CLEAN DEVELOPMENT MECHANISM
PROJECT DESIGN DOCUMENT FORM (CDM-SSC-PDD)
Version 03 - in effect as of: 22 December 2006

CONTENTS

Annexes

Revision history of this document

Version Number	Date	Description and reason of revision
01	21 January 2003	Initial adoption
02	8 July 2005	• The Board agreed to revise the CDM SSC PDD to reflect guidance and clarifications provided by the Board since version 01 of this document. • As a consequence, the guidelines for completing CDM SSC PDD have been revised accordingly to version 2. The latest version can be found at <http://cdm.unfccc.int/Reference/Documents>.
03	22 December 2006	• The Board agreed to revise the CDM project design document for small-scale activities (CDM-SSC-PDD), taking into account CDM-PDD and CDM-NM.

SECTION A. General description of small-scale project activity

A.1 Title of the small-scale project activity:

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- The title of the project activity

Energy efficiency activities using idling stop device for buses in Jinan, China.

- The current version number of the document

Version 1

- The date when the document was completed.

March 08, 2010

A.2. Description of the small-scale project activity:

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The purpose of the small-scale project activity is to reduce GHG emissions from buses operating by Jinan Public Transport Group Company (JPTGC) in Jinan city, Shandong Province, China. The idling stop device was developed in Japan to prevail the idling stop technology for existing/used vehicles. It is possible to ease driving operation to stop idling compare to manual operations of turning the engine off and on by the ignition key. In the project activity, project entities install the post-fit type idling stop devices to total 2,000 numbers of existing/used buses. It is achieved the fuel saving with stop idling, as a result, it is expected average 4,000 tCO2 emission reductions in one year during the project period. The air pollutant emissions such as NOx and PM are also reduced at the same time.

The Chinese government has been keen to introduce low carbon emission buses such as hybrid buses or electric buses, and replacement of vehicles from EUROII standard to EUROIII. These buses will have been operated for a long time, thus it is important to reduce emissions from them in future. However there is no experience to install and operate idling stop devices in China. Therefore it is expected to face the difficulties to prevail this technology.

The baseline scenario of the project activity is the situation where, in the absence of the project activity, idling will be continued at stoplights or other situations without installing post-fit type idling stop device. Proposed new SSC methodology is only applicable if the baseline scenario is assessed as the situation. On the other hand, the project scenario of the project activity is the situation where, idling stop will be conducted using idling stop device subject to rather long period stop at stoplights or other situations resulting in saving of fuel consumptions with consequent reduction in GHG emissions..

A.3. Project participants:

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Name of party involved	Private and/or public entity(ies) Project participants (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
China (host)	Jinan Public Transport Group Company (JPTGC, Private entity)	No
Japan	Almec Corporation (Private entity) Under consideration	No

A.4. Technical description of the small-scale project activity:

A.4.1. Location of the small-scale project activity:

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A.4.1.1. Host Party(ies):

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People's Republic of China

A.4.1.2. Region/State/Province etc.:

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Shandon province

A.4.1.3. City/Town/Community etc:

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Jinan city

A.4.1.4. Details of physical location, including information allowing the unique identification of this small-scale project activity :

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The physical location of the proposed project is Jinan city covering roads where the buses installed with the idling stop device will be driven, bus terminal, intersections and bus stops etc.

A.4.2. Type and category(ies) and technology/measure of the small-scale project activity:

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Type and category

Type : III (Other project activities)
Category : To be specified

Technology

This category comprises installing post-fit type idling stop device to in-use motor vehicles resulting in saving of fuel consumptions while idling of the vehicle with consequent reduction in GHG emissions.

The device is post-fit type for in-use vehicles and it enables drivers to stop idling without turning off or on the ignition key. Therefore, it is possible to eliminate operations of drivers to stop idling compared to manual operations.

The idling stop device installed must be able to record necessary parameters electronically to calculate emission reductions, i.e. idling stop time and idling period of each idling stop.

In this methodology, the term idling is defined as "Driving patterns where vehicle speed is zero keeping the engine running, i.e. waiting at stoplights, or boarding and alighting of passengers". The term idling stop is defined as "Actions to stop the idling that would otherwise have been continued without the project".

A.4.3 Estimated amount of emission reductions over the chosen crediting period:

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Years	Estimations of annual emission reductions in tonnes of CO_2e
2012	2,072
2013	4,143
2014	4,143
2015	4,143
2016	4,143
2017	4,143
2018	4,143
2019	4,143
2020	4,143
2021	4,143
Total estimated reductions (tons of CO_2e)	39,359
Total number of crediting years	10
Annual average of the estimated reductions over the crediting period (tons of CO_2e)	3,936

A.4.4. Public funding of the small-scale project activity:

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The project will not utilize any public funding.

A.4.5. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity:

Based on the criteria set to determine the occurrence of debundling, it is confirmed that the project activity is not a debundled component of a large project activity as the project participants did not register or applied for another small-scale CDM project activity:

- In the same project category and technology/measure; and
- Registered within the previous 2 years; and
- Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point.

SECTION 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:

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SSC-New methodology: Transportation Energy Efficiency Activities Using Idling stop device

B.2 Justification of the choice of the project category:

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The proposed project activity meets the applicability conditions of the methodology as follows, therefore the methodology is applicable to the proposed project.

Para.	Applicability conditions	The proposed project
5. a)	Vehicles using gasoline and diesel as fuel	The device will be installed into buses whose fuel is diesel oil.
5. b)	Mechanically possible to install post-fit type idling stop device	It is possible to install post-fit type idling stop device to these buses, and this is already confirmed with field driving tests.
5. c)	Automatically possible to record periods and times of idling stop by post-fit type idling stop device	It is possible to record periods and times of idling stop by post-fit type idling stop device, and this is already confirmed with field driving tests.
6	The methodology is not applicable to: (a) Vehicles using biofuel or blended biofuel as fuel; (b) Electric vehicles; (c) Hybrid vehicles with electrical and internal combustion motive systems; (d) Vehicles using natural gas and liquefied petroleum gas (LPG) as fuel.	The buses use diesel oil.

B.3. Description of the project boundary:

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The project boundary includes roads where the buses installed with the equipment will be driven, bus terminal, intersections and bus stops etc. In the table below, all sources of the baseline and the project activity are listed.

Table Emissions sources included in or excluded from the project boundary

	Source	Gas	Included?	Justification / Explanation
Baseline emissions	Emissions at idling	CO_2	Yes	Major emission source.
		CH_4	No	Not significant. Excluded for simplification and conservativeness
		N_2O	No	Not significant. Excluded for simplification and conservativeness
Project emissions	Emissions at starting the engine	CO_2	Yes	Major emission source.
		CH_4	No	Not significant. Excluded for simplification
		N_2O	No	Not significant. Excluded for simplification

B.4. Description of baseline and its development:

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The baseline scenario of the proposed project is "Continuation of current practice: Idling stop will not be implemented". The buses, which will be installed with the idling stop devices, will continue idling at stoplights or other situations in the absence of the proposed project activity.
Plausible scenarios of the baseline are as follows. Baseline scenario is determined as Scenario 1 through the assessments elaborated in B.5.

Scenario 1: Continuation of current practice
Scenario 2: Implementation of manual idling stop by behavioural changes not using the post-fit type device
Scenario 3: Introduction of new buses with pre-installed idling stop device
Scenario 4: Implementation of the proposed project without CDM

Baseline emissions can be calculated applying following formula specified in the methodology.

$$BEF_i = FC_{IS,i} \times D_j \times NCV_j \times EF_{CO2,j} \times 10^3 \quad (1)$$

Where:
BEF_i : Baseline CO_2 emission factor per second for the baseline vehicle i (gCO_2 /second)
$FC_{IS,i}$: Fuel consumption at idling condition of baseline vehicle i (liter/second)
D_j : Density of fuel j (kg/liter)
NCV_j : Net calorific value of fuel j (MJ/t)
$EF_{CO2,j}$: CO_2 emission factor of fuel j (tCO_2/MJ)

$$BE_y = \Sigma(BEF_i \times T_{i,y} \times 10^{-6}) \quad (2)$$

Where:

BE_y : Total baseline emissions in the year y (tCO_2/year)

$T_{i,y}$: Cumulative idling period of vehicle i in the year y (second/year)

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:

In order to demonstrate the additionality of the proposed project activity, the project proponents identified plausible project alternatives, which include all possible courses of action that could be adopted. These plausible options were further analyzed as per the guidance in Attachment A to Appendix B of the small scale modalities and procedures to establish project additionality and determine an appropriate and conservative baseline scenario.

In line with the Attachment A to Appendix B of "The simplified modalities and procedures for small-scale CDM project activities", a project is deemed as additional if project participants can provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:
(a) Investment barriers
(b) Technological barriers
(c) Barrier due to prevailing practice
(d) Other barriers

To identify the baseline scenario and demonstrate additionality, the following steps have been applied;

Step 1. Identification of alternative scenarios including consistency with mandatory applicable laws and regulations
Step 2. Barrier analysis
Step 3. Evaluation of alternative scenarios

Step 1. Identification of alternative scenarios:

There are four (4) plausible alternative scenarios for the proposed project. These scenarios all comply with mandatory and regulations of China and Shandon province.

Scenario 1: Continuation of current practice
Scenario 2: Implementation of manual idling stop by behavioural changes not using the post-fit type device
Scenario 3: Introduction of new buses with pre-installed idling stop device
Scenario 4: Implementation of the proposed project without CDM

Step 2. Barrier analysis:

Among four (4) barriers in the Attachment A to Appendix B of "The simplified modalities and procedures for small-scale CDM project activities", the proposed project faces the following barriers

Technological barriers:

The post-fit type idling stop device was invented by ECO-MOTION, Ltd of Japan, and is considered to be state-of-the-art technologies based upon the experience and know-how obtained from more than ten years use in Japan. Since the device is connected to vehicle electronic control unit (ECU), very high and sensitive skills and knowledge are required to keep vehicle operation safely and smoothly. The post-fit type idling stop device has not been introduced in China, and this is the first project to introduce the device in China. In installing the device to accommodate buses in China, not only reading the installation manual but special skills and know how are required. JPTGC has no local staff with enough knowledge and experience to properly install the device. In the operation phase, training of the driver is also needed to understand the skills how to drive safely preventing any influences or damages on buses. These local staff training and education programs for them will be implemented in the project activity by Japanese side. Before implementing the proposed project, not only JPTGC, but also JPTGC Institute of science and technology and the bus company who provides buses to JPTGC are also participate to install the devices to the buses, and find out problems and issues in the installation and operation phase, and also analyze the effect such as reduction of fuel consumptions and impact to the engine or battery. These tests have been implemented with the technical support by Japanese side including ECO-MOTION, Ltd.
From above reasons, without the technology transfer from the Japanese side, it is impossible to implement the proposed project.

Barrier due to prevailing practice:
Currently, JPTGC has no plan to stop idling manually or automatically in their current practice. They have no plan to introduce new type of buses with pre-installed idling stop system. As for post-fit type idling stop device, it is first time for JPTGC to access and test the device, and this was realized by the proposal from Japanese side for this CDM project. Moreover, this type of equipment is first of its kind in China. There is no regulation or mandatory of Chinese government or Shandon province or Jinan city to stop idling for vehicles driving in cities. In addition, JPTGC had been misunderstood that the post-fit type idling stop devices can not apply to Chinese buses and had a negative perception to introduce the devices. Therefore, the buses of JPTGC will continue idling at stoplights or other situations in the absence of the proposed project activity.

From above considerations, there exist technological barrier and barrier due to prevailing practice.

Step 3. Evaluation of alternative scenarios

Each scenario identified in Step 1 was assessed as follows.

Scenario 1: Continuation of current practice
The scenario do not install any devices, therefore it requires minimal investment and operational costs. It is no need to establish training programs for drivers, and there are no additional skills required for drivers.

Scenario 2: Implementation of manual idling stop by behavioural changes not using the post-fit type device
There is no regulation or mandatory in China or Shandon province or Jinan city for motor vehicles to stop idling manually at stoplights or other situations. There are also no measures or plans to promote stop idling in JPTGC. It is said that manual idling stop may not be spread widely, because it needs engine on and off by turning ignition key manually. These manual operations may have potential to cause operation mistakes and delay of start moving, and may also affect smooth and safe drive. Therefore, this scenario cannot be the baseline scenario.

Scenario 3: Introduction of new buses with pre-installed idling stop device

JPTGC has no plan to introduce new type of buses with pre-installed idling stop system. Moreover, bus manufacturers who provide buses to JPTGC do not have any plan to produce buses with pre-installed idling stop system. Therefore, this scenario cannot be the baseline scenario.

Scenario 4: Implementation of the proposed project without CDM
As elaborated in Step 2, the proposed project faces technological barrier and barrier due to prevailing practice. Therefore, this scenario cannot be the baseline scenario.

From the above analysis, the baseline scenario is identified as Scenario 1, continuation of current practice. As elaborated in Step 2, the proposed project faces technological barrier and barrier due to prevailing practice. Therefore, the proposed project is considered as additional.

B.6. Emission reductions:

B.6.1. Explanation of methodological choices:

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Baseline emissions

$$BEF_i = FC_{IS,i} \times D_j \times NCV_j \times EF_{CO2,j} \times 10^3 \quad (1)$$

Where:

BEF_i : Baseline CO_2 emission factor per second for the baseline vehicle i (gCO_2 /second)

$FC_{IS,i}$: Fuel consumption at idling condition of baseline vehicle i (liter/second)
Fuel consumption at idling condition of buses: $0.467*10^{-3}$ (In the PDD, same consumptions for all the buses are assumed. Entire measurement or sample measurement are planned to be implemented after the approval of the new methodology and before the validation starts)

D_j : Density of fuel j (kg/liter)
Density of diesel: 0.8397 kg/l (See B.6.2 in details)

NCV_j : Net calorific value of fuel j (MJ/t)
Net calorific value of diesel: 42,652 kJ/kg (42,652 MJ/t) (See B.6.2 in details)

$EF_{CO2,j}$: CO_2 emission factor of fuel j (tCO_2/MJ)
CO_2 emission factor of diesel: 72,600 $kgCO_2$/TJ ($72.6*10^{-6}$ tCO_2/MJ) (See B.6.2 in details)

$$BE_y = \Sigma(BEF_i \times T_{i,y} \times 10^{-6}) \quad (2)$$

Where:

BE_y : Total baseline emissions in the year y (tCO_2/year)

$T_{i,y}$: Cumulative idling period of vehicle i in the year y (second/year)

Project emissions

$$PE_y = \Sigma(N_{i,y} \times PEF_{IS,i} \times 10^{-6}) \quad (3)$$

Where:
PE_y : Total project emissions in the year y (tCO_2/year)
$N_{i,y}$: Total times of stop-idling of vehicle i in the year y (times/year)
$PEF_{IS,i}$: Project emission factor per a time of stop-idling for vehicle i (gCO_2 /time)

$PEF_{IS,i} = BEF_i$ (gCO_2 /second) $\times T_{PJ,i}$ (second)

Where:
$T_{PJ,i}$: Effective time. Idling stop period in second to compensate fuel consumption in restarting the engine right after each idling stop

B.6.2. Data and parameters that are available at validation:

Data / Parameter:	NCV_j
Data unit:	MJ/t
Description:	Net calorific value of fuel j
Source of data used:	China Energy Statistical Yearbook 2007
Value applied:	42,652 MJ/t for diesel oil
Justification of the choice of data or description of measurement methods and procedures actually applied :	National official value. 42,652 kJ/kg for diesel oil.
Any comment:	-

Data / Parameter:	D_j
Data unit:	kg/liter
Description:	Density of fuel j
Source of data used:	The Energy Statistics Working Group Meeting report of International Energy Agency
Value applied:	0.8397 for diesel oil
Justification of the choice of data or description of measurement methods and procedures actually applied :	International value prepared by International Energy Agency. http://www.iea.org/Textbase/work/2004/eswg/22_Oil%20Densities.pdf.
Any comment:	-

Data / Parameter:	$EF_{CO2,j}$
Data unit:	tCO_2/MJ
Description:	CO_2 emission factor of fuel j
Source of data used:	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2: Energy, Chapter 1: Introduction, Table 1.4
Value applied:	$72.6*10^{-6}$ for diesel oil
Justification of the	IPCC default value (lower value of 95% CI).

choice of data or description of measurement methods and procedures actually applied :	72,600 $kgCO_2/TJ$ for diesel oil.
Any comment:	-

Data / Parameter:	$FC_{IS,i}$
Data unit:	liter/second
Description:	Fuel consumption at idling condition of baseline vehicle category i
Source of data used:	Ex ante field tests at JPTGC
Value applied:	$0.467*10^{-3}$
Justification of the choice of data or description of measurement methods and procedures actually applied :	Ex ante field tests at JPTGC (Entire measurement or sample measurement are planned to be implemented after the approval of the new methodology and before the validation starts.)
Any comment:	-

Data / Parameter:	$T_{PJ,i}$
Data unit:	second
Description:	Effective time. Idling stop period in second to compensate fuel consumption in restarting the engine right after each idling stop
Source of data used:	The methodology
Value applied:	5 second
Justification of the choice of data or description of measurement methods and procedures actually applied :	The most conservative value in the methodology.
Any comment:	-

B.6.3 Ex-ante calculation of emission reductions:

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Baseline emissions

$$BEF_i = FC_{IS,i} \times D_j \times NCV_j \times EF_{CO2,j} \times 10^3$$
$$= 0.467*10^{-3} \times 0.8397 \times 42{,}652 \times 72.6 \times 10^{-6} \times 10^3$$
$$= 1.21$$

Where:

BEF_i : Baseline CO_2 emission factor per second for the bus i (gCO_2 /second)

$FC_{IS,i}$: Fuel consumption at idling condition of buses (liter/second) (In the PDD, it is assumed that all buses have same fuel consumptions. Entire measurement or sample measurement

are planned to be implemented after the approval of the new methodology and before the validation starts)

D_j : Density of diesel (kg/liter)

NCV_j : Net calorific value of diesel (MJ/t)

$EF_{CO2,j}$: CO_2 emission factor of diesel (tCO_2/MJ)

$$BE_y = \Sigma(BEF_i \times T_{i,y} \times 10^{-6})$$
$$= 2{,}000 \times 1.21 \times (511 \times 60 \times 60) \times 10^{-6}$$
$$= 4{,}452$$

Where:

BE_y : Total baseline emissions in the year y (tCO_2/year)

$T_{i,y}$: Cumulative idling period of bus i in the year y (second/year) (In the ex-ante calculation, it is assumed that all buses have same cumulative idling time.)

Project emissions

$$PE_y = \Sigma(N_{i,y} \times PEF_{IS,i} \times 10^{-6})$$
$$= 2{,}000 \times (70 \times 365) \times 6.05 \times 10^{-6}$$
$$= 309$$

Where:

PE_y : Total project emissions in the year y (tCO_2/year)

$N_{i,y}$: Total times of stop-idling of vehicle i in the year y (times/year) (In the ex-ante calculation, it is assumed that all buses have same times of stop-idling.)

$PEF_{IS,i}$: Project emission factor per a time of stop-idling for vehicle i (gCO_2 /time) (In the ex-ante calculation, it is assumed that all buses have same emission factor.)

$$PEF_{IS,i} = BEF_i \times T_{PJ,i}$$
$$= 1.21 \times 5$$
$$= 6.05$$

Where:

$T_{PJ,i}$: Effective time. Idling stop period in second to compensate fuel consumption in restarting the engine right after each idling stop

Leakages

No leakage calculation is required.

Emission reductions

$ER_y = BE_y - PE_y = 4{,}452 - 309 = 4{,}143\ tCO_2/year$

B.6.4 Summary of the ex-ante estimation of emission reductions:

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Year	Estimation of baseline emissions (tCO_2e)	Estimation of project activity emissions (tCO_2e)	Estimation of leakage (tCO_2e)	Estimation of overall emission reduction (tCO_2e)
1	2,226	154	0	2,072
2	4,452	309	0	4,143
3	4,452	309	0	4,143
4	4,452	309	0	4,143
5	4,452	309	0	4,143
6	4,452	309	0	4,143
7	4,452	309	0	4,143
8	4,452	309	0	4,143
9	4,452	309	0	4,143
10	4,452	309	0	4,143
Total	42,294	2,935	0	39,359

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

B.7.1 Data and parameters monitored:

Data / Parameter:	$T_{i,y}$
Data unit:	second/year
Description:	Cumulative idling period of vehicle i in the year y
Source of data to be used:	Electronically recorded to the idling stop device, ECO STARTER
Value of data	1,839,600 (=511*60*60)
Description of measurement methods and procedures to be applied:	Signals of vehicle speed and engine on/off will be electronically collected by the post-fit type idling stop device (ECO STARTER), and each idling stop period will be calculated automatically. Cumulative idling period is calculated by summing up each idling stop period in a year.
QA/QC procedures to be applied:	Data will be collected using reliable software every month and will be stored for crediting period and additional 2 years.
Any comment:	accumulated idling time = operation period * number of operation days * ratio of idling stop to operation time = 14*365*10% = 511hours/vehicle/year operation period ：14hours/day number of operation days：365days/year ratio of idling time：30% executing rate of idling stop：33% ratio of idling stop to operation time：10% (= 30% * 33%)

Data / Parameter:	$N_{i,y}$
Data unit:	times/year
Description:	Total times of idling-stop of vehicle i in the year y
Source of data to be used:	Electronically recorded to the idling stop device, ECO STARTER
Value of data	25,550 (=70*365)
Description of measurement methods and procedures to be applied:	Signals of vehicle speed and engine on/off will be electronically collected by the post-fit type idling stop device (ECO STARTER), and number of idling stop time will be counted automatically.
QA/QC procedures to be applied:	Data will be collected using reliable software every month and will be stored for crediting period and additional 2 years.
Any comment:	-

Data / Parameter:	Information of vehicles installing the post-fit type idling stop device, i.e. fuel types, vehicle types, engine displacements, engine model year, with or without air conditioner.
Data unit:	-
Description:	-
Source of data to be used:	Bus ledger of Jinan Public Transport Group Company (JPTGC)
Value of data	-
Description of measurement methods and procedures to be applied:	Necessary information shall be collected and aggregated in a database.
QA/QC procedures to be applied:	-
Any comment:	-

B.7.2 Description of the monitoring plan:

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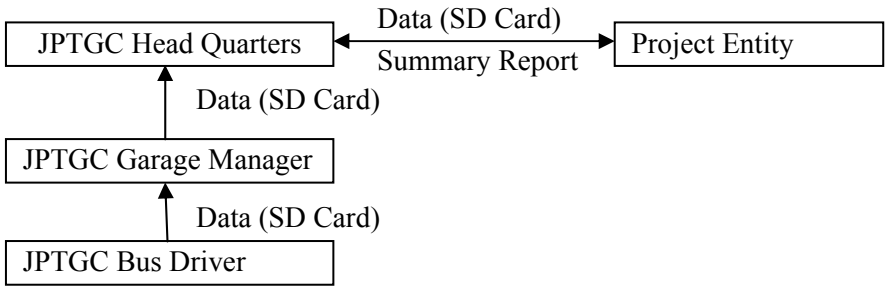
The following are outline of monitoring plan based on the new small scale baseline and monitoring methodology "Transportation Energy Efficiency Activity using idling-stop device". The monitoring will be conducted for those items described in Section B.7.1.

The monitoring structure for the project activity is shown below.



The monitoring equipment is SD card writer to be attached to idling-stop device.
The writer appends a new file recording the following information:
i) Elapsed time in second from ignition key "On".
ii) Driving status: 1;Engine On 2;Velocity non-Zero 3;Velocity Zero 4;Engine Off
iii) Total number of starting starter motor.

Data collection
The manager in charge the idling-stop creates and maintains idling-stop devices ledger (RDB) containing the following information of all the devices in JPTGC:
i) Product number
ii) yy/mm/dd (install)
iii) yy/mm/dd (removal)
iv) Trouble history reference number
v) Garage ID number
vi) Vehicle ID number installed
vii) Driver ID number

QA/QC
i) Cumulative idling period data and total times of idling-stop of vehicle will be collected monthly basis using reliable software and will be stored for crediting period and an additional 2 years.

Data management
i) Operation manager in JPTGC collect SD card attached to idling stop device instead of new SD card every month when monthly fueling record are closed.
ii) The record of driving and idling stop in collected SD card are summarized as follows and stored in storage of HQ.
- Fuel consumption reduction and emission reduction of GHG
- Monthly drive and idling stop analysis report of each vehicle is printed out and sent to the driver
- Monthly monitoring report is edited and sent to Project Entity.

iii) JPTGC prepare annual monitoring report summing up monthly record and send to Project Entity.

B.8 Date of completion of the application of the baseline and monitoring methodology and the name of the responsible person(s)/entity(ies)

>>
Date of completion of the application of the methodology: xx/1/2010

Ms. Taiko Kudo, Mr. Komei Yamaguchi
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Mr. Mitsuro Yajima, Mr. Isamu Koike
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E-mail: yajima@almec.co.jp, koike@almec.co.jp

Mr. Yasuki Shirakawa
Climate Consulting, LLC.
E-mail: yasuki@climate-c.co.jp

SECTION C. Duration of the project activity / crediting period

C.1 Duration of the project activity:

C.1.1. Starting date of the project activity:

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Starting date of the project activity is whichever later the CDM registration date or 1/1/2012.

C.1.2. Expected operational lifetime of the project activity:

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10 years

C.2 Choice of the crediting period and related information:

The project activity will use fixed crediting period.

C.2.1. Renewable crediting period

Not applicable.

C.2.1.1. Starting date of the first crediting period:

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Not applicable.

C.2.1.2. Length of the first crediting period:

>>

Not applicable.

C.2.2. Fixed crediting period:

C.2.2.1. Starting date:

>>

1/1/2012

C.2.2.2. Length:

>>

10 years and 0 month

SECTION D. Environmental impacts

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D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:

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It is thought that there is no negative environmental effect or that it is avoidable that the idling stop device can avoid the waste fuel consumption during the signal waiting. By contrast, the system can contribute to improve the air pollutants in the project area because it reduces the emission NOx, CO, PM, and THC when vehicle stops for a certain period of time.

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:

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See D.1.

SECTION E. Stakeholders' comments

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E.1. Brief description how comments by local stakeholders have been invited and compiled:

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Elaborated before submitting to the validation.

E.2. Summary of the comments received:

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Elaborated before submitting to the validation.

E.3. Report on how due account was taken of any comments received:

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Elaborated before submitting to the validation.

Annex 1

CONTACT INFORMATION ON PARTICIPANTS IN THE PROJECT ACTIVITY

Organization:	Jinan Municipal Public Transport General Co.
Street/P.O.Box:	No.3.East Qichechang Road
Building:	Hengtong Office Building
City:	Jinan
State/Region:	Shandong Province
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Annex 2

INFORMATION REGARDING PUBLIC FUNDING

Annex 3

BASELINE INFORMATION

Annex 4

MONITORING INFORMATION

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