GEF Guangdong Green Freight Demonstration Project (P119654)

EAST ASIA AND PACIFIC | China | Transport & ICT Global Practice |
Global Environment Project | Specific Investment Loan | FY 2011 | Seq No: 8 | ARCHIVED on 09-Dec-2015 | ISR21723 |

Implementing Agencies: Guangdong Provincial Transportation Department

Key Dates

Key Project Dates

Bank Approval Date:12-Apr-2011
Effectiveness Date:16-Aug-2011
Planned Mid Term Review Date:23-Jun-2014
Actual Mid-Term Review Date:23-Jun-2014
Original Closing Date:15-Mar-2015
Revised Closing Date:31-Dec-2015

Global Environmental Objectives

Global Environmental Objective (from Project Appraisal Document)
(a) demonstrate the global and local environmental benefits of the application of energy efficiency vehicle technologies and operating techniques, and (b) support improving energy efficiency and reducing greenhouse gas emissions in the road freight transport sector in Guangdong province.

Has the Global Environmental Objective been changed since Board Approval of the Project Objective?
No

Components

Name
Component 1: Green Truck Technology Demonstration:(Cost $9.80 M)
Component 2: Green Freight Logistics Demonstration:(Cost $1.90 M)
Component 3: Capacity Building:(Cost $1.64 M)
Component 4: Project Implementation Support:(Cost $0.56 M)

Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of GEO	Satisfactory	Satisfactory
Overall Implementation Progress (IP)	Satisfactory	Satisfactory
Overall Risk Rating	--	Moderate

Implementation Status and Key Decisions

The project has achieved its PDO and GEO. Both Phase I and II technology demonstration pilots have been completed and evaluated. Six technologies (namely, low resistance tire, roof fairing, side skirt, gap fairing, tire pressure monitor and energy efficient driving system), were applied in Phase I demonstration pilot. Three of the six technologies namely: low resistance tires, roof fairing and energy efficient driving system, were shown to have meaningful fuel savings and energy efficiency outcomes, and these were the technologies applied in the larger Phase 2 pilot program. In total, there were 13 trucking companies and 1349 trucks that participated in Phase I and Phase II of the technology demonstration. The total reduction in the fuel consumption was 289,382.1L and the total reduction of CO2e emissions was 784.74t. The Green Freight Logistics pilot has used freight APPs and logistics platform to improve logistics management, which has improved trucking efficiency and reduce emissions. The project is due to close on December 31, 2015. An Implementation Completion Report will be prepared documenting the achievement and implementation experience of the project.

Risks

Systematic Operations Risk-rating Tool

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	--	--	Low
Macroeconomic	--	--	Moderate
Sector Strategies and Policies	--	--	Moderate

Technical Design of Project or Program	--	--	Moderate
Institutional Capacity for Implementation and Sustainability	--	--	Moderate
Fiduciary	--	--	Moderate
Environment and Social	--	--	Moderate
Stakeholders	--	--	Moderate
Other	--	--	--
Overall	--	--	Moderate

Results

Global Environmental Objective Indicators

▸ Indicator One: Improvement in fuel economy (100 km per unit of fuel combusted) of participating trucks (Number, Custom)(Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	32.00	23.56	23.56	30.40
Date	15-Dec-2010	30-Jun-2015	30-Jun-2015	31-Dec-2015

Comments
The deadweight of a truck (heavy or lightweight) can affect its fuel economy greatly. During the appraisal, the baseline value was calculated based on heavy-trucks. Under the pilot project, a large number of the trucks are medium sized ones. Based on actual data collected from participating trucking companies, the has modified the baseline value to 24.18 liter/100 km, and the target value to 23.65 liter/100 km. The actual values are being calculated based on the results of Phase 1 and Phase 2 trucks, and will be reported in the ICR. The new values are provided below for recording.

◢ Indicator 1 (Revised): Improvement in fuel economy (100 km per unit of fuel combusted) of participating trucks(Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	24.18	--	--	23.65

▸ Indicator Two: Reduction in operating cost of truck fleets managed by participating companies (per 100 ton-km travelled) (Number, Custom)(Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	25.60	2.60	2.60	24.30
Date	15-Dec-2010	30-Jun-2015	30-Jun-2015	31-Dec-2015

Comments
The operating cost of truck fleets includes fuel consumption cost, administrative expenses, office expenses, personnel cost, and etc. It is difficult for the PMO to collect all the operating cost except for the fuel consumption cost (as the trucking companies do not share the other costs). The PMO suggested that this indicator only be used for the evaluation of fuel consumption cost. The baseline data would be modified to $1.64 /100 ton-km, and the target value to $1.57 /100 ton-km, where the reduction ratio remains roughly the same. Please see below the revised indicators. The actual (final) values are currently being calculated based on the Pilot 1 and 2 participating trucks.

◢ Indicator Two (Revised): Reduction in operating cost of truck fleets managed by participating companies (per 100 ton-km travelled)(Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	1.64	--	--	1.57

▸ Indicator Three: Total amount of CO2e emission reduction directly generated from fuel savings through the duration of the demonstration (Number, Custom)(Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	1.50	--	--	1.43
Date	15-Dec-2010	01-Jun-2015	01-Jun-2015	31-Dec-2014

Comments
Separate one indicator to two: The PMO suggested that the Green Truck Technology Demonstration and the Green Freight Logistics Demonstrations (including the Drop-and-hook Transport Demonstration and the Logistics Transaction Information Platform Demonstration) should be evaluated separately, because the fuel consumption for the two demonstrations were measured on different units.
Change the baseline value:
The original value of the CO2 emission is very large compared to the PMO's calculation.
From the US EPA website, "CO2 emissions from a liter of diesel is 2.64 kg". The fuel consumption economy for a medium sized truck is about 1.5~2 L/100 ton-km. Hence, the CO2 emissions value should not be more than 6 kg/100 ton-km, but the original value is in tons.This difference is likely to be caused by a miscalculation or converting various types of GHG to CO2e. However, since the PMO do not have the methodology in calculating the original numbers, the PMO suggested changing the baseline data. For the Green Truck Technology Demonstration, the baseline value is modified to 63.59 kg CO2/ 100 km, and the target value to 62.19 kg CO2/ 100 km. For the logistics organization demonstrations, the baseline data is suggested to be modified to 4.16 kg CO2/ 100 ton-km, and the target value of demonstration to 3.99 kg CO2/ 100 ton-km due to the same reason as above.
This indicator is divided in two indicators as shown below. The actual (final) results are being calculated by the PMO based on the results of

Phase 1 and 2 participating trucks. These will reported in the ICR.

◢ Indicator Three (Revised (a)): Total amount of CO2e emissions reduction directly generated from fuel savings through the duration of the green truck technology demonstration(Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	63.59	--	--	62.19

▷ Indicator Three (Revised (b)): Total amount of CO2e emissions reduction directly generated from fuel savings through the duration of the green freight logistics demonstration(Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	4.16	--	--	3.99

Overall Comments
The outcome indicator values are proposed to be changed. A table comparing the original and new values, and reasons for changing is attached. There are no changes to intermediate indicators.

Intermediate Results Indicators

▸ Intermediate Indicator One: Total private sector investment leveraged through the Project. (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	6.60	6.60	0.30
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2015

▸ Intermediate Indicator Two: Number of existing or newly purchased trucks installing green truck technologies (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	1429.00	1345.00	435.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2015

Comments
The number of trucks from the final SR was smaller compared to the one in the previous ISR because some rucks did not provide their fuel consumption and mileage information for evaluation, and thus disqualified from the project.

▸ Intermediate Indicator Three: Number of drivers participating in the Project training program (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	2000.00	3200.00	600.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2015

▸ Intermediate Indicator Four: Establishment of a Project website (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	1.00	1.00	1.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2011

▸ Intermediate Indicator Five: Number of government officials and enterprise representatives trained through Project (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	85.00	200.00	25.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2014

Comments
The final number reported is the total number of government officials/enterprises representatives trained through out the project period, whereas the end target is the annual target (i.e final year target).

◢ Number of enterprises representatives trained through Project (Number, Custom Breakdown)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	340.00	3000.00	1000.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2014

▸ Intermediate Indicator Six: Organization and implementation of green freight trade fair (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	2.00	2.00	1.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2011

▸ Intermediate Indicator Seven: Policy recommendations to address critical institutional and regulatory needs for improving the energy efficiency of the sector presented to Guangdong Provincial Governme (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	1.00	2.00	1.00
Date	15-Dec-2010	01-Jun-2015	30-Nov-2015	31-Dec-2013

Overall Comments

Data on Financial Performance

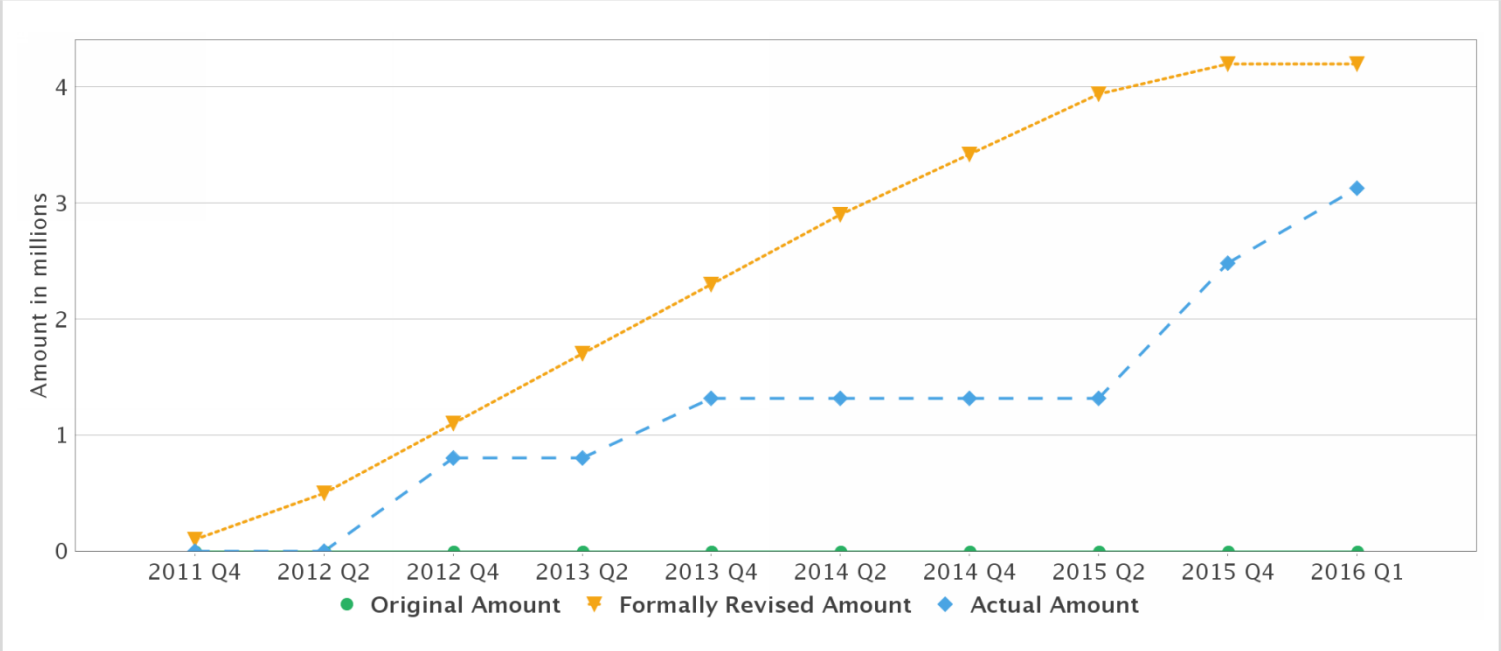
Disbursements (by loan)

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	Disbursed
P119654	TF-99076	Effective	USD	4.20	4.20	0.00	3.13	1.07	74%

Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P119654	TF-99076	Effective	01-Jun-2011	01-Jun-2011	16-Aug-2011	15-Mar-2015	31-Dec-2015

Cumulative Disbursements



Restructuring History

Level 2 Approved on 18-Dec-2014 ,Level 2 Approved on 07-Dec-2015

Related Project(s)

There are no related projects.