

**Progress Report on the  
Loan Guarantee Component of the  
World Bank / GEF Phase II  
China Energy Conservation Project**

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## **Introduction and Project Overview**

This report summarizes the development and current status of the EMC Loan Guarantee Component of the Phase II World Bank / GEF China Energy Conservation Project. The overall China Energy Conservation Project was initiated in 1998 with the launch of Phase I, which supported the establishment and development of three pilot Energy Management Companies (EMCs) in China. By way of background, an EMC is a market-based business model that brings together entrepreneurial, technical and financial expertise, to provide energy consuming (host) enterprises with technology that reduces energy usage, and hence costs, at a given production level. It does this via the installation of new or the refurbishment of existing equipment at the host enterprise. This type of company in other parts of the world is commonly referred to as an energy service company (ESCO). A key defining element of the ESCO business model is the use of energy performance contracts (EPCs) between the ESCO and its client enterprises. The EPC defines the terms under which the cost savings created by newly installed technologies are split between the ESCO and the client over a predetermined period of time. In China a typical EPC would allow the EMC to be paid a majority of the energy cost savings for a period of perhaps three years, after which time the new equipment and all subsequent savings revert to the enterprise. The three pilot EMCs have been successful in terms of the delivery of energy savings and emissions reductions, and have shown that the ESCO model and the EPC mechanism can be successfully and profitably implemented in China.

Phase II of the Project, which was initiated in late-2003, aims to bring about further energy savings and emissions reductions in large part by providing a financing mechanism that will support the proliferation and growth of new EMCs across China. The three pilot EMCs associated with Phase I were financed largely via World Bank and GEF funding. Financing to Phase II, however, is intended to be provided via China's domestic bank sector. However, there are numerous barriers that preclude the new EMC sector from readily accessing local bank lending. Among these are 1) the unique financing requirements of EPC projects, 2) a lack of familiarity with the EMC business model among bank lenders, 3) high level of risk aversion among lenders especially given the lack of familiarity, 4) the limited business track records of many new EMCs, 5) limited balance sheet strength of new EMCs, 6) the relatively small size of projects, and 7) credit risk associated with many potential project host enterprises.

A key component of Phase II is the EMC Loan Guarantee mechanism, which is intended to help overcome these barriers and to catalyze the involvement of the local bank sector as the primary source of credit to the new and growing EMC industry. GEF funding of US\$22 million was designated to support the creation of the EMC Loan Guarantee Program Special Fund. In late-2003, an initial tranche of US\$11 million was placed in the Fund, against which loan guarantee commitments are now being made. The plan is to disburse the balance via two additional US\$5.5 million tranches over time as the outstanding guarantees begins to exceed the capital reserve amount, which is expected in years two and three of the project. The China National Investment and Guaranty Co. (I&G) has been selected as the agency to implement and administer the initial tranche. I&G is China's largest, and only national-scale, guarantee company. It has the longest

operating track record in China's nascent loan guarantee industry, and its credibility in the marketplace is reasonably well established.

The objective of the loan guarantee program is to catalyze a high level of EMC project investment over the long term. To help achieve this, the guarantee fund is expected to maximize its transaction amounts while leveraging its capital resources as much as possible. It also aims to preserve the capital base of the fund to the extent possible so as to maintain its resources for revolving, long-term use. The program is intended to engage and strengthen the participation of domestic banks as much as possible, so that they become increasingly familiar and comfortable with lending to the EMC industry, and ultimately become willing to undertake EMC credit risks themselves.

As the program grows it is hoped that the domestic bank sector will consider the capital reserve of the fund to be suitably liquid and credible. As such it is expected that the fund should be able to support guarantee commitment of 3-5 times the capital reserve value at any point in time. The loan guarantee fund has been established to run for a period of seven years. Even based on very conservative estimates of the markets' willingness to accept leveraged fund commitments, the fund should be able to support at least US\$250 million of loan guarantees over the life of the program, which equates to life-of-project leveraging of 11 to 1 against the US\$22 million of GEF funds. The Fund is intended to provide partial credit guarantees of up to 80-90% of loan principal amount initially, and declining amounts over time. Guarantee periods are expected to range between 1-3 years, and amounts are expected to be relatively small. Hence, guarantee commitments will "revolve" fairly quickly. The most important leveraging factor for the Fund is this revolving nature of the guarantees.

### **Progress to Date**

Since the launch of the Fund in November 2003, I&G has made meaningful progress in establishing an operating platform for receiving and appraising guarantee applications, and for administering approved guarantees. It has also made good progress, working together with China's EMC Association (EMCA), in providing assistance and training to EMCs interested in understanding and applying for bank loans and loan guarantees. The EMC Financial Technical Assistance (TA) component of the project, funded by the UK Department for International Development (DfID), has been designed to assist new and emerging EMCs to obtain increased levels of loan financing for project implementation. The TA is achieving this through customized assistance to both EMCs and local banks in the preparation of company and project specific business plans, and loan and loan guarantee transactions.

By year-end 2004 it is expected that I&G will have provided guarantees on 22 projects with fifteen different EMCs, totaling RMB 60 million, or US\$7.24 million (of which four projects are pending final approval of the lending bank institutions). These results would exceed the target of 20 project approvals agreed to as part of the 2004 business plan. However, the value of these guarantees is roughly 20% short of the target RMB 74 million established in the 2004 plan. The types of projects that have received loan guarantees in this first year of operations have ranged from industrial variable speed drive

installations, industrial kiln and furnace renovations, commercial air conditioning system renovation, street lamp replacements and conversion of taxi fleets from gasoline to LPG. Annual energy savings associated with these projects is over 33,000 tons of coal equivalent and annual CO<sub>2</sub> emissions reductions total more than 24 thousand tons of coal.

Another area of progress has been in I&G's coordination with other financial institutions across the country. I&G does not have branch locations in every region and major city across the country, and geographically financial institutions are not always well synchronized. This adds a level of difficulty in coordinating loan and loan guarantee appraisals and approvals on a national scale. To help bridge the gap, I&G has established cooperative agreements with sixteen local guarantee companies across China to cooperate in the provision of loan guarantees. Separately, but also to help expand its reach, I&G has developed a joint support agreement with the Beijing City Commercial bank to assist in EMC lending as well as guarantee and counter-guarantee asset valuation.

### **Counter-Guarantee Requirements and Alternative Financing Structures**

A key point of discussion among various industry stakeholders thus far in the development of the program has been in regard to the counter-guarantee requirements that I&G places upon new EMCs applying for loan guarantees. China's guarantee industry is quite new and relatively undeveloped (the first guarantee company was established in 1993). Additionally, the guarantee sector is largely directed toward public policy objectives. Most guarantees in China cover 100% of loan values, effectively removing all risk to bank lending. As a result the counter-guarantee requirements – collateral from loan recipients as required by guarantee companies – are typically quite stringent. These requirements are often as strict as those of commercial banks.

The risk of overly restrictive counter-guarantee requirements is that they could undermine the rationale of the EMC loan guarantee program in the first place. This is especially so in the EMC sector where many new companies do not possess sufficient balance sheet strength to support onerous counter-guarantee requirements. A key point of consensus, however, is that I&G should not necessarily need to take on additional risk in order to provide an increased volume of loan guarantee approvals; the clearest way to meet this objective of greater volume without increased risk is for I&G to look not merely at the balance sheet collateral of applicant EMCs in consideration of guarantee approvals, rather to begin to apply more innovative financing methods.

Among the first group of twenty or so EMCs to receive loan guarantees, a majority of them have used some form of personal assets from company managers as collateral for counter-guarantees. If personal asset-based collateral were to continue to be the model going forward, it would not bode well for the development and growth of the EMC industry. However, some range of creative flexibility can be seen within the initial group of companies to receive loan guarantees, and the outlook for further loosening of requirements is positive. For example, in addition to personal assets, we have seen a range of other asset types being employed as counter-guarantees. Included among these are: third party credit guarantees, mortgaged assets, supervision of EMC bank accounts,

and limited application of revenues associated with previously initiated ongoing EMC projects.

The counter guarantee requirement questions taps into some complex issues unique to China. For example, there have been situations where EMC managers have preferred to use personal assets as opposed to using, for example, cash flows associated with currently ongoing EPC projects. This has reportedly been due to the difficulties associated with reassigning the value of these cash flows from the EMC to I&G, which apparently requires the consent of the host enterprises that are generating the cash flow. It is also the case that pledging of personal assets, such as an EMC managers' house, is largely a symbolic measure, given that a bank or guarantee company is not legally permitted to seize someone's home. However, this pledging of personal assets appears in the Chinese environment to place a high level of pressure on the EMC manager, and I&G has been willing to accept it.

There is an expectation that I&G requirements will gradually become less stringent, especially for those EMCs that have developed a track record of successful I&G backed project implementation, and that have developed a positive relationship with I&G management. There have been discussions with some EMCs that pledging of cash flows associated with projects may become acceptable as counter guarantees, though these appears to refer to cash flows associated with already implemented projects, as opposed to the "project finance" model wherein projects are collateralized by the cash flows associated with the project being financed. The next year will be very telling as to the future of the types of financing and counter-guarantee models employed.

A critical component of the ongoing work with I&G as part of the Phase II Project, is work associated with the so-called "Package A" technical assistance. The objective of this work is to identify, evaluate, propose and assist I&G to develop and implement alternative financing models. The main transaction structure alternative, as alluded to earlier, involves the securitizing of project revenues using the assignment and mortgage of receivables method, perhaps via the establishment of an escrow account. Case studies of successful implementation of these and variant structures have been prepared and a template that could be followed by I&G is being created. However, it remains unclear what is allowable under China's banking and guarantee industry regulations, and it appears that perhaps some additional time and efforts may be required to enhance I&G's willingness and ability to take on increased risk.

### **The 2005 Project Pipeline**

The project pipeline is considered to be relatively strong and it is expected that the target of 25-30 project approvals should be met without difficulty. Many of the EMCs that received guarantees in 2004 are felt by I&G to be of very high quality. If these EMCs return to I&G for additional loan support they should have little problem given 1) their experience and growing understanding of the loan approval and loan guarantee approval process 2) their growing operational experience with project implementation, and 3) their growing financial strength. Additionally, the ongoing EMCA and I&G sponsored training

and technical assistance is helping to raise the quality of new EMCs, and hence the ability of I&G to approve more loan guarantees.

Reaching the target of US\$75 million of loan guarantee value may be more challenging, though, than meeting the target project count. A potential limiting factor is the relatively modest size of the pool of applicants, which could limit the number of high quality projects considered. Further, the candidates most likely to receive approvals are those operating in the commercial building sector – lighting, heating and cooling, and systems controls. These types of projects have proven popular among many of the new EMCs. These tend, however, to be small in size relative to industrial projects, for example, which new EMCs have a more difficult time breaking into.

Another key consideration to reaching the 2005 target, as well as future targets, as noted earlier, will be I&G's ability to embrace more innovative financing structures and mechanisms than have been developed so far. A key example of innovative financing to be considered should be along the lines of “project based lending” (PBL) as suggested by consulting teams associated with the previously noted “Package A” technical assistance. Project based lending is lending where an EMC's projects themselves, as opposed to the EMC's balance sheet, provide the primary source of security for the loan and guarantee and the source of revenues for debt service payments. Application of the PBL method implies that banks and guarantee institutions would be effectively “looking through” the EMC itself, and instead focusing on the cash flow of the projects that it plans to implement. The adoption of this methodology would mark a significant step forward in the development of China's EMC sector.

I&G together with the EMCA are working together to address the issue via two avenues. By way of example, one Shanghai-based EMC has implemented EPCs with a number of retail store clients. Some of these clients are but one location of a chain that has hundreds or even thousands of locations across the country. I&G and the EMCA are assisting these types of EMCs, for example the Shanghai Shangliao EMC, to bundle together a group of perhaps 10-15 or more store projects into one loan package. This could potentially evolve into a very successful model. Another question that is being considered is how to develop a business platform or business model that can allow small EMCs to break into large scale projects, for example, in the steel, cement, petrochemical and power sectors. EMC training courses focused in these sectors have been held, and there has been one example of a small EMC, Beijing PowerU Technology, developing a DSM-based energy savings EPC contract with a power producer in Hubei Province.

<b>Loan Guarantees for EMC Projects Approved by I&amp;G (as of December 14, 2004)</b>				Project investment	Loan principal	Energy savings	Emissions reductions	Savings per RMB invested	Emissions per RMB invested	Start date	Term
EMCs	Host enterprises / comments / status	Project type	(RMB thou)	(RMB thou)	(tce/year)	(tc/year)					
1)	Beijing Oasis Dehan Environmental Protection Center	Beijing Jingshida Real Estate Development Co., Ltd.	2,600	2,200	1,161	825	0.45	0.32	18-Jan-04	1 year	
2)	Zhonghua Hongda Energy Equipment Co., Ltd.	Hebei Shenghua Chemical Co., Ltd.	595	500	7,680	5,457	12.91	9.17	6-Feb-04	"	
3)	Beijing PowerU Science and Technology Co.	Guilin Diyuan Restaurant	1,300	500	599	425	0.46	0.33	27-May-04	3 mnth	
4)	Shenzhen City Jialida (Coolead) Industry Co., Ltd.	Shenzhen Zeqi Dress Adornment Co., Ltd.	2,120	2,000	135	3,711	0.06	1.75	6-Jun-04	1 year	
5)	Sichuan Xinde Development Co., Ltd.	Chengdu Holiday Inn	1,530	1,100	323	139	0.21	0.09	21-Jun-04	"	
6)	Beijing Shenwu Thermal Energy Tech Co., Ltd.	Da'ye Specialty Steel Co., Ltd.	22,350	17,000	10,755	4,327	0.48	0.19	6-Aug-04	"	
7)	Guizhou Huitong Huacheng Office Building Technology Co., Ltd.	Beijing Baoli Animal Husbandry and Hotel Management Co. - Guangzhou	5,220	4,000	1,108	630	0.21	0.12	11-Aug-04	2 year	
8)	Beijing Zhongfucheng Investment Co., Ltd.	Guangdong Jiesi Info Science and Tech Co., Ltd.	12,064	8,000	2,977	1,692	0.25	0.14	18-Aug-04	1 year	
9)	Hongneng Century Energy Science & Technology Development Co., Ltd.	Shandong Tongda Taxi Co., Ltd.	1,250	900	521	558	0.42	0.45	16-Sep-04	"	
10)	"	Jinan Dalu Taxi Service Co., Ltd.	950	800	400	428	0.42	0.45	16-Sep-04	"	
11)	"	Jinan Jitai Taxi Leasing Co., Ltd.	1,000	800	425	455	0.43	0.46	16-Sep-04	"	
12)	"	Jinan Gongli Taxi Leasing Co., Ltd.	1,500	1,200	620	665	0.41	0.44	16-Sep-04	"	
13)	"	Jinan Huihong Commerce and Trade Co., Ltd.	1,350	1,100	557	597	0.41	0.44	16-Sep-04	"	
14)	"	Jinan Hengtai Taxi Co., Ltd.	1,600	1,400	665	713	0.42	0.45	16-Sep-04	"	
15)	"	Shandong Julong Taxi Co., Ltd.	1,000	800	416	446	0.42	0.45	16-Sep-04	"	
16)	Dongying Shengdong Machinery Co., Ltd.	Xiangfen County Houlin Coking Co., Ltd.		6,000							
17)	Chengdu Stone Automated Engineering Co., Ltd.	Sichuan Chuanwei Group Co., Ltd.	13,000	10,000	4,948	2,812	0.38	0.22		2 year	
18)	Beijing PowerU	This is a performance guarantee.		1,750							
<b>SUB TOTAL</b>			<b>69,429</b>	<b>60,050</b>	<b>33,288</b>	<b>23,880</b>	<b>1.15</b>	<b>0.97</b>			
19)	Sichuan Xinde Development Co., Ltd.	Approved by I&G. Pending negotiations w/ Host and Bank.		1,400							
20)	Shanxi Tianyu	Approved by I&G. Pending Bank approval.		500							
21)	Hebei Baoding	Approved by I&G. Pending Bank approval.		3,000							
22)	Hubei Sanhuan	I&G approval expected in Dec 2004.		1,800							
<b>GRAND TOTAL</b>				<b>66,750</b>							

Source: China National Investment & Guarantee Co., Ltd. - Guarantee Program Progress Report of Autumn 2004 (Draft) - September 2004, and conversations with I&G management.