Energy Communities of Practice: Areas for collaboration

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Introduction

Formulating and implementing low emission development strategies for the energy sector is a complex process that requires integrated analysis of various technical, socioeconomic, financial, market, and political factors. In many countries, inadequate human and financial capacity constrains the development and implementation of long term strategies. International communities of practice can address these shortcomings by facilitating deeper technical collaboration and peer to peer learning on the design and implementation of specific energy sector low emission development strategies (LEDS).

About us

The Low Emission Development Strategies Global Partnership (LEDS GP) was founded to advance climate resilient low emission development through coordination, information exchange, and cooperation among programs and countries working to advance low emission growth. Launched in 2011, the partnership now brings together more than 160 governments and international institutions.

The Energy Working Group is one of LEDS GP's longest standing workstreams. By providing opportunities for learning, information exchange, and greater cooperation, the Energy Working Group assists countries around the world in designing and implementing successful climate compatible development strategies. Over 260 working group member practitioners from national governments, multilateral institutions, nongovernmental organizations, and private companies have already benefited from initiatives organized by the Energy Working Group.

A community of practice is a collection of individuals from a shared sector or working area who form a group to regularly engage in peer to peer learning to improve their personal and collective group knowledge.[1] While no two communities are alike, they require a structure that permits fluid membership and that is not attached to a single individual, promoting forms of exchange both inside and outside of the formal channels of communication. Communities of practice are demand driven and evolve dynamically to meet their members' needs.[2]

The LEDS Energy Communities of Practice is a signature activity of LEDS GP's Energy Working Group. The project supports the mission of the LEDS GP to assist countries around the world to design and implement successful climate compatible development strategies by creating a member driven practitioner network.

Importantly, communities of practice offer an alternative to conventional knowledge sharing networks, which tend to feature top-down development assistance and policy adoption, by providing an inclusive, member driven experience. With free membership open to all experts working in the field, the Energy Communities of Practice will work to further dialogue and promote collaboration on the deployment of clean energy policies by establishing a network of engaged experts focused on a particular important region or high impact policy area.

This scoping paper offers an overview of key thematic areas of energy LEDS design and implementation (Table 1), as well as a comprehensive list of concrete policy instruments and mechanisms around which the Communities of Practice will be formulated (Table 2).

Promoting energy LEDS development

Particularly in countries with insufficient supply of domestic expertise, communities of practice can serve as a platform for sharing knowledge, data, and analytic tools, as well as international experiences and lessons learned—all of which are important ingredients for smart policy design and implementation. Table 1 provides an overview of the diverse areas in which communities of practice can assist local energy LEDS planners.

Table 1 Key areas of expertise for LEDS design and implementation

Category	Area of expertise
Technical	Identification and technical analysis of generation options and pathways
	Assessing seasonal and day-to-day renewable resource potentials and their complementarity across regions and technologies
	Evaluating geographical limitations and conditions
	Analyzing energy efficiency and savings potentials
	Analyzing the suitability of alternative technologies and their applications for: generation, transmission/distribution, storage, energy efficiency, and grid improvement (buildings, transportation, etc.)
Socioeconomic	Impacts of different development pathways: • electricity access and price • gender equality • externalities such as pollution, healthcare, and land loss and degradation • job creation and macroeconomic impacts • other key economic sectors such as transportation, building, agricultural, manufacturing, and industry • energy independence
Policy and institutional design (developing markets and facilitating investments—see Table 2)	Designing a competitive market structure that is open, fair, and accessible to renewable energy development and energy efficiency programs, particularly with respect to competitive and equitable forms of: • development attraction • licensing • subsidies • procurement • pricing mechanisms
	Developing strategies for lowering transaction costs (legal, social, and economic)
	Coordinating working institutions and processes for policy design and implementation including mainstreaming across ministries, institution, stakeholders, etc.
	Developing financial products for direct investment support
	Creating investment attraction strategies and facilitating development of the finance sector
Evaluation and communication	Developing monitoring, reporting, and evaluation instruments to measure policy results
	Organizing public information campaigns

Low emission energy policies

The design of effective policies that support low emission development in the energy sector is an area where international communities of practice such as the LEDS GP Energy Working Group could have an enormous impact. Table 2 shows the most common policies recognized to promote sustainable energy development.

Table 2 Overview of sustainable energy policies and mechanisms

LEDS policy type	Subcategory	Policy
Renewable energy		
Financial instruments	Pricing mechanisms	Feed-in tariffs[3]
		Energy production payment[4]
	Tax incentives	Rebate programs (e.g. renewable generation equipment purchase rebates)[5]
		Grant programs[6]
		Renewable energy loan programs[7]
		Public benefit funds[8]
		Investment or production tax credits[9]
		Accelerated depreciation benefits[10]
		Property tax incentives[11]
		Personal income tax credits[12]
		Reductions in sales, VAT, and other taxes[13]
		Pollution tax exemptions[14]
		Import duty reductions/exemptions on renewable energy products and equipment[15]
	Public financing products	Loan guarantees[16]
		Results based financing[17]
		Direct capital subsidies and grants[18]
		Carbon financing (Certified Emission Reductions)[19]
		Small scale project financing (microfinancing, portfolio guarantees, and loss reserves)[20]
		Contract standardization and bundling (aggregation)[21]
	Direct public procurement	Public renewable energy procurement programs (e.g. Green Power Procurement through the US Environmental Protection Agency)[22]
Market based instruments	Financing strategies	Public competitive bidding (tendering)[23]
	Trade policies	Tradable renewable energy certificates[24]
		Capacity credits[25]

LEDS policy type	Subcategory	Policy
	Power grid access policy	Guaranteed grid access and priority for renewable capacity[26]
Regulatory policies	Renewable energy targets	Carbon dioxide reduction targets[27]
		Target for share of total electricity generation from renewables by target date[28]
		Target for renewable energy capacity in region, state, province, district, or city[29]
		Target for renewable energy for buildings, facilities, public institutions, and homes[30]
		Other types of renewable energy target[31]
	Quota obligations	Renewable portfolio standard[32]
		Mandatory utility green power option[33]
	Distributed generation	Net metering[34]
		Electricity wheeling[35]
Energy efficiency		
Demand-side management	Pricing mechanisms	Critical peak pricing[36]
		Time of use rates[37]
		Real time pricing[38]
		Inverted block pricing[39]
	Financial incentives	Energy audits and tax rebates for industry[40]
		Customer rebates on energy bills for behavior change[41]
		Tax reductions and import duty exemptions on high efficiency equipment[42]
		Low interest or zero interest loans for energy efficiency retrofits of existing infrastructure[43]
	Load scheduling	Demand-response programs[44]
	Energy conservation	Establish energy disclosure standards[45]
		Energy efficiency obligation scheme (e.g. energy efficiency resource standards)[46]
		Real time consumption and billing information[47]
		Public education[48]
	Branding	Energy labeling of buildings[49]
		Residential appliance and commercial equipment energy standards and labels[50]
		Building codes and improved energy efficiency in existing buildings[51]
Distributed generation	Types of system	On site renewable energy systems[52]
		Combined heat and power systems[53]

LEDS policy type	Subcategory	Policy
	Market based approaches	Fair and consistent interconnection standards and regulations[54]
		Fair standby rates[55]
Market based instruments	Financing strategies	Property assessed clean energy (PACE) bonds[56]
		On-bill repayment[57]
		Credit enhancement (e.g. loan loss reserves, loan guarantees)[58]
	Trade policies	Tradable energy efficiency credits (white certificates)[59]
Transmission and distribution		
Establishing standards	Reliability, compliance, and monitoring	Green energy purchasing and labeling[60]
		Power generation disclosure[61]
		Equipment certification requirements[62]
		Strengthened grid equipment and operating regulations[63]
		Automated network operations[64]
		Automated metering (smart meters)[65]
		Audits to investigate electricity theft[66]
Regulatory policies	Public investments and market facilitation activities	Privatization or commercialization of utilities[67]
		Competitive wholesale and/or retail power markets[68]
	Capacity building	Knowledge management expertise[69]
		Multistakeholder coordination[70]
	Distributed generation	Net metering/billing[71]
		Electricity wheeling[72]

Notes

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[33] DOE (2014), op. cit.

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[41] Davito et al. (2010), op. cit., p. 41.

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