



International Network for Small Hydropower (IN-SHP)

清洁能源发展机制（CDM）：项目流程、项目指南和项目执行

The Clean Development Mechanism (CDM): Over view of Project Cycle, Guidelines, and Implementation

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1. **CDM 简介**
 - 气候变化和《京都议定书》
 - **CDM: 清洁能源发展机制的目的**
 - 项目实施机构对**CDM**的期望应该是什么?
2. **项目发展流程**
 - 前面的步骤: 项目选择和项目发展
 - 要求
3. **总结**

1. **Introduction to CDM**
 - Climate Change and the Kyoto Protocol
 - CDM: The aims of the mechanism
 - What project developers should expect from CDM
2. **Project Development Cycle**
 - The first two steps: Project Screening and Development
 - Requirements
3. **Conclusion**



清洁能源发展机制简介— Introduction to the Clean Development Mechanism

☞ CDM对与中国实施机构来说是什么？

- 气候变化
- 《京都议定书》和CDM
- CDM 和发展中国家
- CDM和小水电

☞ 想要的到的结果和机会

☞ What does this mean in the context of Chinese project developers?

- Climate Change
- Kyoto Protocol and CDM
- CDM and the developing world
- CDM and small hydropower

☞ The desired result and opportunities



气候变化 — Climate Change

■ 气候变化会导致全球范围的严重影响

- 农作物的毁坏和大范围的饥荒
- 海平线上升和土地淹没
- 失去淡水储备
- 植物和动物的大量灭绝
- 恶劣的气候

■ 气候变化是由会导致气体排放的人类活动引起的，如工业、制热和制冷业、交通以及森林的过度砍伐等等。

■ 科学家认为，这些还会导致突然的气候变化，因此，必须立即采取缓解和气候变化的措施。

■ Climate Change can lead to irreversible global changes:

- Crop devastation and wide-spread famine
- Rising sea levels and flooding of lands
- Loss of freshwater reserves
- Mass extinctions of plant and animal life
- Inhospitable climates

■ Climate change is being induced by emission producing human activities such as industry, heating and cooling, transportation, the loss of natural carbon sinks by felling forests, etc.

■ Scientists speculate that this may also lead to **abrupt** climate change and therefore major climate change mitigation effort must be undertaken immediately.



CDM的目标和定义 – Review of CDM Goals and Definitions

A. 定义

- CDM 项目通过替代非附件一国家的温室气体排放项目，产生经核证的减排量(UNFCCC, 1999).

B. 目标

《京都议定书》第12条为CDM设立了3个目标

- 帮助缓和气候变化；
- 帮助附件一国家完成减排量义务；
- 帮助非附件一国家实现可持续发展

C. 标准

CDM项目必须符合3个总体要求：

- 自愿参与CDM项目活动；
- 项目对减轻气候变化的效益必须是长期的；
- 项目对产生温室气体减排量的贡献必须超过普通的项目。（*额外性*—下一个报告将对做详细的解释。）

A. Definition

- CDM projects produce Certified Emissions Reduction (CER) credits generated from GHG emissions displacing projects in non-Annex I countries (UNFCCC, 1999).

B. Goals

Article 12 of the Kyoto Protocol sets out three goals for the CDM:

- To help mitigate climate change;
- To help Annex I countries attain their emission reduction commitments; and
- To help non-Annex I countries achieve sustainable development

C. Criteria

CDM projects have three overall criteria:

- Projects must be voluntary;
- Projects must be able to show long-term climate change mitigation benefits; and
- Projects must contribute to emissions reductions above and beyond business as usual (*additionality* – this term shall be described in detail in the next presentation).

Source: [An Implementation Guide to the Clean Development Mechanism](#), UNCTAD 2003



项目实施机构对CDM的期望应该是什么？

What project developers should expect from CDM

- 作为项目实施机构，你是发展可再生能源项目的合作方。只有在项目符合CDM的基本目标的情况下才有可能获得财政资助，CDM并不是以电气化为目的的直接援助
- 不能证明额外性、可持续性、有效性的项目不能获得批准，财政资助也不能得到保证。
- 项目在保证符合所有的要求的情况下，项目开发者能得到占项目总投资**10%**的资助资金。
- As project developers, you are partners in developing a sustainable clean energy project. Financial aid is awarded only upon satisfying the primary goals of the CDM and it is not a direct development aid for electrification purposes.
- Projects that cannot prove additionality, sustainability, and effectiveness will not be accepted and financial aid will not be granted.
- Granted that all requirements (to be discussed further) are met, project developers may receive assistance for up to 10% of the required project costs.



CDM项目发展流程 – CDM Project Development Cycle

CDM项目发展流程主要包括以下6个阶段：

1. 项目选择
2. 项目发展
3. 国家审批
4. 审定和注册
5. 执行和监测
6. 核查和认证

There are 6 important stages in the CDM project development cycle. These are the following:

1. Project Screening
2. Project Development
3. National Approval
4. Validation and Registration
5. Implementation and Monitoring
6. Verification and Certification



第一阶段：项目选择 — Stage 1: Project Screening

- **项目选择：**是什么类型的可再生能源项目？大规模项目还是小规模项目？
- 小规模项目的要求是装机容量小于15MW。
- 大规模项目必须定义自己的排放量计算方法。
- 基准线计算是为了算出在没有项目活动情况上每年会产生的CO2当量的排放量。

其他的考虑因素：

- 在中国，选择一个附件一国家作为项目合作方要比单方开展CDM项目更有优势。
- 特别要求参加CDM项目的企业必须是中方控股 ($\geq 51\%$)。

- **Project Screening:** What type of renewable energy? **Small-scale or full-scale?**
- Small-scale CDM projects defined to have **less than 15MW installed capacity**.
- Larger-scale projects must define their own terms of **baseline calculations**
- **Baseline calculations** seek to identify the amount of emissions in *tons of CO2 equivalent per year* that would have otherwise resulted in the absence of the proposed CDM project.

– *Make sure that the target grid is not composed only of renewable energy sources!

Additional Considerations:

- It is a preferred policy in China to have an Annex I country partner rather than to execute an unilateral CDM project.
- It is mandated that in any such projects involving joint-ventures, Chinese firms should have majority ownership ($\geq 51\%$)



第二阶段：项目发展 — Stage 2: Project Development

- 项目实施机构必须估计出真正的排放量并写出一份项目信息报告。
- 发展排放监测和核证方法学。
- 准备投资计划和开展财务分析。
- 对申请的项目进行可行性研究，包括得到项目政府部门对此项目的批准文件。
- 进行该项目对环境的影响的研究（可以是可行性研究的一部分）。
- 起草项目设计文件
- 选择一个已批准的基准线和监测方法学或提出新方法。

注意：在这一阶段，项目的任何建设工作都不可以开始，不管是不是准备阶段的建设（如道路的建设）。如果项目的建设在这一阶段已经开始，那该项目发展成CDM项目的机会就很小

- Project developers must estimate real emissions reductions and create a Project Information Note (PIN).
- Develop emissions monitoring and verification methodology
- Prepare investment plan and undertake financial analysis
- Conduct a feasibility study of the proposed project with final approval from appropriate government offices
- Conduct an environmental impact study (this may be part of the feasibility study)
- Draft a Project Design Document (PDD)
- Choose an approved baseline and monitoring methodology or suggest a new one.

NOTE: In this stage, there should be no actual construction work involved, regardless of whether they are of preparatory nature (i.e. roads) or not. If construction has already started on the main project, there is very little chance of being accepted as a CDM project.



对项目实施者的其他指南 — Other Guidelines for the Project Developer

- 负责项目的工程建设，并定期向国家发改委报告。
- 保持所有数据，方便未来的监测活动。
- 在信息交换过程中，依法保护国家秘密和正当商业秘密
- 最初的准备阶段很重要。
- 与项目合作方和参与方协调合作。
- 有关项目的基本问题应该给予解决，在申请CDM项目之前，要弄清这些问题的答案。

-Project Developers will be responsible for construction of the project and report periodically to its project partners and Designated National Authority (NDRC).

- All records should also be kept for monitoring purposes.
- Protect state and business secrets during information exchange
- Initial preparatory stages very important
- Coordination with project partners/proponents needed
- Basic questions regarding the project should be investigated and its answers made available before applying for consideration as a CDM project.



结论 – Conclusion

- CDM是实现可持续发展和增加清洁能源比重的一个很好的机会。
 - 要特别注意准备阶段的工作，以避免后面阶段的花费和对项目的失望。
 - 在设计CDM项目文件之前，首先要对CDM的基本问题和指南进行研究，并且要和项目合作方很好的配合。
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- CDM is an opportunity for pursuing sustainable development and increasing clean energy sources
 - Extra attention should be paid during the preparatory stages in order to avoid latter costs and disappointment
 - Investigate basic questions and guidelines prior to designing projects for CDM and work closely with project partners

<http://www.inshp.org/cdm/content.asp>