

**esd sinosphere**

Part of the Camco Group

## Using Financial and Market-based Mechanisms to Improve Energy Efficiency in Buildings in China

运用金融和基于市场的机制促进中国建筑能效发展

### Introduction to the Project

项目简介

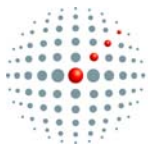
18 February 2008

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2008年2月18日

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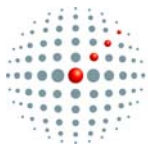


# Contents 内容

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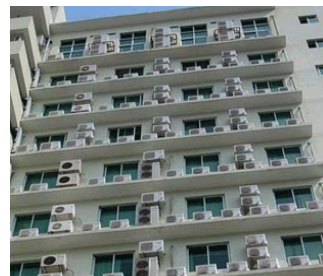
- Background 项目背景
- Partners 合作伙伴
- Aims 项目目标
- Approach 研究方法
- Activities 研究活动

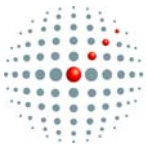


# Why is building energy efficiency so important?

## 建筑物节能为什么如此重要？

- Building energy use already accounts for 40% of total energy use  
在全部的能源消耗中，建筑物能耗已经占到了40%
- By 2015, half of the world's construction will take place in China  
到2015年，中国的土地上将建有世界上半数的建筑物
- High percentage of new building stock  
中国在建筑市场中具有很大的潜力





# What can be done?

## 我们能够做什么？

**Governments worldwide including China, have introduced various mechanisms to encourage energy efficiency. Two main categories:**

包括中国在内的世界各国政府已经引进不同的制度来鼓励提高能源使用效率。这种鼓励机制包括两种类型：

- **Legislation and regulation**

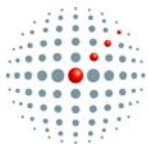
法律和法规

- Building regulations – during construction  
建筑规程 – 建设过程中的管理规定
- Operational regulations – e.g. temperature limits in China  
操作规程 – 比如说在中国对室内温度的限制

- **Financial mechanisms**

融资手段

- Grants and subsidies  
补贴
- Taxes  
税收
- Market forces, e.g. trading mechanisms  
市场导向，比如自由贸易机制



## Partners 合作伙伴

- REEEP (established 2004)

可再生能源与能源效率合作计划（创立于**2004**年）



renewable  
energy  
& energy  
efficiency  
partnership

- Energy Research Institute of NDRC (established 1980)

国家发改委的能源研究所（创立于**1980**年）



ENERGY RESEARCH INSTITUTE

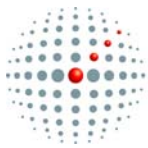
- ESD Sinosphere (established 2007 through acquisition by ESD Ltd, established 1989, of Sinosphere established 1999)

补天(北京)环境与能源咨询有限公司（由创立于**1989**年的**ESD**公司和创立于**1999**年的**Sinosphere**合并而成）



esd sinosphere

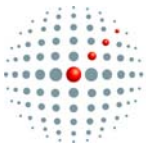
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## Aims 项目目标



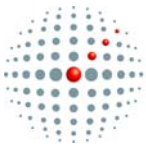
- Define the appropriate financial mechanisms to trigger action in the building sector in China  
确定启动中国建筑领域能效活动的最佳融资机制
- Develop a road map  
制定路线图
  - Policy and regulation requirements  
政策和法规要求
  - Identify stakeholders  
确定利益相关方
  - Activities and responsibilities  
活动和责任
  - Identify required capacity building and resources  
确定所需要的建筑能力及相关融资手段
- Increase stakeholder awareness  
提高利益相关方的意识
- Consider validity of emerging CDM and voluntary carbon sector for building energy efficiency  
分析CDM和自愿性碳减排机制在建筑能效领域的适用性



## Approach 研究方法

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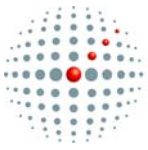
- ✎ Investigate existing mechanisms (including building codes and standards) to improve building energy efficiency in China
  - ✎ 调查现有中国促进建筑能效发展的机制，包括建筑标准和规范
- ✎ Consider appropriate financial mechanisms and market-based instruments (FMs & MBIs) being developed or used in other parts of the world
  - ✎ 研究国际上旨在促进建筑能效发展的已经实施的或正在开发的融资和基于市场机制
- ✎ Assess the suitability of proposed mechanisms for China and investigate key issues such as which actors should be targeted by measures and links to other policy objectives such as improved living conditions for residents
  - ✎ 分析拟定机制在中国的适用性，就一些关键问题，如措施的主要对象应当是谁，展开评估，并同提高住户的生活水平等政策目标关联起来
- ✎ Develop a road-map for improving building energy efficiency in China through the use of financial and market-based mechanisms
  - ✎ 设计中国建筑能效领域融资和基于市场的机制的发展蓝图



# Project Activities 1 - Investigate existing mechanisms

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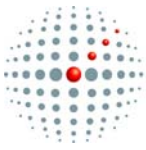
- 👉 Definition of building energy consumption in China and breakdown between sectors and end-users
  - 👉 调查中国目前建筑能耗情况，并针对不同建筑类型和终端用户进行细分
- 👉 Assessment of building codes, standards and instruments to promote building energy efficiency already used or to be introduced in China
  - 👉 分析中国已实施的或准备引进的旨在促进建筑能效发展的标准、规范和机制
- 👉 Assessment of potential for improvements in building energy efficiency and the types of measures that could be implemented
  - 👉 分析进一步促进建筑能效发展的潜力和可采用的措施
- 👉 Identification of policy gaps in addressing building energy consumption in China
  - 👉 界定中国建筑能耗的政策缺口
- 👉 Definition of barriers preventing greater uptake of building energy efficiency measures in China
  - 👉 分析妨碍建筑节能措施大量应用的主要障碍



## Project Activity 2 – Consider appropriate FMs &MBIs

### 项目活动2 – 研究国际上适用的融资和市场机制

- 👉 Carbon & energy taxes      碳税和能源税
- 👉 Soft loans and subsidies      低利率贷款和政府补贴
- 👉 Tradable White Certificates      可交易白色证书
- 👉 The Clean Development Mechanism      清洁发展机制
- 👉 Voluntary carbon market      自愿性碳市场
- 👉 Success in use of individual instruments internationally  
适用机制国际应用成功案例



## Project Activity 3 – Assess the suitability for China

### 项目活动3 – 评估拟定机制在中国的适用性

- 👉 Effectiveness/ impact of policy in improving building energy efficiency  
拟定机制在促进建筑能效方面发展的有效性及其影响
- 👉 Capital investment required to introduce/ modify policy  
拟定机制引进或修改所需要的资金投入
- 👉 Acceptability to stakeholders e.g. building users, construction companies  
拟定机制为利益相关方(如建筑使用者和开发商等)接受的预期程度
- 👉 Level of political effort to introduce/ modify policy (non-financial)  
政策引进或修改所需要的制度性(非财政性)调整力度
- 👉 Ongoing implementation costs and effort for policy once introduced  
政策引进后实施过程中后续的成本支出和其他必要的努力



## Project Activity 3 – Case Studies

- ✓ Retrofitting an existing building  
既有建筑改造

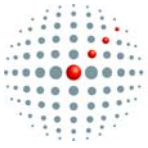


- ✓ A new carbon neutral development  
低碳社区开发建设

1	Zero Carbon
2	Zero Waste
3	Sustainable Transport
4	Local and Sustainable Materials
5	Local and Sustainable Food
6	Sustainable Water
7	Natural Habitats and Wildlife
8	Culture and Heritage
9	Equity and Fairtrade
10	Health and Happiness

- ✓ Increasing uptake of energy efficiency appliances  
加强节能设备应用





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**Thank you!**

谢谢!

Rachel Child

[Rachel.child@camcoglobal.com.cn](mailto:Rachel.child@camcoglobal.com.cn),

010 8448 1623

Xiao Hong

[redy.xiao@esdsinosphere.com](mailto:redy.xiao@esdsinosphere.com),

010 8448 1623