

U.S. - China Climate Change Working Group - Energy Performance Contracting (EPC) Initiative

2016 Pilot Project Opportunity *UPDATED AS OF AUGUST 8*

The EPC initiative calls for high-profile recognition of pilot projects in the U.S. and China that demonstrate noteworthy concepts. This paper sets forth requirements for a project to receive such recognition. A first round of projects was recognized at the U.S.-China Energy Efficiency Forum in October 2015. In 2016, the two countries expect to announce additional projects as the initiative scales up.

Objective

The objective of recognizing projects is to encourage U.S. and Chinese organizations to get real-world experience in the other's market using innovative, feasible business models alongside local practitioners and promoting key takeaways with the broader sector. Best practices from one market should be introduced and applied in the other. Participants will use integrated solutions to foster deep energy savings, demonstrating an optimal combination of project development and design, energy auditing, energy savings guarantees, third-party financing, contracting, and Measurement and Verification (M&V). For example, an innovative pilot project may consist of a bundle of short and long-payback measures for an attractive overall return on investment and deeper energy savings than shorter-payback measures, alone. The initiative aims to encourage as many noteworthy projects as practical in the public infrastructure, public and commercial buildings and industrial facilities sectors. All projects recognized should have participation from both Chinese and U.S. entities.

Value Proposition for Participants

U.S. and Chinese organizations who propose an EPC project that meets the minimum pilot project requirements will have an opportunity for recognition during the annual U.S. – China Energy Efficiency Forum (EEF). All recognized projects will be listed in a presentation during the event on the progress of the EPC initiative, and each pilot project will receive a certificate from the EEF. Representatives of recognized projects will be invited to a special breakout session on the topic.

Particularly noteworthy projects that exceed the minimum requirements and that demonstrate the greatest viability and replicability may receive added recognition in an MOU signing ceremony during the high-profile opening plenary session of the EEF. For example, a project with a newly completed investment-grade audit will be more compelling than another project that otherwise proposes the same level of energy savings and meets the other minimum requirements. A description of the select projects will be read while the parties sign an MOU formalizing their cooperation on-stage, and have their photographs taken with lead U.S. and Chinese officials.

Additional public affairs outreach will be pursued to complement the recognition offered at the EEF. These efforts will provide significant exposure that may foster additional networking and business opportunities. As long as the MOU memorializes that the project meets all minimum requirements, the project design can be tailored to satisfy the needs of the project.

Approach

The EEF will occur in October 2016, and the deadline for submitting MOUs and project summaries for initial review is September 9¹. Projects submitted prior to that date will be given prioritized review. MOUs and project summaries should be submitted in English and Chinese to international@emca.cn, m.evans@pnnl.gov and qing.tan@pnnl.gov. Failure to submit complete, bilingual project information may result in ineligibility (See Appendix for the submission template). The U.S. Department of Energy (DOE), U.S. Department of State (DOS), and China National Development and Reform Commission (NDRC) will review the MOUs for completeness, evaluate and develop a consensus view on project merits and jointly select projects. The ESCO Committee of China Energy Conservation Association (EMCA) and the U.S. Pacific Northwest National Laboratory (PNNL) will provide DOE, DOS and NDRC with assistance in reviewing the MOUs. DOE, DOS and NDRC will notify the interested parties whether the project will be recognized at the EEF. Each project for consideration must be reviewed by both the U.S. and China. The signing of the MOU is taken as an assurance that participating parties are doing so in good faith. Funding is not provided by either government, as the projects are intended to demonstrate replicable, self-sustaining models based on measured energy savings. All projects recognized at the EEF will be asked to provide basic quarterly email updates (roughly one page on key accomplishments and challenges) to DOE and NDRC. At subsequent EEFs, top performing, innovative projects may be offered the opportunity for additional recognition of their progress.

Pilot projects must address all of the following minimum requirements:

- Identifies and briefly describes the specific facility that will undergo a retrofit via an Energy Performance Contract: name, location, facility type / purpose, size (e.g., building must be at least 1,500 M²; industrial facility / plants must consume at least 5,000 metric tons of coal equivalent (TCE) per year), and average annual energy use.
- Outlines an integrated approach that will retrofit at least 3 systems and reduce energy consumption relative to baseline conditions (derived from average facility energy consumption over the preceding 3 years) by at least:
 - Industrial Facility / Plant or Public Infrastructure: 20% and/or 10,000 TCE energy saved across the affected systems (state the basis for the estimated savings)
 - Commercial / Public Building: 20% of the entire building's energy use (state the basis for the estimated savings)
- Specify the primary participants: energy management company (EMC) / energy service company (ESCO), key vendor(s) / technology provider(s), financial institution, facility owner(s), facility operator(s), etc.
- Each project includes participation by both U.S. and Chinese stakeholders, including EMC/ESCOs, technology providers and finance companies (e.g., U.S. ESCO + Chinese technology provider + Chinese bank).

¹ The original deadline was August 22, but was extended to September 9, 2016.

- Utilizes financing, contracting and/or M&V with strong potential to address traditional barriers² in the market where the project is being conducted:
 - Financing - Self-financing is typical in China, so employ a public-private partnership or other innovative type of third-party financing. In the U.S., employ financial vehicles designed to overcome market barriers. Ideally, innovative financing would leverage government or industry association to reduce market risks and introduce diversified financing strategies to fairly allocate risks and costs.
 - Contracting - Use innovative contract structures (e.g. guaranteed savings contracts, energy savings agreements, hybrid models, etc.) to address split incentives, lack of access to financing, or other barriers that are the status quo in the host country.
 - M&V – Include protocols consistent with the rigor and principles of the [International Performance Measurement and Verification Protocol](#) to ensure accuracy and credibility. Direct measurement of savings and thorough documentation are necessary, particularly if there are adjustments to baseline conditions. M&V models should fit a range of project situations to allow for a clear understanding of the impact of deep retrofits.
- Indicates how the project is noteworthy relative to others pursued in that market. Also indicates any ways that the project has benefited from the work advanced by the industry-led working group established by EMCA and the U.S.-China Energy Cooperation Program (ECP).
- Agrees to email DOE and NDRC details on general progress (energy efficiency measures recommended and pursued, pre / post- performance, return on investment, etc.) at least once each quarter, which can be shared with the public.
- Specifies a project start date within 9 months after the signing of the MOU. Projects completed prior to the date for prioritized review of pilot project proposals are not eligible unless the sponsor demonstrates that its project has substantially benefitted from the work advanced by the industry-led working group.
- Includes approval and signature of principals from the appropriate divisions within each participating organization indicating that a good-faith effort will be pursued.

² See the Opportunity Analysis White Paper for more details on barriers and innovative solutions.

Recommended Format for Incorporating Pilot Project Requirements into a Memorandum of Understanding

Please fill in text in <...> with specific information. Additional text should be included, as needed.

INTRODUCTION

This Memorandum of Understanding (“MOU”) is entered into by and between <include at least one U.S. and/or Chinese ESCO> and <include a host company/organization in either the U.S. or China> (“Host”). The lead <ESCO or EMC, specify which> for this project will be <specify company>. This project will also involve <specify companies>.

“Party” means ESCO or Host, and “Parties” means both ESCO and Host.

The Parties to this MOU agree in good faith to participate in an Energy Performance Contract (“EPC”) at <specify facility name and type/purpose>, located in <city/town/village, province/state, country>.

TIMELINE

This MOU shall become effective upon the later date on which the authorized designee of each Party has signed it. The EPC project specified in this MOU will enter into development phase no later than < 9 months from the date of signing>.

SCOPE

The <specified facility>, located at <specified location>, is <size in M² or energy consumption in TCE> and currently consumes <energy consumption amount> annually. The facility is primarily used for <function>. Parties to this MOU will enter into an EPC with an integrated approach to retrofit at least 3 systems that, tentatively, are <specify the types of systems>. The retrofits will result in reduction of facility-level energy consumption at <specified facility> by at least <at least 20% and/or 10,000 TCE energy saved across affected systems for industrial facility, 20% for building>, compared to baseline conditions over the past 3 years. The estimate savings are based on <indicate how the calculation was made and pertinent assumptions >.

This project will be financed by <specify financing institution>. Other key partners include <name and type of organization>.

The project will use the following innovative mechanism(s) to address traditional market barriers in <U.S. or China>. It has the following noteworthy aspects that differentiate it from other projects in the market: <specify aspects>. Thus, the project will employ <public-private partnership, third-party, or other> financing, < guaranteed savings, energy savings agreement, or other> contract structure, and/or M&V through <enter description>.

REQUIREMENTS

Parties to this MOU agree to share progress following inception of the EPC via email on a quarterly basis and during the next Energy Efficiency Forum, with the understanding that no business sensitive information will be revealed.

Signature of authorized representatives from each participating organization indicates approval of the project and that a good-faith effort will be pursued.

中美气候变化工作组 – 合同能源管理项目

2016 年示范项目选取*2016 年 8 月 8 日更新*

合同能源管理项目希望在美国和中国选取具有代表性的示范项目，并在高端平台上对入选项目进行展示和宣传。2015 年 10 月，中美能效论坛公布了第一批入选项目名单。中美两国共同期待在 2016 年扩大合同能源管理项目的规模，届时将选取更多的项目。本文对 2016 年项目征集进行简要介绍，并对选取标准做出说明。

目标

示范项目的选取和展示旨在鼓励美国和中国机构与当地从业者合作，运用创新、可行的商业模式在双方市场中获取实际经验，同时将取得的经验在行业内进行推广。在一国市场中的最佳实践应引入并运用到另一国市场。项目参与者将采用综合解决方案促进深度节能，体现出项目在设计开发、能源审计、节能量保证、第三方融资、合同模式及测量与认证（M&V）上的最优组合。例如，一个创新的示范项目为了取得良好投资收益并达到深度节能，可能会包含一系列短回报周期和长回报周期的节能措施组合，因为这样的组合比仅依靠短回报周期的节能措施能产生更多的节能量。合同能源管理项目致力于在公共基础设施、公共和商业建筑以及工业设施领域鼓励尽可能多具有代表性的示范项目。入选的项目均须包含来自中美双方的参与。

机会及对参与者的价值

如果提交申请的项目满足项目选取的基本条件，作为提交者的美国和中国机构将有机会在年度中美能效论坛上得到表彰。论坛将为入选项目授予证书，并对其在合同能源管理上取得的成就进行展示。项目代表将受邀参与合同能源管理主题会议环节。

卓越项目有望在能效论坛开幕仪式全体大会环节签署备忘录，此类项目须超过项目选取基本条件并具备卓越的可行性和可复制性。例如，对于两个在节能水平和其他基本条件上旗鼓相当的项目，如果其中一个项目新近完成了投资级审计，则会比另一个项目具有更大的吸引力。在中美双方签署备忘录的同时，项目的相关内容将会得到公开介绍，签署代表将与中美双方重要政府官员合影。

作为能效论坛表彰的补充，入选项目还会在一系列的公共活动中得到宣传推广。对项目参与者而言，这些活动不仅能使项目得到良好的宣传，还可能带来额外的商务交流和商业合作机会。入选项目在符合标准的基础上可以进行灵活改动，项目参与方可以进行其他优化设计。

参与方式

2016 年中美能效论坛将于同年 10 月举办，初审提交备忘录和项目概要的截止日期为 2016 年 9 月 9 日³，此日期之前提交的项目将优先评审。请将中英双语的备忘录和项目概要发送到 international@emca.cn，m.evans@pnnl.gov 和 qing.tan@pnnl.gov。未使用中英双语提交信息或提交信息不完整的项目将可能失去入选资格（项目申请模板见附件）。美国能源部、国务院和中国发改委将考查备忘录完整性，对项目进行评审并撰写统一评审意见，最后共同选取项目。中国节能协会节能服务产业委员会（EMCA）和美国太平洋西北国家实验室（PNNL）将在项目评审过程

³ 原定截止日期为 2016 年 8 月 22 日，而后延期至 2016 年 9 月 9 日。

中提供协助。美国能源部、国务院和中国发改委将通知相关单位或机构该项目是否会在能效论坛得到表彰。所有参与评审的项目均须经由中美双方审核，备忘录的签订行为将被视为项目参与方对此要求的知悉和确认。介于项目的选取旨在展示基于一定节能量的可复制、自维持的项目模式，中美双方政府均不会为项目出资。美国能源部和中国发改委要求所有在能效论坛上入选的项目每季度以电子邮件形式提供项目进度汇报（一页左右，包括主要成果和挑战）。在今后的能效论坛中，创新或表现优异的入选项目可能会受到额外的表彰。

入选项目必须满足以下所有基本要求：

- 说明并简要描述将通过合同能源管理进行节能改造的具体设施：名称、设施类型/用途、规模（建筑领域改造，要求建筑面积不少于 1500 平方米，工业领域改造，要求工业设施/厂房年均能耗不少于 5000 吨标煤）和年平均能耗。
- 对综合改造方案进行介绍，改造须至少涉及三个系统，跟基准能耗状况（该设施过去三年的年平均能耗）相比至少实现如下节能量：
 - 工业设施/厂房或公共基础设施：被改造系统能耗减少 20%或 10000 吨标煤（请说明预测节能量的依据）
 - 商业/公共建筑：建筑整体能耗减少 20%（请说明预测节能量的依据）
- 列出主要项目参与方：能源管理公司（EMC）/节能服务公司（ESCO）、主要供应商/技术提供方、金融机构、业主、运营单位等。
- 项目必须包含中美双方的共同参与，可以体现在但不限于能源管理公司/节能服务公司、技术提供方及融资机构（如：美方节能服务公司、中方技术提供方及中方银行的组合形式）。
- 采用有效的融资方式、合同模式或 M&V 机制，解决项目在其所在市场可能遭遇的传统障碍⁴，比如：
 - 融资 – 由于自筹资金在中国非常普遍，项目应采用公私合作（PPP）或其他创新的第三方融资模式。在美国，应采用为消除市场壁垒而设计的融资工具。理想的创新型融资模式应当利用政府或行业协会资源合理规避市场风险，并引入多样化的融资策略来合理分配风险和成本。
 - 合同模式 – 采用创新的合同结构（例如：节能量保证型合同、节能管理协议、混合型等）来解决项目所在国现有的“奖励分散”、缺乏融资机会和其他的市场壁垒等问题。
 - M&V 机制 – 项目所采用的 M&V 规程在严格程度和总体原则上应与[《国际节能效果测量与认证规程》](#)保持一致，以确保 M&V 的准确性和可信度。对节能量的直接测量和完整记录很有必要，尤其是在对基准能耗状况进行调整的情况下。项目所采用的 M&V 机制应适用于一系列不同的项目情境，便于清楚理解深度节能改造的影响。

⁴ 更多关于市场壁垒及其创新解决方案的信息请参照“市场机会分析白皮书”（Opportunity Analysis White Paper）。

- 阐述该项目与市场中其他项目相比的创新点，以及由 EMCA 和中美能源合作项目（ECP）建立的中美行业领导的工作组所开展的工作为项目提供了何种帮助。
- 同意至少每季度以邮件形式向美国能源部及中国发改委进行一次进度汇报（包括建议和实际采用的节能措施、改造前/后能耗情况、投资收益等），进度汇报信息将面向大众公开。
- 项目需要在备忘录签署九个月内开始实施。示范项目初审日期之前竣工的项目原则上不具备参选资格，但申请方能证明该项目大规模受益于中美行业领导的工作组所开展工作的情况除外。
- 所有项目参与机构相关部门负责人的书面同意和签名，证明项目在良好的诚信和合作关系中开展。

备忘录模板 – 推荐格式（包含项目选取要求）

请在“<.....>”中填写具体信息。如有需要，请在本模板基础上进行添加。

简介

本备忘录（下文简称“备忘录”）由<美方和/或中方节能服务公司名称>与<美方或中方业主公司或机构名称>（即：项目甲方）双方共同签署。项目牵头的<节能服务公司或能源管理公司，二者选填其一>为<公司名称>。本项目还将包含<公司名称>的参与。

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备忘录在所有签订方授权的指定人员签字后开始生效。备忘录中提及的项目最迟实施时间为<自签订时间起九个月>。

范畴

位于<国家 省/直辖市/自治区 市/镇/乡>的<设施名称><建筑面积 平方米或耗能 吨标煤/年，二者选填其一>，目前每年消耗<能耗总量>。该设施主要用于<功能>。备忘录签订双方将通过合同能源管理运用综合方案对设施的至少三个系统进行节能改造，初步包括<系统类型>。与最近三年的基准能耗状况相比，改造将使<设施名称>整体能耗至少减少<工业设施被改造系统减少 20%或 10000 吨标煤或以上，建筑 20%或以上，二者选填其一>。节能量的预测是基于<阐述预测过程和主要假设>。

本项目由<融资机构名称>出资。其他主要合作方包括<机构名称及类型>。

本项目将采用如下创新机制来克服<美国或中国，二者选填其一>市场中的传统壁垒。与市场中的其他项目相比，本项目有以下几个方面的创新：<具体说明在哪些方面有这样的创新点>。因此，本项目将会采用<公私合作（PPP）、第三方或其他>融资模式、<节能量保证、节能管理协议或其他>合同结构以及<描述具体的测量与认证规程>的测量与认证机制。

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