PCDM在大陸的研究進展及開發潛力

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提 綱 Outline

1PCDM在大陸的研究進展

2PCDM專案開發潛力

1 PCDM在大陸的研究進展

1) 完成文獻研究與政策環境調查任務

Review of Literatures and Investigation of Policy Environment

2) 完成三個PCDM 案例研究

Completed three Case studies

完成文獻研究與政策環境調查任務
Review of Literatures and Investigation of Policy Environment

(1)全面評述國內外CDM相關的制度框架、政策環境、方法學、專案開發實踐和國際碳市場；分析現有CDM專案開發的局限性和實施PCDM的必要性；分析實施PCDM的潛力、政策環境、方法學問題及社會經濟影響。

Comprehensively evaluate institution framework, policies, methodology, project development practice and international carbon market that related to CDM at home and abroad, analyze the limitations of development of CDM project and necessity of putting PCDM into practice, and analyze the potential of PCDM, policies, methodology and the influence on society and economy.

(2)廣泛考察可能適合開發PCDM專案的各個行業和地區，遴選案例研究目標。

Extensively investigate different industries and regions that suit to develop P-CDM projects and select the target for case studies.

案例研究 /Case studies

開展3個案例研究，深入分析相關領域實施政策、技術環境，PCDM專案實施潛力、以及實施過程中制約因素與政策措施。具體活動將根據第一階段研究成果而制定的詳細案例研究計畫進行實施。

Conduct 3 case studies. In-depth analyze the environment of policy and technology of cases' relevant field, the potentials and constrains of implementation of P-CDM projects and measures. The detailed research plan will developed based on the results of first phase.

研究成果

(1) CDM制度框架、方法學、碳市場與PCDM進展（已出版，見附件2 規劃方案下清潔發展機制：制度框架與國際動態）； Programmatic CDM:A Study on International Framework and International Development.(publish in Chinese)

(2) 3個案例研究報告和3個PDD文件 。

Three case study reports and three PDDs submitted by three case study teams.

傳播及推廣活動
Information and Knowledge Dissemination

1．召開國內研討會，在政府部門、仲介機構和潛在的專案業主等各個層次傳播PCDM管理規定、國際經驗和相關動態；

Hold domestic workshops and disseminate the international regulations and domestic policies and measures about P-CDM, international experiences with P-CDM project implementation, and latest developments;

2．在中國舉辦兩次國際研討會，在丹麥舉辦兩次國際研討會，以交流經驗，深化認識，介紹成果。

Organize two international workshops in China and one in Denmark, so as to exchange experiences, deepen understanding, disseminate the research results, and seek further cooperation;

傳播及推廣活動

3、舉辦COP13/MOP3邊會，宣講專案的研究成果和中國關於PCDM的政策取向。

Organize a side event at COP13/MOP3 for international awareness about the results of research activities under the project and China's policies and positions toward PCDM.

4．出版研究成果。

Publish the research results.

2007年7月香山國際研討會

Workshop on

PROGRAMMATIC CDM IN CHINA:

REALISING THE POTENTIAL FOR PROGRAMMATIC

CDM IN CHINA AND ITS IMPACTS

Agenda

Xiangshan Hotel No.1 Conference Centre

Xiangshan, Beijing

1-3 July 2007

Research Centre for Urban Environment and Development Chinese Academy of Social Sciences

中國社科院城市發展與環境研究中心

UNEP Risoe 中心和丹麥外交部舉行的兩個國際研討會
International workshops in Risoe and Copenhagen

巴厘島邊會
The side event at Bali

巴厘島邊會非常成功，受到了極大的關注，很多人參加了會議，很多人提問，討論非常熱烈，甚至在會後，也有很多人與我們討論，希望進一步聯繫與合作。

UN Climate Change Conference 2007
Bali - Indonesia

The side event in Bali was very successful. The meeting room was crowded and many people paid great attention on it. A lot people raised many interesting questions and the discussion is burning.Evenly after the meeting, many people discussed something with us and hope keep in contact and seek an opportunity to cooperate with us.

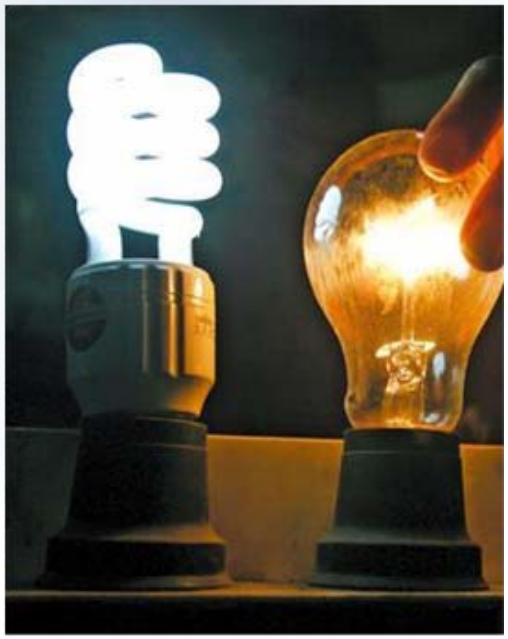
巴厘島邊會
The side event at Bali

巴厘島邊會Bali Side event

中丹PCDM研究專案成果報告會

開展案例研究— 節能燈

Finish project design documents — Lighting conservation



POA DD

SMALL-SCALE CDM PROGRAMME OF ACTIVITIES DESIGN DOCUMENT FORM
(CDM SSC-PoA-DD) - Version 01

CDM – Executive Board page 2

SECTION A. General description of small-scale programme of activities (PoA)

A.1 Title of the small-scale programme of activities (PoA):

Title of the PoA: China Lighting Conversion (Shanghai) – School Partnership (CLC-SP Shanghai)
Version: 2.2
Date: April 10, 2008

A.2. Description of the small-scale programme of activities (PoA):

>>

The objective of China Lighting Conversion (Shanghai) – School Partnership (CLC-SP Shanghai) (hereinafter referred to as the PoA) is to offer residential end-users in Shanghai free compact fluorescent lamps (CFLs) in exchange for existing incandescent lamps. This PoA was initiated and will be coordinated and implemented by JUCCCE Energy Savings Consulting Co. (Shanghai) Ltd., a Shanghai based company established solely for this program. JUCCCE Energy Savings Consulting Co. (Shanghai) Ltd. will serve as the coordinating entity of this PoA.

Since CFLs are typically 75% more efficient than incandescent lamps, significant amount of electricity will be reduced by the users of CFLs offered by this PoA. Electricity consumed by the households in Shanghai is supplied by the East China Electric Grid, which is dominated by fossil fuel-fired power plants, so greenhouse gas emissions will be achieved by this PoA.

JUCCCE Energy Savings Consulting Co. (Shanghai) Ltd. will cooperate, in the process of implementing this PoA, with relevant Shanghai middle schools and universities, media partners (Bridgehead Media, Angle Communications, Shanghai Media Group), the Shanghai Energy Conservation Supervision Center, Evershed, Smith Street Solutions and others. Implementation via local schools/universities will also increase the climate and environmental awareness of coresponding students and reduce energy consumption of the PoA implementation.

The PoA consists of three basic components:

- Preparatory activities at the PoA level;
- Implementation activities at the CPA level;
- Post-implementation activities at the PoA level.

The PoA includes the following basic **preparatory activities at the PoA level**:

- **Marketing and awareness campaign** – A three-month marketing and educational campaign will be launched in cooperation with partners in the media industry to raise energy saving and climate change awareness prior to the start of the operation. This campaign will inform the residents in Shanghai on the need for energy efficiency and GHG mitigation and the need to take action, starting with replacing incandescent lamps with CFLs.
- **Enrollment of middle schools and universities** to participate in the program.
- **Bulk procurement of high-quality compact fluorescent lamps** (i.e., rated lifetime of at least 6000 hours) via competitive bidding. The CFLs will be branded as JUCCCE for identification and monitoring purposes.

The PoA includes the following basic **implementation activities at the CPA level**:

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CPA DD

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01

NAME /TITLE OF THE PoA: _ China Lighting Conversion (Shanghai) – School Partnership (CLC-SP Shanghai)

CDM – Executive Board page 2

SECTION A. General description of small scale CDM programme activity (CPA)

A.1. Title of the small scale CPA:

China Lighting Conversion (Shanghai) – School Partnership #1
Version: V1.2
Date of the document: April 10, 2008

A.2. Description of the small-scale CPA:

>>

China Lighting Conversion (Shanghai) – School Partnership #1 (hereinafter referred to as this CPA) is a pilot for the CLC-SP (Shanghai) PoA and will distribute CFLs for free in HuangPu District, LuWan District and Jing'An District of Shanghai to residents to replace existing incandescent lamps. The CPA implementer is JUCCCE Energy Savings Consulting Co. (Shanghai) Ltd. The company will implement the CPA in cooperation with Shanghai middle schools, universities, media partners, the Shanghai Energy Conservation Supervision Center, Evershed, Smith Street Solutions and others. Implementation via local schools/universities will increase climate and environmental awareness, reduce wasteful energy consumption and provide a safe means of distributing free CFLs.

The overall PoA consists of three basic components:

- Preparatory activities at the PoA level (described in PoA DD)
- Implementation activities at the CPA level
- Post-implementation activities at the PoA level (described in PoA DD)

The schools/universities involved in this pilot CPA are…

Under this CPA, the following implementation activities will be conducted:

- **On-site school training session** which includes awareness on energy efficiency, CFL benefits and impact, proper handling and CFL safety issues, and other Q&A about the CLC-SP program
- **Pre-installation survey**, as required by the methodology, to be conducted by the participating student / teacher volunteers
- **Pre-registration of participating households** by students / teacher volunteers. This will allow unambiguous identification of each household (address, district, resident name, student name and ID, contact information) for data validation and ex post survey purposes.
- **Exchange of incandescent lamps by compact fluorescent lamps** performed by student / teacher volunteers
- **Waiver of rights to GHG reductions** – CFL recipients will sign a waiver of rights to the greenhouse gas emission reductions associated with the CFL exchange program

It is expected that about 600,000 CFLs will be distributed under this CPA. The CFLs distributed under this CPA should meet China's national standards and have a lifetime not less than 6000 hours and a capacity of not lower than 8 watts.

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開展案例研究— 農村戶用小沼氣

Finish project design documents — Household biogass

POA DD

CPA DD

SMALL-SCALE CDM PROGRAMME OF ACTIVITIES DESIGN DOCUMENT FORM
(CDM SSC-PoA-DD) - Version 01

CDM – Executive Board page 2

SECTION A. General description of small-scale programme of activities (PoA)

A.1 Title of the small-scale programme of activities (PoA):

Title: Zhoukou City Rural Household Biogas Development Programme (2007-2010)

Version: 01

Date :26 Sep. 2007

A.2. Description of the small-scale programme of activities (PoA):

The purpose of Zhoukou City Rural Household Biogas Development Programme (2007-2010) (hereafter refers to the Programme) is to set up 600000 biogas plants (digesters) of 8-15 m^3 capacity each for single households in Zhoukou City, Henan Province, P.R.China and by the end of 2010 it will attain 1,000,000 biogas plants which account for 50% of the all farmer households. In this way replace coal for cooking and hot water heating with biogas, a renewable energy. Zhoukou City is one of the most backward districts in China and deserves a special attention and proper planning for all out development.

Each household will install a 8-15 m^3 biogas plant and feed organic waste which is mainly composed of swine dung into the anaerobic digester. By utilizing these various sources of biogenic waste in a controlled anaerobic digestion and combustion system, biogas will be available for cooking energy and heating hot water to replace coal. Moreover, on the one hand the item through improved excreta disposal system can reduce the methane and nitrous oxide emissions during the process of original excreta disposal system; on the other hand, the biogas residue projects produced can be used as fertilizer, which can reduce nitrous oxide emissions in the fertilizer production process, but for conservative principles, these parts of emission reductions have not been included. The biogas will be used on a two-ring gas stove, supplied as part of the Programme activities.

The implementation of the Programme adopt a priciple of government guiding and farmers willing. Through organized regular household biogas training to enhance the farmers' understanding on household biogas, and then establish proposed biogas users files by the way of signing on scene.

All households willing to collect biogenic waste from agriculture and household can participate in the Programme activities.

Detailed information about the Programme are listed as follows:

year / number / District/County	2007	2008	2009	2010	Total
Chuanhui	3560	3560	1780	1780	10680
Shangshui	24640	24640	12320	12320	73920
Xihua	18620	18620	9310	9310	55860
Luyi	22120	22120	11060	11060	66360

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SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM
(CDM-SSC-CPA-DD) - Version 01

NAME /TITLE OF THE PoA:
Zhoukou City Rural Household Biogas Development Programme (2007-2010)

CDM – Executive Board page 2

SECTION A. General description of small scale CDM programme activity (CPA)

A.1. Title of the small-scale CPA:

Title: CPA1 under the Zhoukou City Rural Household Biogas Development Programme (2007-2010)

Version: 01

Date :25/03/2008

A.2. Description of the small-scale CPA:

CPA1 under the Zhoukou City Rural Household Biogas Development Programme (2007-2010) (thereafter refers to the Project) is part of Zhoukou City Rural Household Biogas Development Programme (2007-2010) . The purpose of the Project is to set up biogas plants (digesters) of 8-15 m^3 capacity each for households located in the rural area located in Chuanhui District, Zhoukou City, Henan Province, P.R.China.. The total installed capacity of the Project is 10680 biogas plants.

The Project will reduce greenhouse gas (GHG) emissions by displacing conventionally used fuel sources for cooking, such as coal and liquid natural gas. Although the Project additionally reduce CH_4 and N_2O emission reductions by introducing a proper disposal of animal waste and by producing a bio-slurry for replacing the household consumption of chemical fertilizers, these emission reductions are not counted for credits.

There are social, environmental, economic and technological benefits which contribute to sustainable development.

Social benefits:

- Avoided health hazards associated with unmanaged waste in back yards and village streets;
- Avoided health hazards from indoor air pollution, and reduced drudgery

Environmental benefits:

- Avoided local environmental pollution through a better waste management system; and soil improvement by providing high quality manure
- Avoided global environmental pollution by switching from coal to biogas, leading to reduction of GHG emissions

Economic benefits:

- Accelerate the economic development by providing renewable cooking fuel instead of coal and decrease the payout of fertilizer and pesticide ;
- Higher productivity of workers as they have adequate cooking fuel supply;

Technological benefits:

- Better biogas digester models, thus improving biogas yield and eliminating any residual methane emissions.
- Training in chemistry of biogas for masons and users leading to improved scientific temper in community.

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開展案例研究— 戶用太陽能熱水器

Finish project design documents — Household solar water heater

POA DD

CPA DD

SMALL-SCALE PROGRAMME OF ACTIVITIES DESIGN DOCUMENT
(CDM SSC-PoA-DD) - Version 01

Title of The PoA:Zhoukou City Household SWH Development Programme(2007-2020)
CDM – Executive Board Page 2 of 32

SECTION A. General description of small-scale programme of activities (PoA)

A.1 Title of the small-scale programme of activities (PoA):

Title: Zhoukou City Household Solar Water Heater(SWH) Development Programme (2007-2020)
Version: 01
Date:21 Feb. 2008

A.2. Description of the small-scale programme of activities (PoA):

Zhoukou City lies in the east plain of Henan province, it's popedom includes 10 districts/counties(Chuanhui, Shangshui, Xihua, Luyi, Fugou, Taikang, Huaiyang, Shenqiu, Hancheng and Xiangcheng county), 2.86 million households. At present, the main energy resource for heating hot water is coal, with the auxiliary energy resource of natural gas and power in Zhoukou City.

The purpose of this programme of activities(POA) is to set up 1.40 million sets of SWH from 2007 to 2020 which will account for 50% of all households in Zhoukou City. The programme of activities includes 10 separate CDM programme activities shown in Tab1. The programme will select vacuum tube water heater(which can generate hot water 360 days in one year). Each water heater's heat-collecting area is 2 square meter, and the volume of water tank is 160 liter, which can afford hot water for 3-5 people. The budget of the programme will be 2.8 billions yuan, in which the material fee will be 2.64 billion yuan, construction fee will be 0.14 billion yuan. Each set of water heater will cost 2 thousand yuan.

Tab1: Zhoukou City Household SWH Development Programme (2007-2020)

Unit: thousand sets

year / number / District/ County	2007	2008	2009	2010	2011-2020	Total
Chuanhui	8	10	22	12	7.18/Y	123. 8
Shangshui	14	16	28	20	7.18/Y	149. 8

2

SMALL-SCALE PROGRAMME OF ACTIVITIES DESIGN DOCUMENT
(CDM SSC-PoA-DD) - Version 01

Title of The PoA:Zhoukou City Household SWH Development Programme(2007-2020)
CDM – Executive Board Page 2 of 17

SECTION A. General description of small scale CDM programme activity (CPA)

A.1. Title of the small-scale CPA:

Installation of Solar Home Systems in Chuanhui district in Zhoukou city.
Version: 02
Date: 21/02/2008

A.2. Description of the small-scale CPA:

The proposed CPA is a bundle of Solar Water Heater(SWH), with 123.8 thousand sets of SWH to be installed across Chuanhui district from 2007 to 2020, shown in Tab1. The proposed CPA is a voluntary initiative taken by the participating organization. The detailed Technical description or information about SWH refers to "section A.4 in SSC-POA-PDD" please.

The proposed CPA will replace the coal consumption for household to produce hot water, and thus reduce greenhouse gas (GHG) emissions from burning fossil fuels. The CPA will generate an estimated annual amount of emission reduction during a certain crediting period.

The proposed CPA will facilitate the local economy development. The following points summarize how the project activity contributes to the sustainable development in Chuanhui district:

1. The introduction of SHS will have a positive impact on the household economy of Chuanhui district, which will reduce its dependency on coal and reduce the fuel expenditure.
2. Increase the reliability of hot water supplying.
3. New business or job opportunities related to operation and maintenance of SWH will be created.
4. SWH users will have better home environments. Since SHS will replace the conventional soot-producing fuel it will significantly reduce the indoor air pollution thus reducing the accidence of respiratory diseases and; thus, health-care expenditure will also come down.

Tab1: Chuanhui District Household SWH Development Programme (2007-2020)

Unit: thousand sets

year / number / District/ County	2007	2008	2009	2010	2011-2020	Total
Chuanhui	8	10	22	12	7.18/Y	123. 8

A.3. Entity/individual responsible for the small-scale CPA:

The coordinating agency of the proposed CPA is Chuanhui district energy office

A.4. Technical description of the small-scale CPA:

A.4.1. Identification of the small-scale CPA:

2

出版《規劃方案下清潔發展機制：制度框架與國際動態》
PCDM booklet will be available on the book market in May this year

Research Centre for Urban Environment and Development Chinese Academy of Social Sciences

中國社科院城市發展與環境研究中心

PCDM 實施面臨的主要問題
Key issue for PCDM implementation

研究組多次會議討論認為，PCDM在國內實施，目前面臨的最主要的問題是缺乏相應的國內規則，即PCDM專案實施的國內管理辦法，無法進行市場操作。依據案例研究成果，對國內規則指定或修改提出建議，也是後續研究的重要任務之一。

Lack of related administrative rule of DNA is the major problem of PCDM implementing in China, this caused no impetus form the market to push PCDM forward.

Based on experiences of three finished case studies, we will propose suggestions for rebuilding or adjusting the current CDM administration rule as the first priority area of the next step research works.

現已出現的PCDM專案
Existing PCDM project in the word

- 孟加拉戶用太陽能照明專案

Installation of Solar Home Systems in Bangladesh

- 巴西養殖場沼氣利用專案

Brazil Breeding Farms methane utilization project

- 南非太陽能熱水器專案

  Commercial Solar Water Heating Programme in South Africa

- 墨西哥節能燈提高能效專案

  Smart Use of Energy Mexico - Programme of Activities

- 德國北萊茵-西伐利亞州更換舊式供熱鍋爐及蒸汽鍋爐的JI專案。

Germany North Rhine-Westphalia state boiler replacing JI project

- 中國農村小沼氣專案（即將提交）

China Household biogas digester installation project (forthcoming)

2 PCDM專案開發潛力

- 水電 專案
- 風電專案
- 戶用沼氣專案
- 太陽能熱水器專案
- 綠色照明專案
- 建築節能專案

水電 專案

我國《可再生能源法》中已經明確規定水力發電屬於可再生能源的範疇，是國家鼓勵開發的重點領域。

尤其是裝機容量小於100 MW 的徑流式水電站屬於適合開發CDM 的專案。

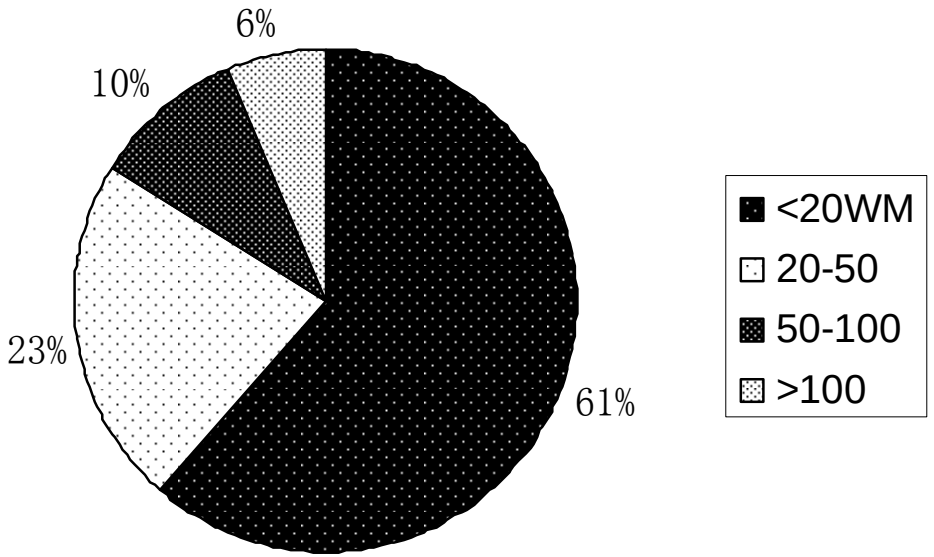
我國水電CDM專案開發情況

	水電（%）		可再生能源（%）		全部專案（%）	
已註冊	93	37%	173	70%	248	100%
DNA已批准	743	51.5%	1055	73%	1443	100%

統計資料截止日期為2008年8月13日

從已經註冊專案的裝機容量來看，20WM以下的專案有57個，50WM以下的專案有78個，100WM以下專案為87個，而100WM以上的專案為6個。可見，目前註冊的水電專案中，以中小型水電站為主。

中國已註冊水電CDM專案裝機容量分佈圖



裝機容量	專案數量（個）
<20WM	57
20-50WM	21
50-100WM	9
>100WM	6
總計	93

截止2008年8月13日發改委已批准的所有CDM 專案來看，如果都能註冊成功，水電專案年減排量為將可以達到77，210，386CER, 相對於可再生能源117，940，336CER的年減排量占到65%，相對與全部CDM 專案293，631，092CER，水電專案所占比例為26%。

我國水電專案極具CDM 開發的潛力。根據最新水電資源普查結果, 我國水電資源可開發量約為5. 41 億kW , 其中5 萬kW 以下的水電資源約為1. 28 億kW。這部分水電資源目前已開發約32 % , 剩餘的68%(約為8 600 萬kW) 最適合開發CDM 專案。如果能將這8,600 萬kW裝機的水電資源的10 %按照CDM 規則開發成功, 可能產生2,800 萬t CO_2 的年減排量, 所以我國水電仍然是非常有潛力的CDM 專案。

風電專案

根據《可再生能源中長期發展規劃》，到2010年，全國風電總裝機容量達到500萬千瓦；到2020年，全國風電總裝機容量達到3000萬千瓦。事實上，2007年底風電累計裝機容量已達605萬千瓦，在建的還有420萬千瓦。2008年風力發電裝機可以達到1000萬千瓦，2010年有望達到2000萬千瓦。

中國資源綜合利用協會可再生能源專委會、國際環保組織綠色和平和全球風能理事會近期共同發佈的《中國風電發展報告2007》預測，僅依賴現有的政策，中國風電裝機容量到2020年底可以達到5000萬千瓦，相當於屆時中國發電裝機容量的4%；但如果政策稍加完善，風電裝機容量到2020年底可以達到8000萬千瓦，相當於屆時發電裝機容量的7%。如果這些風電專案按照CDM專案來開發，風電技術領域的CDM專案的開發潛力將比規劃預估的要大很多。按此發展速度，2010年以前，風電專案尚有1000萬千瓦的新增裝機容量，甚至更大。

户用沼氣專案

各地區沼氣適宜農戶數（2004）　　單位:萬戶

地　区	农户数	适宜农户	适宜农户比例（%）
1.西部地区	7762	5708	73.54
(1)西南地区	5097	4050	79.46
(2)西北地区	1813	1020	56.26
(3)“三州 8 县”*	852	638	74.88
2.粮食主产区	10124	6442	63.63
(1)东南丘陵山区	2546	2092	82.17
(2)黄淮海平原区	6456	3760	58.24
(3)东北地区	1122	590	52.6
3.东部地区	7086	2650	37.40
合　计	24972	14800	59.27

*表注：“三州8縣”是指吉林省延邊朝鮮族自治州、湖北省恩施土家族苗族自治州、湖南省土家族苗族自治州和海南省五指山區8縣。

到2005年底已建設沼氣1800萬戶，只占適宜農戶12.16%，存在巨大的發展空間，案例的應用前景巨大。

太陽能熱水器專案

按照可再生能源中長期發展規劃，在2010年全國太陽能熱水器總集熱面積達到規劃中的1.5億平方米，而2006年的太陽能集熱板為9000萬，四年中將新增太陽能集熱板6000萬平方米。按上述單位集熱面積在生命週期內的減排量，推算出“十一五”期間，新增太陽能熱水器可以累計節約3773萬噸標準煤，減排1.17億噸CO_2。若其中10%開發為PCDM專案，也有約1170萬噸的減排量，相當可觀。

綠色照明專案

- 綠色照明是指通過科學的照明設計，採用高效節電照明產品，達到節電、保護照明環境和提高照明品質的統稱。
- 照明用電占總發電量13%左右。2002年，城市照明年耗電約為61218億千瓦時，是1998年用電量的3～4倍。城市路燈總量從2001 年的500 多萬盞上升到了2004 年的1000 多萬盞，增長率達100 %，仍在以大於10%速度增長。而目前使用的照明燈具大多為普通的燈具，高效節能螢光燈與普通白熾燈之比為1:2.6，農村白熾燈使用率高達98%。用高效節能螢光燈替代白熾燈可節電70-80%，用電子鎮流器替代傳統電感鎮流器可節電20-30%，由發光二極體（LED）替代白熾燈，可節電90%。因此，照明方面有很大的節能潛力。

建築節能專案

- 建築節能進展緩慢，80年代初從採暖居住建築節能起步，至2003年建成節能居住建築（包括節能30%及節能50%）3.2億平方米，占全國城市居住建築的4%，現有建築中95%達不到節能標準,新增建築中節能不達標的仍超過八成。
- 缺乏相關的激勵措施，推廣經費不足是制約節能推廣的重要因素之一。通過PCDM專案，使得建築節能專案獲得一定的外部收益，將有利於建築節能專案的大力推廣。

- 現有的已被EB通過的與建築節能有關的小型方法學只有一個，即AMS. II.E，需求端的能效提高方法學，專案產生的減排量被限制在15GWHs/year。
- 目前，應用這個方法學成功註冊的CDM專案只有一個：Kuyasa 低成本城市住房能效提升專案(Cape Town; South Africa)。在這個案例中，基於絕熱屋頂利用的方法學被用於Kuyasa地區包括2309戶住宅的低造價房屋的能效提高專案中。

- 在Kuyasa這個專案中，安裝了絕熱屋頂的30m2每間的房子，一年可以減少等同於5595 kWh /year的電能，折合成排放強度為0.89 tonnes CO_2 /kWh，最終折合產生了1.33Tonnes CO_2/ year的減排量。“十一五”期間，我國住宅建築和公共建築嚴格執行節能50%的標準，加大建築節能技術和產品的推廣力度等，可實現年節能5,000萬噸標準煤，年減排潛力約1.3億噸CO_2e。因此，建築節能（維護結構）專案潛力巨大

水電、風電、戶用沼氣、太陽能熱水器、綠色照明、建築節能專案外，小型鍋爐提高能效，交通燃料替代，植樹造林等等領域也是具有開發PCDM專案潛力的領域，並且有著廣泛的分佈。隨著CDM方法學逐漸增多和國際對PCDM的規則和作用的認可，還會有更多的專案類型能開發成PCDM，因此PCDM具有很大的發展潛力。

謝　謝！

Thank You！

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