.1.1. Have relevant stakeholders been consulted?	1,2,7 , 53, 54, 55	Yes <u>Corrective Action Request No.19.</u> Annex 6 should be provided as evidence and deleted from the PDD to maintain consistency with the template.	GAR	<input checked="" type="checkbox"/>
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1,2,7 , 53, 54, 55	As stated on the PDD, in general, the community was invited to participate through various means including meetings, walk-in information cubicles, street events, schools and internet. Evidence to prepare the meetings and other media were shown to the audit team (see files 49a for line K, 49b for line J, 49c for Arvi).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1,2,7 , 53, 54, 55	Exist as constitutional requirements, but for any event, not special for Environmental issues. It's free to be applied by the people and is not a special requirement.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.4. Is the undertaken stakeholder process	1,2,7	Stakeholder process was carried out and a list of participant was	See	<input checked="" type="checkbox"/>

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that was carried out described in a complete and transparent manner?	, 53, 54, 55	submitted and included as Annex 6. Nonetheless see CAR 19.	CAR	
E.2.Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1,2,7 , 53, 54, 55	A social adjustment plan was performed, and includes all comments generated by the stakeholder process and action taken.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.3.Report on how due account was taken of any comments received				
E.3.1. Has due account been taken of any stakeholder comments received?	1,2,7 , 53, 54, 55	Nonetheless the description of how the comments were taken in account by the Project Proponent, results of them should be included on this section. Today a CRM (Customer relationship management system) is applied to retrofit the company. <u>Corrective Action Request No.20.</u> Please include how comments from Stakeholders were handled on the PDD. (see files 49 a, b, and c).	CAR	<input checked="" type="checkbox"/>
F. Annexes 1 – 4				
F.1.Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under section A.3?	1,2,7	Yes. Information provided on this section is consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?	1,2,7 , 60, 76, 77	Yes. Nonetheless See CAR 3 referred to LoA	See CAR	<input checked="" type="checkbox"/>

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F.2. Annex 2: Information regarding public funding				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1,2,7	No public funding was considered.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I countries does not result in a diversion of ODA?	1,2,7	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3. Annex 3: Baseline information				
F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1,2,7	Information included on this annex is consistent with previous sections.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1,2,7	Information included has evidenced accordingly and data and files were provided during on site audit and before the audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?	1,2,7 , 10-38	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4. Annex 4: Monitoring information				
F.4.1. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?	1,2,7 ,70	Annex 4 information included is only informative.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided	1,2,7 ,70	All information of Monitoring activities is clearly described on section B.7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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to the validation team?				
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1,2,7,70	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team Conclusion
<u>Corrective Action Request No.1.</u> Project proponent should correct on page 3 the thousand separation from 3'000 to 3,000 (last paragraph).	A.2.2	Has been changed in the new PDD Version 1.1.	Ok. CAR closed.
<u>Corrective Action Request No.2.</u> Project proponent should describe the documents indicated as numbers at the footnotes (check this issues for the whole document).	A.2.6, B.4.5	List of referenced documents has been added in Annex 3 in PDD version1.1.	Ok. CAR closed.
<u>Corrective Action Request No.3.</u> Nonetheless Letter of approval of each country should be provided before registration.	A.3.2, A.3.3, F.1.2	Colombia: Has been issued and given to TUEV Switzerland: For the LoA the Swiss DNA requires the final draft report of the DOE <u>Furthermore Requirement</u> The project participants in the PDD and in the LoA from Colombia are not identical (at least not the names used in the documents). Either the PDD or the LoA needs to be revised. <u>Additional Response</u> Clarification letter of the Ministry with the correct names is attached.	LoA of Colombia was issued during validation process. The modifications were checked and found correct. LoA of Switzerland provided. <input checked="" type="checkbox"/>
<u>Corrective Action Request No.4.</u> Please indicate Type and Category clearly on this section.	A.4.2.1, A.4.2.2	No categories and types are listed on the UNFCCC website. The category Urban Mass Transit has been taken, identical to the BRT projects and the type "cable car" The Version 1.1. of the PDD has included this change	Ok. CAR Closed.
<u>Corrective Action Request No.5.</u> Project proponent should include scheduled trainings for the related CDM activity for each	A.4.2.9, A.4.2.10	The Project has a list of all people trained. A maintenance manual also exists and a maintenance plan is managed using the corporate software SAP/R3. The PDD version 1.1. contains	Ok. CAR closed. Information was checked. Trainings were submitted to

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step. And also a maintenance calendar should be provided.		some additional information with reference to further documents. Files 28c,d,e have been added to detail trainings, maintenance plan and maintenance schedule of the cable cars.	the audit team.
<u>Corrective Action Request No.6.</u> The units of thousand should be corrected to 60,000 instead 60'000.	B.2.1.1	Has been changed in the new PDD Version 1.1.	Ok. CAR closed.
<u>Corrective Action Request No.7.</u> Project proponent should provide information regarding the CDM as a requirement for this project in form of a board of directors meeting or other source to put on work this project.	B.5.1	<p>The project was clearly set up as a CDM project from the start. Proof of this is action undertaken by the project owner proposing the project as a CDM project even before project start as manifested in communications with the Colombian DNA and submission of the project as a CDM project including a PIN and baseline study early 2002 evidenced in communications (letters, mails) between ETMVA and Velnec (potential project developer) or ETMVA and the Colombian DNA. The letter dated 23.4.2003 between ETMVA and Velnec S.A. says (citation): "Asunto: Postulacion de MetroCable como Mecanismo de Desarrollo Limpio: Su comunicación via correo electrónico del 13.02.2003"... "El Metro de Medellin habia establecido contactos con el hoy Ministerio de Ambiente, Vivienda y Desarrollo Territorial para avanzar en el mismo tema."</p> <p>The project owner presented the project as CDM project to the national DNA as of early 2002. Before project start the national DNA was thus already informed of the decision to undertake this project as a CDM project activity. This is the equivalent to the notification required for projects after 02/08/2008 to the DNA according to the Guidance on the Demonstration and Assessment of Prior Consideration for the CDM as issued by EB 41 Annex 46 which means that this project has made all steps which also today would be required for proofing prior consideration of CDM already in the year 2002</p> <p>See amendments of PDD Version 1.1.</p>	Regarding the early start of the project evidence was checked and was provided. CAR Closed.

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<u>Corrective Action Request No.8.</u> Additionality demonstration is based on two approaches, the SSC barrier analysis and the additionality tool. However, demonstration of additionality according to the tool is incomplete (e.g. investment analysis, analysis of alternatives, compliance with laws and regulations).	B.5.1.	We have changed the approach and rely on the SSC tool incl. only barriers. The barrier first of its kind is thereby the simplest to proof. A corresponding letter of the Transport Ministry is attached.	Ok. The approach applied is considered correct. Evidence was submitted regarding the First of its kind barrier. Car closed.
<u>Corrective Action Request No.9.</u> Project Proponent should correct the parameter from "Emissions per Kilometre" (as stated on the PDD) to "Emissions per Kilometre per vehicle category" as stated on the Methodology.	B.6.1.3.1	Has been changed in the new PDD Version 1.1.	Ok. CAR closed.
<u>Corrective Action Request No.10.</u> Project Proponent should correct the parameter from "Passengers per Mode" (as stated on the PDD) to "Baseline Passengers per Mode" as stated on the Methodology.	B.6.1.3.4	Has been changed in the new PDD Version 1.1.	Ok. CAR closed.
<u>Corrective Action Request No.11.</u> Additional information on assumptions and calculations of baseline emissions is required (studies and default data used have to be submitted to the audit team). Project Proponent should provide additional background information in the PDD so that the reader can easier verify the approach chosen by the PPs and the assumptions behind the calculations.	B.6.1.4	See revised version of the Excel sheet as well as the PDD with more details.	Ok. The information contained on the table parameters and calculation spreadsheets are now appropriately linked with their sources. CAR closed.
<u>Corrective Action Request No.12.</u> Project Proponent should change the format as indicated: dd/mm/yyyy	B.8.1.2	Has been changed in the new PDD Version 1.1.	Ok. CAR closed.

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<p><u>Corrective Action Request No.13.</u> Include on the PDD clearly the company which performs the baseline analysis.</p>	B.8.1.4	Has been changed in the new PDD Version 1.1.	Ok.Was clearly indicated. CAR closed.
<p><u>Corrective Action Request No.14.</u> PP should clarify whether this person / entity is also considered a project participant?</p>	B.8.1.5	Has been changed in the new PDD Version 1.1.	Ok. The project developer is considered as a project participant. CAR closed.
<p><u>Corrective Action Request No.15.</u> Currently the additionality of the project cannot be validated. The document for "Early CDM consideration" was not available (Letter dated 23.4.2003 of ETMVA referring to CDM project proposal to DNA as of early 2002). Evidence documents for continued action from the starting date to the start of the GSP need to be provided according to EB41, Annex 46.</p>	C.1.1.	<p>Early consideration has been amended to include more proofs. The project owner presented the project as CDM project to the national DNA as of early 2002. Before project start the national DNA was thus already informed of the decision to undertake this project as a CDM project activity. This is the equivalent to the notification required for projects after 02/08/2008 to the DNA according to the Guidance on the Demonstration and Assessment of Prior Consideration for the CDM as issued by EB 41 Annex 46 which means that this project has made all steps which also today would be required for proofing prior consideration of CDM already in the year 2002. The importance of CDM is also outlined in the fact that ETMVA had a PIN of the project already before project start and had presented the request to the national DNA with the project being presented as CDM project in the official format as early as 2.2002 i.e. more than 1 year before project start. ETMVA had also started negotiations with potential buyers and developers (Veltec) before project start. These facts clearly demonstrate awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. The project owner had realized for this purpose also the notification of the DNA as early as 2002 identical to the documentation required by the EB for prior consideration of the CDM (compulsory for new projects since 2.8.2008). The project had in fact already com-</p>	<p>Ok. The timeline of the project had carefully been assessed. The documents regarding Starting Date of the project activity and prior consideration of the CDM project were also submitted and checked. CAR closed.</p>

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		plied with this later guidance as of 2.2002.	
<u>Corrective Action Request No.16.</u> Project Proponent should correct the date format to dd/mm/yyyy.	C.2.	Has been changed in the new PDD Version 1.1.	Ok. CAR closed.
<u>Corrective Action Request No.17.</u> Project Proponent should include into the PDD, results of the EIA, with negative and positive impacts, even though the evidence was provided during on site activities.	D.1.3, D.1.4	This is included in chapter D.2. Chapter D.1. refers to the documentation, while chapter D.2 refers to the results of the documentation. Otherwise it would be repetitive. D.2. has a clear list of the impacts of the cable cars. The potential effect on transboundary impacts has been included in the chapter 6.2. in the PDD version 1.1.	Ok. On the check of the PDD according your answer, it is indicated in general but what be ask is more specific on the PDD. Nonetheless the answer got during the validation activities are enough and evidences are sufficient. CAR closed.
<u>Corrective Action Request No.18.</u> Project Proponent should provide the information included in annex 5 and also Annex 6 as evidence and not as part of the PDD to avoid the risk of rejection by the EB, because its not part of the PDD template.	D.1.3	Annex 5 and 6 have been incorporated in annex 3 in the PDD version 1.1.	Ok. CAR closed
<u>Corrective Action Request No.19.</u> Annex 6 should be provided as evidence and deleted from the PDD to maintain consistency with the template.	E.1.1, E.1.4	Annex 6 has been incorporated in annex 3 in the PDD version 1.1.	Ok. CAR closed
<u>Corrective Action Request No.20.</u> Please include how comments from Stakeholders were handled on the PDD. (see files 49 a, b, and c).	E.3.1	ETMVA has specific software to ensure data management, actions taken and follow-up. More details have been added in the PDD version 1.1.	Ok. Information was submitted and scrutinized according to the request. CAR closed.

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<u>Clarification Request No. 1.</u> Project Proponent should clarify why could not be publicly available the spreadsheet.	B.5.6	The spreadsheets contain internal data of ETMVA as well as service providers to ETMVA.	Ok. Nonetheless some information must be mentioned and also treated as confidential, as indicated during on site activities taken in account the guideline of the EB for this type of situation. CR solved.
<u>Clarification Request No. 2.</u> Documented evidence for the barrier “first of its kind” is required, which can be uploaded to the EB.	B.5.8.	A corresponding letter of the Transport Ministry is attached.	Ok. The letter is an official statement of the authority confirming that the project is pioneer on the Country. CR solved.
<u>Clarification Request No. 3.</u> The Excel calculation file of emission reductions need to be clarified, in particular with regard to the factor “Average baseline emission factor gr CO2/pax” in sheet “baseline”. It is not clear how the average factor has been determined. If assumptions on travel distances have been used, these need to be described in the PDD.	B.6.1.4.	The average baseline emission factor and the indirect average project emission factor are not calculated in the CER sheet but for each line in the Files 7 and 8. Both of these have been updated to reflect the new CM. See the attached files 7 and 8 updated for determination of the 2 factors mentioned.	Ok. The updated documents were submitted to the audit team and found correct. The information is now correctly explained. CR solved
<u>Clarification Request No. 4.</u> Project Proponent should clarify why this parameter was not included.	B.6.2.2.2	For passenger cars, motorcycles and buses it is not included as only 1 fuel type is used. For taxis it has been added in the PDD version 1.1.	Ok. This issue was scrutinized in the new version of the PDD. CR solved
<u>Clarification Request No. 5.</u> Project Proponent should clarify why changes the unit of the parameter. As indicated on the	B.6.2.2.3	This is no change of units. MJ/kg is identical to J/gr. FECOC lists the values in MJ/kg thus the original source is used. Also calculations are easier as the EF is published in grCO2/MJ and	Ok. Point clarified. CR solved.

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Methodology the unit is J/gr, eventhough the considered parameter is (MJ/ton) is similar. To avoid any inconsistence in futher calculation, this issue should be checked.		it is thus simpler without conversions to express all units directly in MJ	
<u>Clarification Request No. 6.</u> Project Proponent should clarify why this parameter was not included.	B.6.2.2.6	This parameter is not required as the distance driven of small and medium buses per annum is statistically non different and thus the share of each vehicle type in the population of vehicles is taken to calculate the EF per KM. See File 22 line 21 and 22 where the difference of distance driven in the 2 categories is 2.6%	OK. CR solved. The information was cross-checked accordingly. CR solved.
<u>Clarification Request No. 7.</u> Project Proponent should clarify why this parameter wasn't included. Moreover the discussion of this parameter should be demonstrated including the official information (provided by decree by UPME) and also the calculation data to support this value because these values should be scrutinized by the audit team.	B.6.2.2.8	<p>This parameter is monitored annually in accordance with the methodological tool AM_007 using the ex-post option. Point 6 of the methodology clearly indicates that the guidance in "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" should be used. This tool refers to AM_007.</p> <p>The official calculation is done by UPME. The DOE has been provided with the complete data set as published in Republica de Colombia/Ministerio de Energia y Minas/ UPME, Metodologia Simplificada para el Calculo de la Linea Base para Proyectos de Pequena Escala, 11.2006.</p> <p><u>Furthermore Requirement</u> Each step of the calculation process should be provided to the audit team.</p> <p><u>Additional Response</u> Calculation of the Grid Factor is included in Annex 3 and is included as CM file attached. The CM factor changed slightly as it is based on newest data. Therefore also all ER calculations changed. See new CER spreadsheet.</p>	<p>Ok. Data backups were provided during validation activities. After the on – site audit a meeting between UPME and the project proponent was performed, in which the calculation were provided. Each step of the calculation were checked. CR solved.</p> <p>The latest available information by the time of commencing the validation has now been used by the PPs and this data was possible to be cross-checked.</p>
<u>Clarification Request No. 8.</u> Project Proponent should clarify why some	B.7.1.1	IPE _P is identical to the share of passengers SP _{PJ,I,S} multiplied with the average indirect project distance driven TD _{PJ,I,S} . Both	Ok. CR solved. Parameters were checked and

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parameters mentioned on the Methodology are missing on the PDD.		parameters are thus monitored and summarized in IPE_P . BLE_P is identical to the share of passengers $SP_{BL,I,S}$ multiplied with the average baseline distance driven $TD_{BJ,I,S}$. Both parameters are thus monitored and summarized in BLE_P .	are consistent as explained by the PP.
<u>Clarification Request No. 9.</u> Project Proponent should clarify why this parameter is not in line with the described ones on the Methodology.	B.7.1.2.2 , B.7.1.2.3 , B.7.1.2.4	They are identical. See clarification request number 6. It is easier to report this value as monitoring will be based on 4 surveys per line resulting in 1 final indirect project emission figure per passenger and 1 baseline project figure per passenger transported. See formulas 3-6 of the methodology.	Ok. CR solved.
<u>Clarification Request No. 10.</u> Project Proponent should explain this parameter.	B.7.1.2.6	The CO ₂ emission factor for electricity is updated continuously based on available information. This is based on the methodological tool AM_007 using the ex-post option. Point 6 of the methodology clearly indicates that the guidance in "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" should be used. This tool refers to AM_007. The data set used to calculate the official value has been provided by UPME to the DOE (see CR5)	Ok. CR solved.
<u>Clarification Request No. 11.</u> PP should clarify the timelines.	B.8.1.3	Same date for baseline as for 1 st version of PDD is used. This date remains but PDD version 1.1. has new date 07.12.2008	Ok. Issue clarified. CR solved.

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Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)


Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-




Annex 2: Information Reference List

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Ref. No.	Issuance and/or submission date	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1	14/10/2008	Cable Cars Metro Medellín, Colombia, Version 1.0	ETMVA/Grütter Consulting	PDD for GSP
2	26/09/2008	AMS-III.U, version 1.0 Cable Cars for Mass Transit Systems (MRTS)	UNFCCC	
3	16/05/2008	Tool to calculate baseline, project and/or leakage emissions from electricity consumption	UNFCCC	
4	29/07/2008	Tool to calculate the emission factor for an electricity system	UNFCCC	
5	25/11/2008	Participant list of on-site interviews	TÜV SÜD	
6	24-25/11/2008	On-site interviews conducted by TÜV SÜD. Validation Team: Victor Abarca TÜV SÜD Industrie Service GmbH Léster Saldías TÜV SÜD Industrie Service GmbH Interviewed Persions: María Elena Restrepo ETMVA (Planification Director) Carlos Arango CNPL (Executive Director) Susana Ricaurte GRUTTER CONSULTING (Representative) Ana Maria Zapata CNPL (Advisor) Juan Alvaro Gonzalez ETMVA (Professional type 1) Luis Perez Carrillo ETMVA (Professional type 1) Juan Esteban Martínez ETMVA (Professional type 1) Tomas Elejalde ETMVA (Operational Manager) Norelly Vélez ETMVA (Professional) Julio Moreno ETMVA (Operational Manager) Patricia Bustarat ETMVA (Architect) Paola Posada ETMVA (Environmental engineer) Claudia Martínez AMVA (Professional U) Eugenio Gaviria AMVA (Controlin and surveillance leader) María Restrepo AMVA (Director) María Luecelly Prisco PRECOAMBIENTAL(Director)	TÜV SÜD	

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Ref. No.	Issuance and/or submission date	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
		Vitorlina Rimeón Neighbour Cable car Olga Muñoz Neighbour Cable car Ricardo Cano ETMVA (Cable car Operational Leader) Diego Silva ETMVA (Cable car Operational supervisor) Leonardo Salgado TAXMAYA S.A. (Manager) Marta Suarez Environmental Office (Technical Subsecretary) Andrea García Climate Change Mitigation Group (Leader and adviser Ministry Dispatch) Sandra López Climate Change Mitigation Group (Adviser) Sandra Garavito Climate Change Mitigation Group (Adviser)		
7	28/11/2009	"Cable Cars Metro Medellín, Colombia" Version 1.3	ETMVA/Grütter Consulting	Corrected PDD after protocol answers
8	23/05/2007	UPME CM Colombia (File 01)	UPME	Emission factor for the baseline calculation
9	July 2002	Metro Medellin ex-post re-evaluation 2004 (File 02)	ETMVA	Financial analysis
10	25/11/2008	Line K kWh Consumption 2007 (File 03)	ETMVA	CER calculation
11	25/11/2008	Passenger demand for line J Demanda (File 04)	ETMVA	CER calculation
12	25/11/2008	Economics Arvi.xls	ETMVA	CER calculation
13	25/11/2008	Survey line K october 08.xls	ETMVA	CER calculation
14	25/11/2008	Survey line J.xls	ETMVA	CER calculation
15	25/11/2008	Fuel eff cars.xls	ETMVA	CER calculation
16	25/11/2008	Occupation rate cars	ETMVA	CER calculation
17	25/11/2008	Fuel eff taxis.xls	ETMVA	CER calculation
18	25/11/2008	Vehicle stats fuel.xls	ETMVA	CER calculation
19	25/11/2008	Occupation rate taxis	ETMVA	CER calculation

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Ref. No.	Issuance and/or submission date	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
20	25/11/2008	Fuel eff motorcycles.xls	ETMVA	CER calculation
21	25/11/2008	Occupation rate motorcycles	ETMVA	CER calculation
22	25/11/2008	Fuel eff buses.xls	ETMVA	CER calculation
23	25/11/2008	Up and down J buses	ETMVA	CER calculation
24	25/11/2008	Up and down K buses	ETMVA	CER calculation
25	25/11/2008	Electricity consumption metro 2007	ETMVA	CER calculation
26	25/11/2008	Passengers metro	ETMVA	CER calculation
27	25/11/2008	Trip distance metro	ETMVA	CER calculation
28	July 2003	FECOC (COLOMBIANFUEL EMISSION FACTORS), document folder	UPME	CER calculation
29	25/11/2008	Datos rutas y buses Line J	ETMVA	CER calculation
30	25/11/2008	Estudio de taxis Medellin	ETMVA	CER calculation
31	25/11/2008	Mode split cities colombia	GRUTTER	CER calculation
32	25/11/2008	General info line K	ETMVA	PDD development
33	25/11/2008	General system characteristics Line K	ETMVA	PDD development
34	25/11/2008	General info line J	ETMVA	PDD development
35	25/11/2008	General info line J	ETMVA	PDD development
36	25/11/2008	Feasibility Study	ETMVA	Early CDM consideration
37	25/11/2008	Builders of cable K	ETMVA	PDD development
38	25/11/2008	Constuctors of line J	ETMVA	PDD development
39	17/06/2003	Law 693	Mines and Energy Ministry	CER calculation

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Ref. No.	Issuance and/or submission date	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
40	25/11/2008	Resolution 180687	ETMVA	CER calculation
41	08/12/2002	Article press	El Tiempo	Early CDM consideration
42	February 2002	PIN draft 1	Environmental Ministry	Early CDM consideration
43	25/11/2008	CAEMA PIN MetroCable	CAEMA	Early CDM consideration
44	April 2003	Presentation MinAmbiente (environmental ministry)	ETMVA	Early CDM consideration
45	April 2003	Presentation MinAmbiente part a	ETMVA	Early CDM consideration
46	April 2003	Presentation MinAmbiente part b	ETMVA	Early CDM consideration
47	20/12/2004	Act of Start constrction Metro Cable (1630)	ETMVA	Early CDM consideration
48	25/11/2008	ETMVA Resolution to permit the attendance in a CAEMA event	ETMVA	Early CDM consideration
49	05/05/2003	PIN Metro Cable	ETMVA	Early CDM consideration
50	25/11/2008	Teleferico Medellin rapid appraisal	GRÜTTER	Early CDM consideration
51	25/11/2008	Environmental permits	ETMVA	Stakeholder analysis
52	25/11/2008	Environment documents	ETMVA	Stakeholder analysis
53	25/11/2008	Social management documents line K	ETMVA	Stakeholder analysis
54	25/11/2008	Social Mangement documents line J	ETMVA	Stakeholder analysis
55	25/11/2008	Social management documents Line Arvi	ETMVA	Stakeholder analysis
56	20/12/2004	Recepction Act of Construction Contract 1226	ETMVA	Early CDM consideration
57	25/11/2008	Land Property of the project activity	ETMVA	PDD development
58	23/04/2003	Postulation of Metrocable as Clean Development Mechanism	ETMVA	Early CDM consideration
59	30/04/2003	Submission of preliminary information to postulate Metrocable as Clean Development Mechanism	ETMVA	Early CDM consideration

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Ref. No.	Issuance and/or submission date	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
60	23/12/2008	Colombian LoA	Colombian DNA	Project Register
61	09/12/2008	MoC	GRUTTER/ETMVA/CNPL	Project Register
62	November 2006	Colombian grid baseline UPME 2006	UPME	CER calculation
63	November 2006	Simplified Meth. for baseline calculation for small scale projects	UPME	CER calculation
64	03/12/2008	Meeting Minute with UPME and Project Proponent	UPME/GRUTTER	CER calculation
65	25/11/2008	Cable Car Personnel trainings	ETMVA	
66	2003	Maintenance manual	ETMVA	
67	25/11/2008	Maintenance Plan	ETMVA	
68	15/08/2008	Complaint process No 0937 regarding environmental noise	AMVA	
69	29/10/2008	Answer to process No 0937	ETMVA	
70	20/11/2008	CDM Monitoring Handbook	GRUTTER	Monitoring activities
71	25/11/2008	ETMVA Organization chart	ETMVA	
72	31/03/2008	CONPES document No 3510 regarding Policy of sustainable biofuel production	CONPES	CER calculation
73	25/11/2008	Several drawings of the Cable Car project	ETMVA	
74	15/07/2008	CRM handbook MST-039	ETMVA	
75	06/10/2008	PDD tables cable car Medellin(spreadsheet)	GRUTTER	CER calculation
76	26/03/2009	LoA Switzerland	DNA of Switzerland	Country approval
77	10/07/2009	LoA confirmation of Project Participants issued by the Environment Viceminister.	Mora Pineda, Claudia. Viceminister of Environment.	Required as a furthermore requirement of CAR 03.
78	31/07/2009	Origin Destination Poll 2005	National University	

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79	31/07/2009	IEA/OECD, Bus Systems for the Future Study, 2002	IEA/OECD	Cross checked with http://www.iea.org/textbase/npdf/free/2000/bussystems2002.pdf
80	31/07/2009	Approved CDM projects by the Colombian DNA http://www.minambiente.gov.co/documentos/3412_proyectos_mdj_aprobados.pdf	Ministry of Environment, Housing and Territorial Development	
81	31/07/2009	Letter from the Colombian sub secretary of Transport, David Becerra , indicating that Cable Car Project is the first one of its kind.	Becerra, David, Colombian sub secretary of Transport	Additionality Discussion
82	11/04/2003	Act of Beginning of Construction for Line K Signed between the General Manager of Medellín Subway and the contractor representant.	Medellín Subway	Starting Date of the Project Activity.
83	02/2002	Presentation template of CDM Projects	Ministry of Environment, Housing and Territorial Development	CDM previous consideration
84	13/02/2002	Technical proposal of Velnet S.A.	Velasquez, Jorge, VELNEC Planning Vicepresident.	CDM previous consideration
85	31/07/2009	Combined Margin Calculation Spreadsheet entitled "File CM"	ETMVA	
86	11/02/2002	Mail from Isabel Girardo to the corporative mail of Andean Development Corporation inquiring regarding Financing possibilities of Cable Car Project.	Girardo, Isabel ETMVA	
87	23/04/2002	Mail from María Restrepo to Jorge Velasquez related development of Cable Car Project.	Restrepo, María, ETMVA Planning Director	
88	02/05/2003	Resolution 2975-2003 referenced to the travel between Bogota and Medellín Isabel Giraldo relating CDM activities.	Máquez, Ramiro, General Manager of Metro	

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			Medellín	
89	31/07/2009	CDM pre-calculations table.	ETMVA	
90	19/6/2003	Confidentiality agreement CAEMA for CDM development	CAEMA	
91	14/10/2003	Discussion of advances in CDM project at the Board of ETMVA	ETMVA	
92	30/04/2003	Preliminary Information for CDM Project Metro Cable.	Restrepo, María, ETMVA Planning Director	
93	30/10/2003	Initial draft PDD	Grütter Consulting	
94	30/10/2003	Contacts with potential buyers (Memo to NatSource)	Máquez, Ramiro, General Manager of Metro Medellín	
95	2003-2004	Various internal reports “Informes de avance” regarding the CDM Project	ETMVA	
96	21/12/2007	Agreement between ETMVA and the National Centre for Clean Production, regarding the Purchase of CER's	CNPMLTA/ETMVA	
97	31/07/2009	Occupation rate files, with sub files supporting the information of the summary	Grütter Consulting	
98	04/07/2007	Presentation of the National Centre for Clean Production (CNPMLTA) regarding an strategic CDM Alliance	CNPMLTA	
99	11/2007	Mails related negotiation for CDM project development with CNPMLTA	CNPMLTA/ETMVA	
100	15/10/2009	Medellín Subway Map	ETMVA	
101	06/2005	Environmental Report MetroCable (File N1)	Metro Cable	
102	17/06/2006	Presentation “Baseline for transportation projects”	Grütter Consulting	Used to prove timeline
103	06/2006	Development Inter-american Bank Study: Baseline in Urban transport Projects”	Grütter Consulting	Used to prove Timeline.
104	28/11/2009	File CM NEW calculation 2005 to 07.zip	Grütter Consulting	EF calculations.