



REQUEST FOR CEO ENDORSEMENT/APPROVAL
PROJECT TYPE: FULL-SIZED PROJECT
THE GEF TRUST FUND

Submission Date: February 18, 2011

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 4129
GEF AGENCY PROJECT ID: P119654
COUNTRY(IES): CHINA
PROJECT TITLE: GUANGDONG GREEN FREIGHT DEMONSTRATION PROJECT
GEF AGENCY(IES): THE WORLD BANK
OTHER EXECUTING PARTNER(S): GUANGDONG PROVINCIAL GOVERNMENT
GEF FOCAL AREA(S): CLIMATE CHANGE
GEF-4 STRATEGIC PROGRAM(S): CC-SP5-TRANSPORT; TT PILOT
NAME OF PARENT PROGRAM/UMBRELLA PROJECT:

Expected Calendar (mm/dd/yy)	
Milestones	Dates
Work Program (for FSPs only)	09/30/2009
Agency Approval date	03/31/2011
Implementation Start	04/01/2011
Mid-term Evaluation (if planned)	04/15/2013
Project Closing Date	09/30/2015

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: (a) demonstrate the global and local environmental benefits of the application of energy efficiency vehicle technologies and operating techniques, and (b) support improvement of energy efficiency and emission reductions in the road freight transport sector in Guangdong Province.

Project Components	Indicate whether Investment, TA, or STA ²	Expected Outcomes	Expected Outputs	GEF Financing ¹		Co-Financing ¹		Total (\$) c=a+ b
				(\$ a)	%	(\$ b)	%	
1. Green Truck Technology Demonstration*	Investment	(a) Averagely at least 10% improvement in fuel economy (km per unit of fuel combusted) in participating trucks. (b) Averagely at least 10% Reduction in operating cost of truck fleets managed by	(a) more than 1200 existing or new trucks installed energy efficiency technologies. (b) more than 1200 drivers received training.	2,460,000	24	7,405,000	76	9,865,000
2. Green Freight Logistics Demonstration	TA and Investment		(c) a Project website promoting green freight established.	900,000	47	1,000,000	53	1,900,000
3. Capacity Building	TA		(d) about 160	550,000	33	1,095,000	67	1,645,000

4. Project Implementation Support	TA	<p>participating companies (per ton-kilometer travelled).</p> <p>(c) about 9.6 million tons of reduction in CO₂e emissions from trucks operating in Guangdong province.</p>	<p>government officials and about 3000 enterprise representatives trained through Project.</p> <p>(e) At least one green freight trade fair completed.</p> <p>(f) A pilot brokerage information platform in operation.</p> <p>(g) A pilot drop-and-hook fleet in operation.</p> <p>(h) Innovative financing mechanisms introduced and successfully completed.</p> <p>(i) Policy recommendations to address critical institutional and regulatory needs for improving the energy efficiency of the sector presented to Guangdong Provincial Government for approval.</p>	290,000	52	270,000	48	560,000
Total Project Costs				4,200,000	30	9,770,000	70	13,970,000

¹ List the \$ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.

² TA = Technical Assistance; STA = Scientific & Technical Analysis.

* Including contingencies.

B. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT (expand the table line items as necessary)

<i>Name of Co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Project</i>	<i>%*</i>
Guangdong Provincial Government	Local Gov't	In cash	2,000,000	20
Guangdong Provincial Government	Local Gov't	In kind	365,000	4
Participating Trucking Companies**	Private Sector	In cash	7,405,000	76
	(select)	(select)		
Total Co-financing			9,770,000	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

** Estimated. It only includes required counterpart funds from participating companies; it does not include other contributions from participating companies are not included, such as, incremental operation and maintenance costs, additional monitoring costs, training provided by technology providers/vendors or by trucking/shipping/logistics companies themselves, and marketing and promotion carried out by participating companies, etc.

C. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	<i>Project Preparation a</i>	<i>Project b</i>	<i>Total c = a + b</i>	<i>Agency Fee</i>	<i>For comparison: GEF and Co- financing at PIF</i>
GEF financing	225,000	A 4,200,000	4,425,000	442,500	4,200,000
Co-financing	225,000	B 9,770,000			17,400,000
Total	450,000	13,970,000	14,420,000	442,500	21,600,000

D. GEF RESOURCES REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES)¹

<i>GEF Agency</i>	<i>Focal Area</i>	<i>Country Name/ Global</i>	<i>(in \$)</i>		
			<i>Project (a)</i>	<i>Agency Fee (b)²</i>	<i>Total c=a+b</i>
World Bank	TT Pilot	Global	2,500,000	250,000	2,750,000
World Bank	Climate Change	China	1,700,000	170,000	1,870,000
(select)	(select)				
(select)	(select)				
(select)	(select)				
(select)	(select)				
(select)	(select)				
(select)	(select)				
Total GEF Resources			4,200,000	420,000	4,620,000

¹ No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

² Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks</i>	<i>GEF amount(\$)</i>	<i>Co-financing (\$)</i>	<i>Project total (\$)</i>
Local consultants*	920	1,000,000	160,000	1,160,000
International consultants*	160	800,000	0	800,000
Total	1080	1,800,000	160,000	1,960,000

* Details to be provided in Annex C.

F. PROJECT MANAGEMENT BUDGET/COST

<i>Cost Items</i>	<i>Total Estimated person weeks/months</i>	<i>GEF amount (\$)</i>	<i>Co-financing (\$)</i>	<i>Project total (\$)</i>
Local consultants*	30	60,000	10,000	70,000
International consultants*	0	0	0	0
Office facilities, equipment, vehicles and communications*		0	250,000	250,000
Travel*		3,200	5,000	8,200
Others**		6,800	5,000	11,800
Total		70,000	270,000	340,000

* Details to be provided in Annex C. ** Costs for project management training for PMO staff, such as procurement, FM, contract management, and environmental management training, as well as experience sharing with other provinces in China.

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? yes no

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your agency and to the GEF Trust Fund).

H. DESCRIBE THE BUDGETED M & E PLAN:

The Monitoring and Evaluation (M&E) system of the Project includes: (i) regular monitoring and documentation by participating companies; (2) monitoring, inspection and evaluation by an independent M&E consultant by using GPS-based monitoring device installed on each participating trucks; (3) periodic inspection and verification by PMO staff. PMO will prepare a consolidated monitoring report and furnish it to the Bank every six months. Additionally, PMO will prepare and furnish to the Bank a mid-term evaluation report and a project completion report.

The participating companies are required to commitment to meeting data collection requirements before they are selected to participate in the project. The M&E consultant will be selected through competition and should have adequate capacity to carry out required monitoring and evaluation tasks without additional capacity building assistance. PMO will carry out regular supervision and random inspection on data collection carried out by the participating companies and the M&E consultant, and evaluation on project results. Capacity building on monitoring and evaluation will be provided to PMO and participating companies during project implementation.

Costs for M&E are already included in the program budget and partially covered by the GEF grant and by the Guangdong Provincial Government.

PART II: PROJECT JUSTIFICATION: In addition to the following questions, please ensure that the project design incorporates key GEF operational principles, including sustainability of global environmental benefits, institutional continuity and replicability, keeping in mind that these principles will be monitored rigorously in the annual Project Implementation Review and other Review stages.

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

The issues to be addressed: The transport sector is a significant energy consumer and a major source of greenhouse gas (GHG) emissions in China. The sector comprised 30% of total national crude oil consumption in 2008 and emitted about 290 million tons of CO₂ in 2004. Further, GHG emissions from transport are expected to grow to 522 million and 1.108 billion tons by 2015 and 2030, respectively. Within the transport sector, road-based freight transport, which primarily comprises trucks, accounts for 54% of total transport sector fuel consumption.¹

Guangdong province has experienced a significant increase in freight traffic over the past decade. For example, total freight traffic, in tons, moved by trucks increased by more than 125% since 2000.² Over that same period, the provincial highway network grew at an average rate of 11% per year,³ and the number of registered trucks grew by 56%.⁴ Road-based-freight accounted for 70% of transported goods (measured in tons) in 2008.⁵

Despite the growing importance of this sector, energy efficiency in Chinese road freight transport, including in Guangdong Province, remains very low. There are two major challenges, the first being **truck technologies**. According to the Ministry of Transport (MoT), the fuel efficiency of Chinese trucks is about 30% lower than in advanced OECD countries. This is mainly because advanced fuel saving technologies and practices, despite their economic benefits through fuel saving, have not been widely adopted in China. This market failure occurs because: (a) the competition among carriers, i.e., trucking companies is very strong and

¹ Ministry of Transport, September 25, 2008, Medium and Long Term Plan for Energy Conservation in Road and Waterway Transport in China; http://www.moc.gov.cn/zfxxgk/JG010000/JG010300/JG010303/200811/t20081104_533455.html

² Data Source: Guangdong Statistical Yearbook. 2009. "Table 14-5 Total Freight Traffic." http://www.gdstats.gov.cn/tjnj/table/14/e14_5.htm

³ Guangdong Statistical Yearbook. 2009. "Table 14-12: Length of Highways and Number of Bridges." http://www.gdstats.gov.cn/tjnj/table/14/e14_12.htm

⁴ Clean Air Initiative. May 2010. "Guangzhou Green Trucks Pilot Project: Background Analysis Report for the World Bank -- "Truck GHG Emission Reduction Pilot Project."

⁵ China statistic year book 2000-2008.

carriers are reluctant to experiment with new or unknown technologies; and (b) the market lacks information on the performance, cost and availability of fuel efficiency technologies.

The second challenge in this sector is **logistics management**. Similar to many industrialized countries, the trucking industry in China is largely operated by the private sector and the sector is fragmented and most companies are very small – often single truck owner operators. However, different from other countries, there are no clearly leading companies, of which each at least occupies 1% of road freight market in China and thus can play a role in leading innovations and improvements in operational management. Moreover, lack of modern logistics brokerage makes it difficult to share information and coordinate operations among carriers. As a result, a large number of annual empty back-haul kilometers -- reported to be more than 30% of all freight vehicle-kilometers traveled in Guangdong Province.

How to address the above issues: The Project will address the market failures discussed through the following activities: (i) demonstration of energy efficiency truck technologies and freight logistics operation technologies to build confidence in the performance of proved green technologies. The Project includes introduction of six types of truck technologies that improve the fuel efficiency of operating vehicles: (i) Low resistance tires; (ii) Tire pressure gauges; (iii) Side skirts; (iv) Wind shield / gap fairing; (v) Nose cones; and (vi) Driver behavior diagnostic system. These technologies can be installed (individually or jointly) on existing trucks or added to new trucks before they are put into operation. Additionally, the project will also test the drop-and-hook operating technology as well as the advanced logistics brokerage information platform to improve the efficiency of logistics operations. (ii) innovative financing arrangements, i.e. the Green Freight Technology Rebate, to help lower down the price of green technologies and increase both the demand and the supply of these technologies in China, and the Performance-based Payments, to provide right incentive to encourage the trucking companies to operate technologies properly and monitor the results thoroughly. (iii) a large scale capacity building program consists of policy research, promotion, information dissemination, and training activities, to increase awareness of and demand for green technologies as well as the supply of the technologies in Chinese market.

Expected global environmental benefits: The Project has the dual-benefit of supporting economic development and the environment simultaneously. By improving the fuel efficiency of Project vehicles, the Project results in (a) the reduction of operating costs for participating companies; and (b) mitigation of greenhouse gas emissions. Further, since this is a GEF grant project, the impacts of the investment are two-fold – there is small impact achieved from the demonstration itself (“demonstration impacts”), as well as the more far-reaching repercussions from program replication (“long term impacts”).

The Project net benefit (benefit, less expenditures) from fuel savings for Component 1 in the short term would be about USD 14 million – much more than the GEF grant itself, which means that from an economic perspective, short term emissions reductions achieved from this component (26,760 tons CO₂e from 1200 improved trucks) pay for themselves. (For complete assumption and derivation of these figures, please see Annex 7 of PAD: GEF Incremental Cost Analysis.

When factoring in long term improvements from Component 2 to the compounding effects of Component 1 of the Project, we may expect to see a fleet-wide 10% fuel efficiency improvement across 60% registered trucks in Guangdong Province.⁶ Assuming a constant 2009 fleet size, annual CO₂e emissions reductions would be about 1.2 million tons per year.

Since the GEF grant is US\$4.2 million, this improvement equates to US\$3.5 per ton –about a quarter of the cost borne by entities capped under the Kyoto Protocol to reduce emissions (based on market prices for EU ETS allowances).

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL AND/OR REGIONAL PRIORITIES/PLANS:

⁶ For reference OECD trucks are, on average 30% fuel efficient than trucks in China.

The objectives of the Project are consistent with the World Bank pillars of the Country Partnership Strategy for 2006-2010 (Report No. 35435-CN), approved by the Board on May 23, 2006. Specifically, the project supports the third pillar: “managing resource scarcity and environmental challenges,” and the fourth pillar: “deepen financial intermediation, by expanding access to financial services (especially among small and medium enterprises)...”

The Project supports the Government of China to achieve its goal of a 40 to 45% improvement in national energy efficiency from 2005 by 2040, and more specifically, to implement its plan to reduce road freight sector energy intensity from 2005 levels 12% by 2015, and 16% by 2020. The Project targets the major challenges identified in the Ministry of Transport (MoT)’s Medium and Long Term Plan for Energy Conservation in Road and Waterway Transport in China, and supports development and implementation of measures which are fully consistent with the MoT’s strategies.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS:

The Project is fully consistent with the GEF climate change focal area, specifically in terms of climate change mitigation, where the GEF “supports projects that reduce or avoid greenhouse gas emissions in the areas of...energy efficiency, and sustainable transport.” The project also supports the objectives of the GEF Technology Transfer Fund, as it facilitates broader application and deployment of innovative energy efficiency technologies in China.

D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES:

The GEF resources will be provided to the Project as grant due to the following considerations.

Despite the broad policy framework set by Government of China and commitment made by both the national government and local governments to substantially improve energy efficiency of the economy, progress made so far in the road freight transport sector has not been very satisfactory. The key reasons, as discussed in earlier sections, are the lack of information on the performance, cost and availability of green freight technologies and systems, as well as the lack of adequate institutional capacity and mechanisms to implement the government strategy and policies at the local level.

The GEF grant is necessary to overcome these initial barriers to market development by: 1) lowering the cost (and therefore the risk) for early technology adopters; 2) widely disseminating demonstration results that prove the efficacy of these technologies in the Chinese context; 3) providing necessary training and capacity building for both relevant government officials (environment, security, industry and commerce, transport, and finance) as well as enterprise managers to ensure smooth adaptation of these technologies and systems; and 4) provide sufficient incentive and resources for international suppliers of green freight technologies to begin developing markets in China.

Without the grant, results would be continued, but slow, progress in energy efficiency improvement in the sector, not necessarily at the most cost-effective way. The Government of China’s ambitious energy efficiency targets for the sector would very likely not be achieved in time. A large part of the cost-effective energy efficiency potential would remain untapped due to institutional, policy and financial barriers.

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

The Clean Air Initiative in Asia (CAI Asia Center) and the Energy Foundation are currently working with the national government and several local governments in developing a national policy framework for green freight development. Active collaboration among the Bank, the Clean Air Initiative in Asia (CAI Asia Center), and the Energy Foundation has been established. As such the design of the project has reflected more strategic thinking from the national government, and the results of the Project are expected to have much wider impact and be reflected in the national policy framework.

F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :

In terms of demonstration value-added, only Component 1: Green Truck Technology Demonstration is considered for this appraisal (the other components, which comprise studies, capacity building, and small scale pilots, are expected only to have longer term, repercussive impacts).

During implementation, since participating truck companies will be able to voluntarily elect which technology package they would like to implement, the following analysis is based on a sample scenario, where about USD 1.8 million in GEF funding is used to leverage about USD 3 million in new investment across the eight proposed technology packages (more than 1,200 vehicles).

The Project includes introduction of **six types of technologies** that improve the fuel efficiency of operating vehicles: (i) Low resistance tires; (ii) Tire pressure gauges; (iii) Side skirts; (iv) Wind shield / gap fairing; (v) Nose cones; and (iv) Driver behavior diagnostic system. For Project implementation, these technologies have been bundled into **eight distinct technology packages**. In addition, all participating drivers will be given special training courses on energy efficient driving skills and best practices, which would further enhance the fuel efficiency of each technology package. Based on US EPA SmartWay verifications and the results of the pilot testing in Guangzhou, a conservative estimation finds the efficiency gains of these packages (combined with driver training) range from 7% to 26%.

Based on the expected efficiency gains, combined with the financial incentives provided through the GEF grant, the direct fuel savings and GHG reductions to be achieved from Component 1 are provided in the table below:

Total Number of trucks with different physical and operational characteristics participating in Component 1	1,200
Range of energy efficiency improvements of application of 8 technology packages (plus training) on 1200 trucks	7-26%
Expected Savings from Fuel (8 years) in US\$	9,370,832
Expected Savings from Fuel (8 years) in liters of fuel	9,660,651
Expected Savings from Fuel (8 years) in tons CO₂e	26,760
Total Package Cost in US\$	2,980,200
Down Payment / Rebate Value in US\$	596,040
Interest Payment / Performance-Based Subsidy in US\$	234,347
Monitoring Equipment Cost (funded by GEF) in US\$	831,600
GEF Subsidy (Subsidies + Equip) in US\$	1,661,987
Trucking Company Contribution in US\$	2,149,813

The Project net benefit (benefit, less expenditures) from fuel savings would be about US\$ 9.4 million – *more than the GEF grant provided to the Project*. In terms of direct demonstration emissions impacts, the same set of packages would reduce greenhouse gas emissions by about 26,760 tons CO₂e (carbon-equivalent) over the same period – in effect, from an economic point of view, these emissions reductions pay for themselves.

When factoring in long term improvements from Component 2 of the Project, and it is expected a fleet-wide 10% fuel efficiency will be achieved across 60% registered trucks in Guangdong Province, then at a constant 2009 fleet size, annual CO₂e emissions reductions would be about 1.2 million tons per year (see table below).

Vehicle Type	# of Registered Vehicles	Average Annual Distance Traveled per Truck (km)	Average Fuel Efficiency (L/100km)	Average Annual Fuel Consumption per Vehicle (L)	CO ₂ e Emissions per L Diesel Combusted (kg)	Annual CO ₂ e per Vehicle (tons)	Total CO ₂ e for Registered Fleet in 2009 (tons)	10% efficiency improvement on 60% Registered Fleet
Heavy Duty	149,522	63,451	32	20,235	2.77	56	8,380,698	502,842
Medium	46,836	64,953	25	16,550	2.77	46	2,147,117	128,827
Light	598,023	40,947	13	5,524	2.77	15	9,150,205	549,012
TOTAL							19,678,020	1,180,681

G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

As discussed in detail in Annex 4 Operational Risk Assessment Framework (ORAF), the overall risk of the Project is rated Medium-Likelihood. The most critical risks are related to (i) the design of the Project and (ii) the delivery quality of the Project. As such, some participating companies may not use the green technology/equipment properly, and applications of these technologies may not be widely replicated.

To mitigate those risks, the project preparation process has included intensive communication and collaboration among different stakeholders. This inclusive process will be further enhanced during the project implementation to obtain inputs from key stakeholders to the detailed design and implementation of the Project. Additionally, the green technology demonstration will only include those that were successfully implemented in the initial pilot program, as well as those that are verified by the US EPA SmartWay Program or similar national energy efficient transport technology accreditation systems.

H. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

The key barriers to widespread implementation of the green freight technologies are: (1) high costs due to lack of widespread availability of US SmartWay (and similarly verified) technologies in China; and (2) a general industry-wide lack of awareness, or trust, in the ability of these technologies to save costs in the long run.

The Project, which serves to overcome these two obstacles, is structured to maximize overall emissions reduction and demonstration impacts by leveraging market mechanisms to spark development of a sustainable green freight technology market. Rather than use the GEF funding to directly purchase and fully subsidize the green freight technologies, which is an alternative that had been originally proposed by the Guangdong provincial government, the GEF funding is being combined with private sector investment such that more than twice the amount of equipment can be purchased for an equivalent amount of GEF funding. Further, the GEF funding is used to support province-wide training and capacity building, as well as awareness campaigns and opportunities to link international suppliers of green freight technologies with Chinese trucking companies to ensure that after the initial Demonstration, sufficient momentum is created to ensure the market can continue to grow.

Given this potential for long term, repercussive impacts, the investment on a \$/ton CO₂e abated appears very positive. For example, given that annual emissions from the road-freight sector in Guangdong Province were about 20 million tons CO₂e in 2009, if through the Project (technology retrofits, introduction of drop-and-hook systems and a modern logistics platform) emissions reductions of 10% are achieved across 60% registered trucks in Guangdong Province, then emissions reductions would have been achieved in the province at only US\$3.5 per ton – about a quarter of the cost borne by entities capped under the Kyoto Protocol to reduce emissions (based on market prices for EU ETS allowances) – which is definitely low for the transport sector.

The GEF funded green freight technology rebate will lower down the price of technologies and thus increase both the demand and supply of these technologies in China, which would lead to decrease in the price. The GEF funded performance-based payments will further provide right incentive to participating companies to properly operate these technologies and rigorously monitor fuel saving results. Capacity building component will disseminate these results widely and increase confidence on the performance of these technologies, which would further increase demand. The decrease in price and increase in demand and supply will reduce the need for GEF subsidies and eventually make the subsidies no longer necessary.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. INSTITUTIONAL COORDINATION:

The project involves only one GEF Agency- the World Bank. No institutional coordination among GEF Agencies is required.

B. PROJECT IMPLEMENTATION ARRANGEMENT:

The World Bank provides technical assistance to Government of China and Guangdong Provincial Government in preparing the Project. It will also supervise the implementation of the Project, monitor progress in achieving the expected project results and carry out evaluation, and provide implementation support and capacity building (see details in Annex 5 of the PAD: Implementation Support Plan).

The Guangdong Provincial Government has designated the Department of Transport (DoT) as the leading agency for preparation and implementation of the Project. A Project Management Office (PMO) has been established at the DoT with adequate staffing. The PMO is overseen by a Project Leading Group (PLG) that comprises senior officials from various relevant provincial governmental departments, including the DoT, the Development and Reform Commission, the Department of Finance, the Department of Public Security, the Environment Protection Bureau, and the Economic and Information Commission. Responsibility and role of each Agency and how each will undertake the tasks in the project are discussed as below:

Entity	Project Responsibilities
PMO at Department of Transport	<ul style="list-style-type: none"> • Manage project advertising and public information dissemination • Identify / solicit participants • Organize training program • Manage equipment suppliers • Conduct on-going monitoring • Report to participating banks • Review studies prepared for Component 2 • Review TORs for Component 2 and, if appropriate, prepare bidding announcements • Sign contracts with participating trucking companies for monitoring, rebate and performance subsidy scheme.
Department of Finance	<ul style="list-style-type: none"> • Oversee GEF grant disbursement • Act as liaison between PMO and participating banks • Coordinate among different departments in Guangdong Provincial Government
Participating Banks	<ul style="list-style-type: none"> • Send financing opportunity descriptions to PMO
Participating Trucking Companies	<ul style="list-style-type: none"> • Attend training sessions • Receive optional finance and incentive package • Procure equipment and have installed • Participate in periodic surveys
Participating Vehicle Dealers	<ul style="list-style-type: none"> • Receive optional finance and incentive package • Procure equipment and have installed • Participate in periodic surveys
Participating Technology Suppliers	<ul style="list-style-type: none"> • Receive optional subsidy (or other incentive) for introducing new Smart-Way or similarly certified technology to Guangdong Province • Participate in periodic surveys

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

The final project design is aligned with the original design described in the PIF, in terms of expected global environmental benefits, co-financing, GEF grant requested and incremental reasoning.

The estimated GHG emission reduction now is lower than the estimation made at the PIF stage, mainly because the difference in the expected efficiency gain or fuel saving for each technology. PIF referred to the SmartWay's data and used 15-20% as the average fuel saving rate without differentiate technology, truck fleets, and operation types. During project preparation, the final results of the Guangzhou pilot testing and other survey data from the industry became available, which shows that the fuel saving ranged from 7% to 26% depending not only on different technology, but also different truck fleets (light, medium or heavy duty) or operation types (long haul or short distance). It was also found that the companies with high quality operation management tended to generate more energy efficiency than those which have poor operation management records. The final project design carefully takes into consideration these factors, and also adopts very conservative figures, and thus the estimated total GHG emission becomes lower. However, the final project design also adopts an innovative performance based payments, which could put right incentive to improve operation management in trucking companies and therefore could significantly increase the actual energy savings during the project implementation.

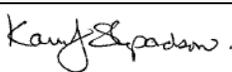
The amount of GEF grant requested remains the same. But the amount of co-financing (as documented in the PAD) has been reduced from the estimation at the PIF stage. This is because, due to the Bank's financial management requirements, the co-financing figures indicated in the PAD only includes the required counterpart funds from the government and participating companies, which is subject to the accounting and auditing requirements of the World Bank. It does not include other contributions from participating companies, such as incremental operation and maintenance costs, additional monitoring costs, training provided by technology providers/vendors or by trucking/shipping/logistics companies themselves, and marketing and promotion carried out by participating companies, etc.

GEF incremental reasoning has been enhanced in the final design, as the results of the incremental cost analysis has been incorporated into the project design.

The original project concept included development of a green truck technology verification system, a green truck tool kits, and a methodology for carbon foot print analysis. During the project preparation, it became clear that these issues should be better addressed at the national level by a national agency rather than at the provincial level by Guangdong Provincial government, and therefore these activities were dropped from the Project. Meanwhile, the Bank, together with the Energy Foundation and CAI Asia have engaged the national government in a policy dialogue on national level policy issues related to green freight, and are discussing to address those issues such as the verification system, technology toolkits as well as monitoring methodologies at the national level.

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Karin Shepardson, World Bank		2/17/2011	Jiang Ru	202-473-8677	jru@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Project Development Objective (PDO): (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.											
PDO Level Results Indicators*	Core	Unit of Measure	Baseline	Annual Target Values**				Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4				
Indicator One: Improvement in fuel economy (km per unit of fuel combusted) of participating trucks**	<input checked="" type="checkbox"/>	Liter/100 km	32	n/a	30.4	28.9	27.4	Reported every semester	GPS devices; existing DoT and PSB monitoring platform; supplemental surveys	Participating trucking companies; Independent consultants, under supervision of the PMO; and PMO	Average of improvements on all participating trucks
Indicator Two: Reduction in operating cost of truck fleets managed by participating companies (per ton-km travelled)**	<input checked="" type="checkbox"/>	\$ / ton-km	25.6	n/a	24.3	23.1	21.9	Reported annually	GPS devices; existing DoT and PSB monitoring platform; supplemental surveys	Participating trucking companies; Independent consultants, under supervision of the PMO; and PMO	Average of improvements on truck fleets of all participating companies
Indicator Three: Total amount of CO ₂ e emissions reduction directly generated from fuel savings through the duration of the demonstration**	<input checked="" type="checkbox"/>	tons CO ₂ / ton-km	1.50	n/a	1.43	1.36	1.29	Reported annually	GPS devices; existing DoT and PSB monitoring platform; supplemental surveys	Consultants, under supervision of the PMO; and PMO	Average of improvements on all participating trucks.
Intermediate Indicator One: Total private sector investment leveraged through the Project.	<input type="checkbox"/>	\$'000,000	0	0.1	0.3	0.3	0.3	Reported every semester	Rebate Scheme Reports	DoF and PMO	Measure the private sector investment leveraged by the Project.

Intermediate Indicator Two: Number of existing or newly purchased trucks installed the green truck technologies			0	0	330	435	435		Reported every semester			Measure progress in project implementation
Intermediate Indicator Three: Number of drivers participating in the Project training program	<input type="checkbox"/>	Number of drivers	0	100	500	600	0		Reported every semester	Post-training reports (including copies of driver training certificates)	Trainers under supervision of PMO; and PMO	Approximately one driver per participating vehicle.
Intermediate Indicator Four: Establishment of a Project website	<input type="checkbox"/>	Establishment of website	No website	Website established	Website maintained	Website maintained	Website maintained		Reported every semester	Review of latest updates in project website and feedback from website users	PMO	The website will include information about the Project, relevant green freight news and regulations, and on-line survey forms.
Intermediate Indicator Five: Number of government officials and enterprise representatives trained through Project	<input type="checkbox"/>	Number of government officials (g) and enterprise representatives (e)	0	15 (g)	60 (g) and 1000 (e)	60 (g) and 1000 (e)	25(g) and 1000 (e)		Reported every semester	Training evaluation and feedback forms collected from each trainee	Trainers under supervision of PMO; and PMO	By training government officials and enterprises, the repercussive effects of the project expand.

<p>Intermediate Indicator Six: Organization and implementation of green freight trade fair</p>	<input type="checkbox"/>	<p>Implementation of green freight trade fair</p>	<p>No fair</p>	<p>Implementation of green freight trade fair.</p>	<p>n/a</p>	<p>n/a</p>	<p>n/a</p>		<p>Reported annually</p>	<p>Participation registration data record, feedback forms collected from participants, and brief post-evaluation note</p>	<p>Consultants, under supervision of the PMO; and PMO</p>	<p>The green freight trade fair, the first of its kind in China, will support project implementation and support a market-based approach to improving freight vehicle energy efficiency</p>
<p>Intermediate Indicator Seven: Policy recommendations to address critical institutional and regulatory needs for improving the energy efficiency of the sector presented to Guangdong Provincial Government for approval</p>	<input checked="" type="checkbox"/>	<p>Institutional and Policy Needs (qualitative)</p>	<p>n/a</p>	<p>n/a</p>	<p>Policy actions identified</p>	<p>Policy notes completed and submitted to the Provincial Government</p>	<p>n/a</p>		<p>Reported every semester</p>	<p>Progress reports and final reports (including policy notes and PPT presentations)</p>	<p>Consultants, under supervision of the PMO; and PMO</p>	<p>Three Project studies, drop-and-hook feasibility study, logistics brokerage feasibility study, and the green freight policy study, will provide analyses on key institutional and policy needs.</p>

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF RESOURCES

<i>Position Titles</i>	<i>\$/ person week*</i>	<i>Estimated person weeks**</i>	<i>Tasks to be performed</i>
For Project Management			
Local			
Senior Procurement Specialist	2000	25	Assist PMO in preparing procurement documents, managing procurement process and preparing evaluation reports
Project Management Consultant	2000	5	
International			
Justification for Travel, if any: 2 domestic trip/year for local consultants.			
For Technical Assistance			
Local			
Senior Transport Specialist(s)	2000	80	
Junior Transport Specialist(s)	500	160	
Senior Freight and Logistics Operations Specialist(s)	2000	160	
Training Specialist(s)	1000	80	
Public Communication Specialist(s)	1000	80	
GIS/IT expert (s)	2000	40	
Environment/Vehicle Emission Specialist(s)	1000	160	
Program Assistant(s)	250	160	
International			
Senior Transport Specialist(s)	5000	80	
Senior Freight and Logistics Operations Specialist(s)	5000	80	
Justification for Travel, if any: 4 international trips/year for International experts, and 8 domestic trips/year for local consultants			

* Provide dollar rate per person week. ** Total person weeks needed to carry out the tasks.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

The objective of the PPG is to assist the client in preparing this GEF project. The objective is almost achieved through the PPG activities undertaken as the project preparation has progressed into the negotiations stage.

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

No significant design issue or concerns on project implementation have been identified during implementation of the PPG activities.

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co-financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
1. Detailed design for Investment Component of the proposed GEF project	Substantially Completed	150,000	120,000	30,000	0	100,000
2. Detailed design for TA Component of the proposed GEF project	Substantially Completed	70,000	40,000	30,000	0	50,000
3. Public consultation during project preparation	Substantially completed	5,000	5,000	0	0	25,000
4. Project management	Substantially completed	0	0	0	0	50,000
	(Select)					
	(Select)					
	(Select)					
	(Select)					
Total		225,000	165,000	60,000	0	225,000

* Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee.

ANNEX E: CALENDAR OF EXPECTED REFLOWS

Provide a calendar of expected reflows to the GEF Trust Fund or to your Agency (and/or revolving fund that will be set up)
 Not applicable.

Project Implementation Period: April 1, 2011 – March 31, 2015

Expected effectiveness date: March 31, 2011

Expected closing date: September 30, 2015