CLEAN ENERGY INVESTMENT ACCELERATOR 清洁能源投资加速器

Harnessing Private Sector Demand and Catalyzing Clean Energy Deployment In Key Emerging Markets

把握私营部门的需求,加速重要新兴市场清洁能源的发展





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The Challenge: Growing Energy Demand and Plans for Coal Build-Out 挑战:不断增长的能源需求和煤炭增加计划

- Installed power generation capacity in Southeast Asia more than doubled from 2000 to 2016 (~ 240 GW as of 2016) 从2000年到2016年,东南亚的装机容量增加了一倍多(截至2016年,约为240GW)
- 70% growth in energy use in Southeast Asia's industrial sector from 2000 to 2016 with massive growth expected to continue. 从2000年到2016年,东南亚工业部门的能源使用量增长了70% 预计将继续大规模增长。
 - e.g. ~50% of Vietnam's electricity consumption from commercial and industrial facilities 例如: 越南约50%耗电量 来自商业和工业设施
- 160 gigawatts of new coal capacity by 2040 planned in Southeast Asia, largely to meet growing commercial and industrial demand. 到2040年,计划在东南亚投入160千瓦的新煤炭产能,主要是为了满足不断增长的商业 和工业需求
 - e.g. 50GW to 130GW: Vietnam's projected power generation capacity increase by 2030 2030年前, 越南的发电量
 预计将在增加50GW至130GW

Renewable Energy Market Analysis, www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Jan/IRENA_Market_Southeast_Asia_2018.pdf. *Southeast Asia Energy Outlook 2017*, www.iea.org/publications/freepublications/publication/WEO2017SpecialReport_SoutheastAsiaEnergyOutlook.pdf.

Cost-Competitive Renewables & Surging Corporate Demand for Clean Power 具有成本竞争力的可再生能源和企业对清洁电力的需求激增



- RE100: 191 global companies committed 全球191个公司加入RE100行动
 - 200+ TWh of clean energy demand by 2030
 - 100+ GW of new installed clean energy generation capacity





Clean Energy Investment Accelerator (CEIA) 清洁能源投资加速器 (CEIA)



is an innovative public-private partnership focused on improving opportunities for corporate clean energy purchasing 创新的公私合营伙伴关系,致力于改善企业清洁能 源采购的机会

The CEIA is co-led by: 清洁能源投资加速器由以下机构共同发起:

- World Resources Institute (WRI), 世界资源研究所
- Allotrope Partners Allotrope合作伙伴
- U.S. National Renewable Energy Laboratory (NREL) 美国国家可再生能源实验室

We work across emerging markets, including Mexico, Colombia, Vietnam, Indonesia, and the Philippines.



The CEIA is funded and supported by key donors, including:



Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety











Purchasers: 购买者:释放企业清洁能源需求信号 Creating a Corporate Clean Energy Demand Signal

- Renewable Energy Buyers Working Groups established in each market, held on quarterly basis 在每个市场建立可再生能源购买者工作组,每个季度 举办一次
- Engaging both corporate energy users and RE project developers, investors and lenders吸引企业 能源用户和可再生能源项目开发商、投资者和贷款方
- Bringing cohesive, collective private sector voice and messages to government entities (utilities, regulators, ministries) 为政府机构(公用事业、监管 机构、部委)带来私营部门的声音和信息
- A blend of policy and regulatory learning, as well as RE-focused technical assistance and training 融合 政策和监管学习,以及以可再生能源为重点的技术援助和培训



Renewable Energy Buyers Working Group Vietnam, March 2019

Policy: 政策: Amplifying Private Sector Voices to Improve RE Investment Landscape 放大私营部门的声音,改善可再生能源投资前景

POWERING VIETNAM²S GLEAN, SMART, AND SEGURE ECONOMIC GROWTH

EUROCHAM

NGUỒN ĐIỆN CHO TĂNG TRƯỞNG Kinh tế sạch, an toàn và thông minh tại việt nam

[*] Heineken #M	Gap Inc.	Unilever	ABInBev
LEVI STRAUSS & CO.	FineslandCampina têr Houridday by Hyddre	ABB	$\boldsymbol{\smile}$
Puma & emergento	old Apple	new balance	Cát Tường®
	B BRAUN SHARING EXPERTISE	DRAGON	CAPITAL 🛵
			ZUELLIG PHARMA

Declaration of Support for Renewable Energy in Vietnam

Introduction

As Vietnam's economy continues to thrive and its demand for power continues to grow, concern is also rising that the energy sector may expand its reliance on coal-fired electricity generation that harms the local environment, contributes to global climate change, and creates risk of supply disruption from imported fuel resources. We believe that renewable energy is critical to ensuring a clean and healthy environment and strengthening Vietnam's energy security.

Who are We?

We are currently twenty four companies and organizations doing business in Vietnam. Together with our supply chain partners, we purchase more than 16 million megawatt-hours of electricity annually, an amount comparable to the consumption of 28.4 million Vietnamese households. We are strategic business partners with Vietnam with a total investment of 1.4 billion US dollars, supporting directly and indirectly the employment of more than 708,000 people.

Our Declaration of Support

We strongly support the Government of Vietnam's effort to simplify and expand access to renewable energy. We welcome new approaches to attract investments and provide more options for procuring renewable energy such as the announced Direct Power Purchase Agreement (DPPA) mechanism. DPPA will allow our businesses and suppliers to purchase electricity directly from renewable energy projects and receive it through the existing national electricity grid, while ensuring fair and equitable treatment for all parties involved. Expanded access to renewable energy will allow us to grow our businesses and help champion a global transition to clean power. In this way, we also support Vietnam's national goals for environmental protection and green growth.

As global leaders committed to reducing emissions from energy production and use, we affirm our willingness to support new opportunities such as DPPA and help inform future energy policies and regulations. We stand ready today to work together with the Government of Vietnam, the United States Agency for International Development and other like-minded partners to catalyze the transformation of Vietnam's energy sector to support smart, clean and secure economic growth.



"DPPA Declaration" Delivered to Ministry of Industry and Trade, Vietnam



Corporate energy user and RE developer/investor feedback regarding draft National Solar Regulation, Vietnam

Pipeline: 投资机会: Supporting a Pipeline of Investment-Ready Projects via Aggregation 通过集聚支持投资就绪项目

Reaching economies of scale through aggregated procurements can create benefits for all parties: 通过集合采购实现规模经济,可以为所有各方带来好处:

- Stronger interest from solar vendors, investors and lenders 太阳能供应商、投资者和贷款方有更强的兴趣
- More favorable contractual terms and low costs of financing 更有利的合同条款和低融资成本
- Lower overall lifetime costs, whether as a capital investment or lease price
 无论是作为资本投资还是租赁价格,都可以降低总体终身成本
- Cheaper renewables-based electricity 更便宜的可再生能源电力

CEIA partners with a variety of "aggregators" to bring together pools of clean energy buyers, for example:



Pipeline: 投资机会:



Supporting Pools of RE Buyers Through the RFP/Procurement Process 通过RFP /采购流程支持可再生能源购买者



Colombia Case Study: Aggregation Driving Costs Down 哥伦比亚案例研究: 集聚降低成本

- CEIA in Colombia demonstrated an aggregated rooftop solar PV approach in 2018 哥伦比亚CEIA在2018年展示了聚 合屋顶太阳能光伏发电方法
 - 10 solar vendors submitted proposals for a 5MW aggregated pool of 7 industrial facilities.
 - Demonstrated that solar bids can beat utility rates, offering financially attractive contracts to corporate energy users.

CEIA demand aggregation approach can reduce final cost of solar energy CEIA集合需求的方法可以降低太阳能的最终成本

- Proposals from solar vendors showed an average of 15% savings per site from aggregation (5-25% range).
- Project costs driven down 24% by CEIA: from estimated \$1,290/kW to \$976/kW after aggregation.

	PV Installed 太阳能光伏装机容量 Cost Comparison 成本比较	\$/kW installed
	Colombia* < 1 MW	\$1,659
F	Colombia* 1 MW - 10 MW	\$1,290
	CEIA Aggregated Procurement Price*** CEIA集合采购的价格 (5 MW)	\$976



Tools to Support Corporate Purchasing of RE 支持企业采购可再生能源的工具





THANK YOU 谢谢



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