Clean Development Mechanism (CDM) for Poverty Alleviation

清洁发展机制-解决穷困之道

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Greenhouse Gas Effect
温室气体的影响

- There is a balance between the amount of greenhouse gases (GHGs) in the air and a climate conducive to life on Earth. Without GHGs, the sun's heat would simply escape and average Earth temperature would drop by 15ºC to 18ºC. Too much GHGs will lead to global warming
- 空气中的温室气体量与其对气候的影响之间存在一个平衡。没有温室气体，太阳照射的热量很容易逃离地球，地球的温度就会下降15ºC 到 18ºC. 但是，当温室气体过多的时候，又会导致全球变暖。

Greenhouse Gas Effect
温室气体的影响

- Human activities like burning fossil fuels for power generation and using technologies that directly emit GHGs have affected that balance quickly in the recent years.
- 近些年，人类的活动诸如传统燃料发电或应用直接产生温室气体的科技对这个平衡有很大的影响。
- Primary GHG is carbon dioxide (CO_2) and other GHGs like methane (CH_4) & nitrous oxide (N_2O) are in CO_2 equivalents
- 主要温室气体“二氧化碳”，“甲烷”“氧化氮”

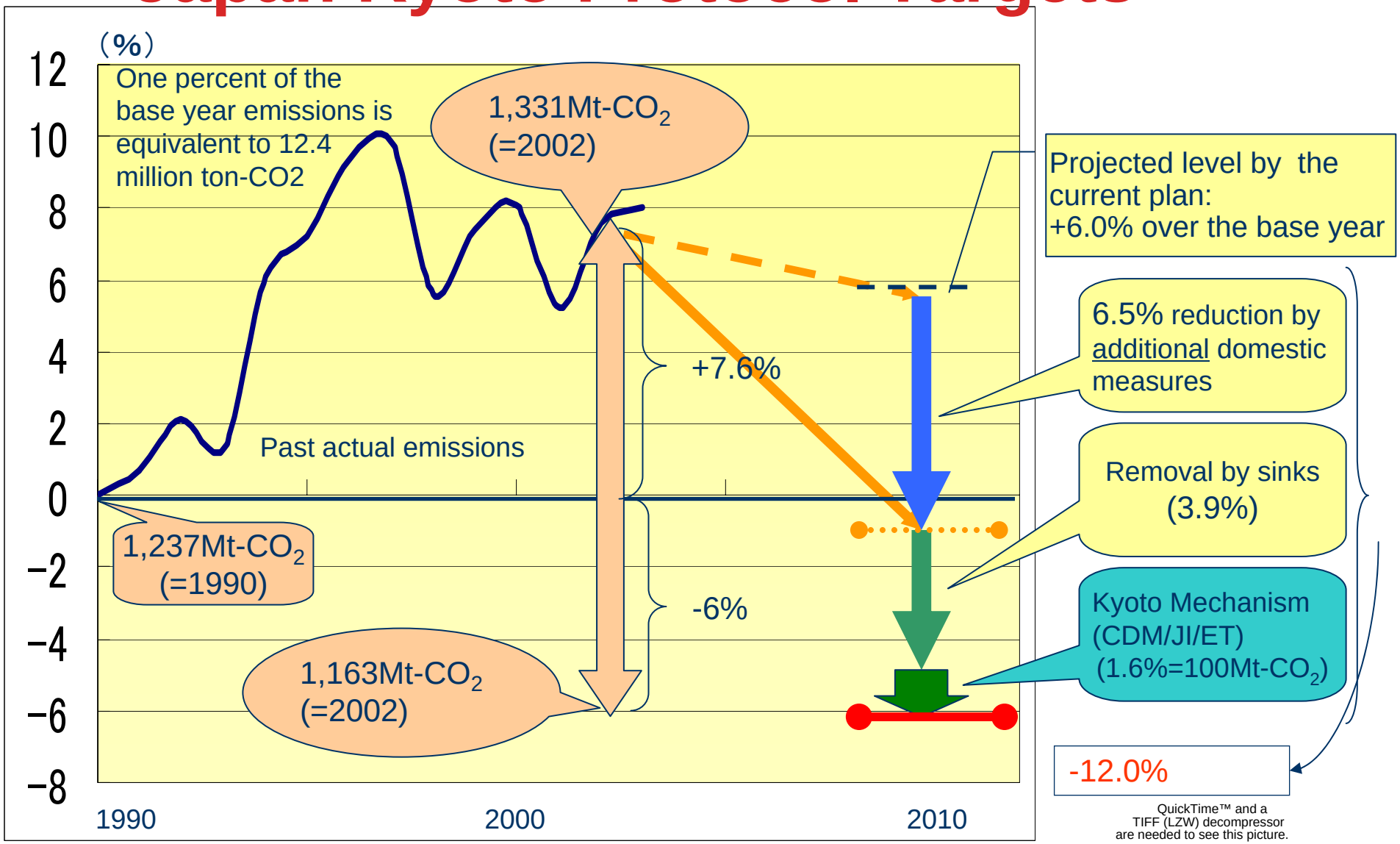
Climate Change

- "Climate change" refers to the ongoing changes in modern climate, including the rise in the earth's average surface temperature known as global warming. Climate change affects the entire planet with serious global consequences.气候变化之的是当前的气候中的变化。包括地球表面稳地上升（全球变暖）。气候变化对地球有严重的影响。
- This had led to the international treaty called the United Nations Framework Convention on Climate Change (UNFCCC) at the Rio de Janeiro Earth Summit in 1992.
- 这个事实引出了1992年在Rio de Janerio地球峰会上达成的联合国气候框架条约

Climate Change

- Participation in the UNFCCC is by Governments, NGOs, and other Stakeholders called “Parties”. Annual meetings called “Conference of Parties” (COP) are held.参加联合国气候框架公约的成员为政府，非政府机构和其他一些成员。每年召开成员会议。
- UNFCCC Objective – To stabilize GHG concentration to allow natural processes to adapt & reach sustainability
- 联合国国际框架公约目标-稳固温室气体的排放以保证自然和谐的发展

Japan Kyoto Protocol Targets



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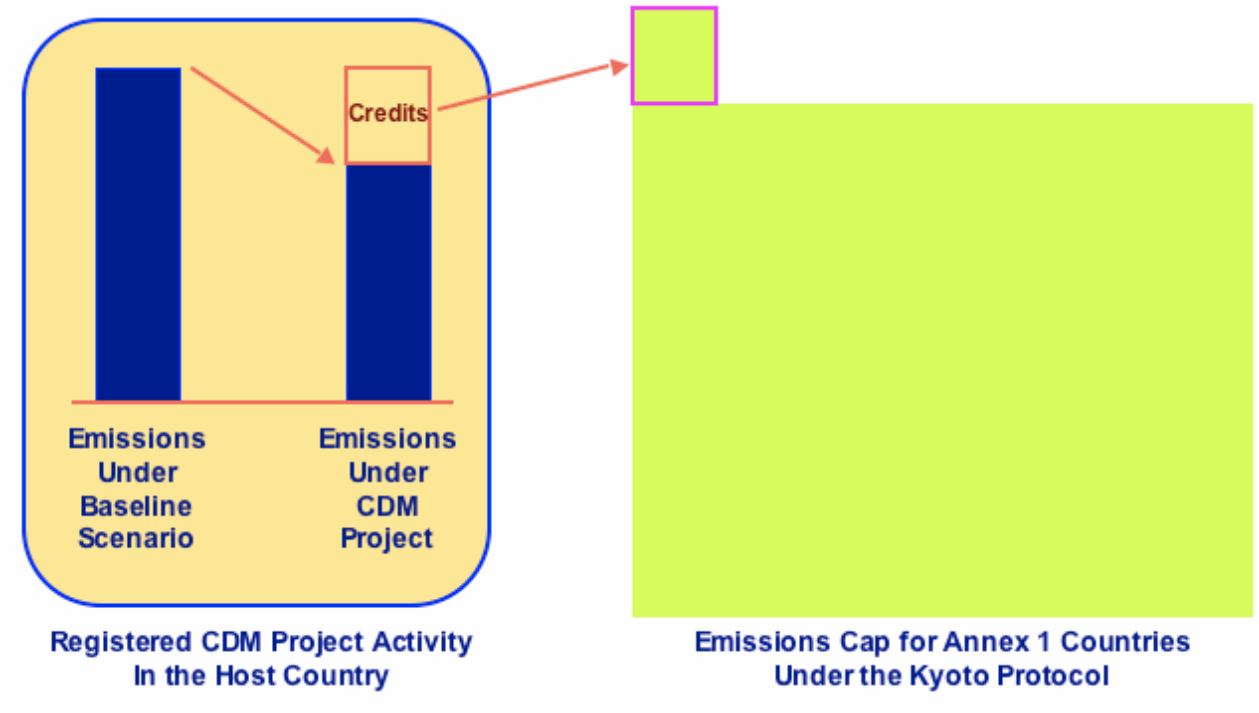
Clean Development Mechanism

- Flexible mechanism that enables carbon emissions trading between developed countries and developing countries like China灵活的机制能够促成发达和发展中国家之间的碳排放贸易。



Why CDM? 为什么要采用清洁发展机制？

- Mutual benefits of partners多方的共同利益
  - Cheaper GHG mitigation for Annex 1 country partners夫建议的成员方可以用更低成本进行温室气体减排。
  - Sustainable development for the host countries
    东道国的可持续性发展
- Host country sets its own Sustainable Development criteria and may lay the framework to use CDM as a means to achieve poverty alleviation东道国设立他的可持续性发展的准则。也给利用清洁发展机制来解决贫困问题提供了一个框架
- International recognition of Host Country environmental performance国际对东道国环境方面表现的认识

CDM Statistics (from cdm.unfccc.int)

- CDM Project Pipeline as of October 30, 2006清洁发展机制到2006年10月30日的情况
  - Over 1,200 projects超过1200个项目
  - 376 registered 376个项目已经注册
  - 59 requesting registration 59个项目正在注册
- Annual Average CERs of registered project activities = 100,254,825 tCO2 equivalent 每年注册项目的核准排放额度为100，254，852吨二氧化碳
- Expected CERs of registered project activities up to the end of 2012 = over 660,000,000 tCO2 equivalent预计到2012年注册的项目所达到的核准排放额度超过660，000，000吨二氧化碳

CDM Project Cycle 1

(1)Planning a CDM project activity

- CDM project participants (PPs) plan a CDM project activity
  - There are several conditions in order to be registered as a CDM project activity , and PPs should consider those conditions from a planning stage.

(2)Preparing the project design document (PDD)

- PPs prepare the project design document (PDD) for a CDM project activity
  - There is the standard format for the PDD, and PPs must fill in all the contents as necessary .

(3)Getting approval from each Party involved

- PPs shall get written approvals of voluntary participation from the designated national authority (DNA) of each Party involved, including host Party.
  - The written approval from host Party should include confirmation by the host Party that a project activity assists it in achieving sustainable development. [CMP/2005/8/Ad1 p15 para40(a)]
  - A Party involved is a Party that provides a written approval. [PDD GL ver6, p11]
  - The registration of a project activity can take place without an Annex I Party being involved at the stage of registration . [EB18 Rep, p8 para57]
  - The details of approval procedure is up to each Party.
- PPs may get written approvals in step (1), (2) or even (4)
  - But PPs must get written approvals before a request for registration.

(4)Validation

- Validation is the process of independent evaluation of a project activity against the requirements of the CDM on the basis of the PDD. [CMP/2005/8/Ad1, p14 para35]
  - Validation is carried out by a designated operational entity (DOE) .
  - There is a formal procedure for validation .

(5)Registration

- Registration is the formal acceptance of a validated project as a CDM project activity. [CMP/2005/8/Ad1, p14 para36]
  - Registration is done by the CDM executive board (EB) .
  - There is a formal procedure for request for registration .
  - PPs shall pay registration fee at registration stage .

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CDM Project Cycle 2 清洁发展机制周期2

(6)Monitoring a CDM project activity

- PPs collect and archive all relevant data necessary for calculating GHG emission reductions by a CDM project activity, in accordance with the monitoring plan written in the PDD (p25).

[CMP/2005/8/Ad1, p18 para56][CMP/2005/8/Ad1, p18 para58]

(7)Verification and certification

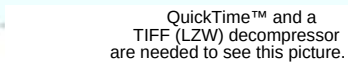
- Verification is the periodic independent review and *ex post* determination of the monitored GHG emission reductions. [CMP/2005/8/Ad1, p18 para61]
  - ☞ Verification is carried out by a designated operational entity (DOE).
  - ☞ There is a formal procedure for verification (p32).
- Certification is the written assurance by a DOE that a project activity achieved the reductions in GHG emissions as verified. [CMP/2005/8/Ad1, p18 para61]
  - ☞ Certification is also done by a DOE (p32).

(8)Issuance of CERs

- The EB will issue certified emission reductions (CERs) equal to the verified amount of GHG emission reductions. [CMP/2005/8/Ad1, p19 para64]
  - ☞ There is a formal procedure for issuance of CERs (p32, 35).
  - ☞ The issuance of CERs, in accordance with the distribution agreement, shall be effected only when the share of proceeds to cover administrative expenses (SOP-Admin) of the CDM has been received. [CMP/2005/8/Ad1, p98 para37]
- Among issued CERs, 2% of those will be deducted for the share of proceeds to assist developing Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation (SOP-Adaptation). [CP/2001/13/Ad2, p23 para15(a)]

(9)Distribution of CERs

- CERs will be distributed among PPs (p35).
  - ☞ The decision on the distribution of CERs from a CDM project activity shall exclusively be taken by PPs. [PDD GL ver6, p12]



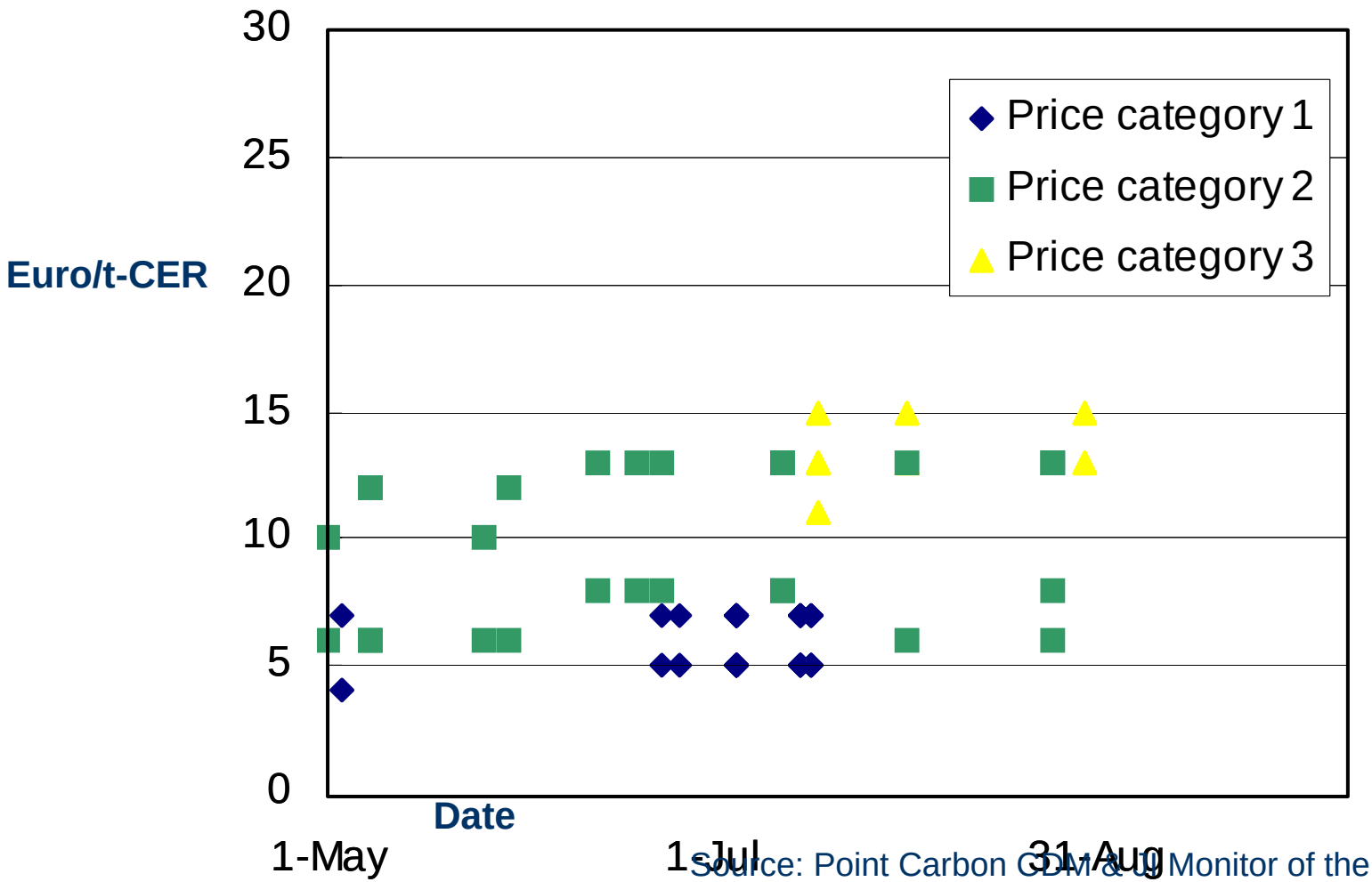
Value of Certified Emission Reductions
核准排放额度的价值

- Value of CERs depends on (1) sharing of risk between host country sellers and Annex 1 country buyers and (2) Size of the project核准排放额度的价值取决于（1）东道主和附录1国家之间共享的风险。（2)项目的规模
  - Buyer interest typically starts at 50,000 tCO2 equivalent annual GHG reductions 买家一般对5万吨以上二氧化碳减排俄项目才有兴趣
- Many institutional buyers and aggregators will now offer US$5/tCO2 equivalent at initial stage (no DNA approval)很多买家及代理公司愿意在项目初期阶段出5美金/每二氧化碳吨的价格（在还没有通过项目DNA的阶段）

Value of Certified Emission Reductions核准排放额度的价值

- A total of 79 Chinese CDM projects had sold 384 million tCO_2 to developed countries by September 10, 2006, at an average price of US$7.535/$tCO_2$. *(as reported in cdm.ccchina.gov.cn)* 截止到2006年9月10日，共79个中国的清洁发展机制项目发达国家达成了3亿8千4百万的二氧化碳吨的交易。平均价格为7。535美金/二氧化碳吨
- Prices may increase as the first commitment period (2008–2012) approaches 价格还可能在初期承诺阶段（2008-2012）间继续上涨

ERPA contracts in Last 4 Months过去的四个月中核准减排额度的购买合同



Source: Point Carbon CDM & JI Monitor of the last 4 months

Price vs Risk-Sharing 价格 vs 共享风险

	Seller卖家	Buyer买家	Price category (Price)价格种类
Buyer's Risk 买家风险 / Seller's Risk卖价风险	Best effort to deliver Flexible/non-firm volume 最大努力交付 灵活/非企业 量	Guarantees to buy 保证购买	1 (Low) 低
		Buy but with preconditions. 买但是有先决条件	2 (Medium)中等
	Guarantees to deliver Firm volume保证交付企业量		3 (High) 高

Key CDM Considerations主要的清洁发展机制的考虑因素：

- Explicit CDM project development from the start从开始就有明确的清洁机制项目的发展
- Timely completion of CDM steps as methodologies can change quickly有时间规划的完成清洁发展机制的个步骤因为项目的方法可以很快做出变化
- Documentation of all relevant CDM activities as required by the CDM process 清洁发展机制项目所需的文件
- Recording and archiving of project steps and operations in compliance with approved methodologies对符合以核证的方法下的项目各步骤和具体操作
- Open and transparent process on a worldwide basis在世界范围内的一个透明的公开的过程

National Approval国家级别的批准

- China Designated National Authority (from cdm.unfccc.int)中国指定的权力机构
  - National Development and Reform Commission of the People's Republic of China 国家计划改革委员会
  - Mr. Gao Guangsheng高广生先生
    Director-General, Office of the National Climate Change Coordination Committee国家气候变化对策协调小组办公室主任高广生
- Priority Areas identified by the China DNA`中国指定的权力机构说列出的优先地区
  - Energy efficiency 能源效率
  - Renewable energy可再生能源
  - Methane recovery and utilization甲烷回收和利用

Our team is ready我们的团队已经准备好了

- Eco-Energy Cities PLC 生态能源城市有限公司
  - University of East Anglia 东安格利亚大学
  - Davis Langdon Seah International 威宁谢工程技术咨询有限公司
  - China Developments PLC中国发展有限公司
- Eco Energy Cities Low Carbon Master Plan 生态能源城市有限公司低碳总体规划
  - For Government or Private Industry 客户为政府及私人产业
  - Clear roadmap of practical, multifaceted, viable solutions from concept to commercialization 从历年到商业运行提供实际的、多方面的、可行的清洁发展解决方案路标

EEC Low Carbon Master Plan生态能源城市有限公司的“低碳总体规划”

- Review current city plans to integrate low carbon practices and technologies 评估当前的城市规划，并把降低温室气体排放的准则和技术融合进去
- Formulate specific projects that bring clean energy technology compatible with CDM 把能够符合清洁发展机制的清洁能源技术融进项目中
- Assist in securing funding and the implementation of these sustainable development projects协助这些可持续性发展项目所需的资金并确保项目的实施
- Maximize CDM benefits from low carbon actions

  从低碳项目中最大化清洁发展机制所带来的收益

How CDM Alleviates Poverty清洁发展机制如何降低贫穷

- Enables marginal GHG reduction projects促成温室气体减排的项目
  - Brings investments and jobs提供投资和就业机会
  - Develops ancillary industries发展辅助产业
  - May use and expand application of local technology可能利用和拓展本地科技的应用

- Targets priority areas for development 选定发展的优先领域
  - Sustainable development both in specific cities and target industrial/commercial sectors在具体的城市和选定的工业/商业领域进行可持续性的发展

How CDM Alleviates Poverty清洁发展机制如何降低贫穷

- Capacity building on new technology 在新科技上进行能力建造
  - Local workforce to gain new skills in growth areas offering higher economic benefits在增长的领域为本地劳动力提供新技术和高的经济利益

How EEC develops CDM projects

生态能源城市有限公司如何发展清洁发展机制项目

- We work on the priority technology areas identified by the China DNA 我们工作在中国制定权力机构所识别的科技有限的领域上
- We focus on regions needing development and have attracted less foreign investments我们注重区域所需的发展，
- We bring proven solutions in a cost effective package that are custom designed for specific city developments我们提针对具体城市发展的一个特别化、经过验证并且成本优化的解决方案。
- We work closely with local counterparts to identify and meet their needs 我们紧密地和我们的本地伙伴合作来识别和满足他们的需求