



LOW EMISSION
CAPACITY BUILDING
PROGRAMME

MOBILISING PRIVATE-SECTOR ENGAGEMENT IN LEDS AND NAMAS:

LESSONS LEARNED FROM THE UNDP'S LOW EMISSION
CAPACITY BUILDING PROGRAMME

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ACKNOWLEDGEMENTS

The author would like to thank all experts who responded to the survey and/or participated in interviews, as well as the review team at UNDP for their insightful comments and contributions.

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Introduction

This study has been prepared for and funded by the Low Emission Capacity Building (LECB) Programme. Launched in 2011 as part of the United Nations Development Programme (UNDP), the LECB Programme currently supports 25 countries. It helps these developing nations build the public- and private-sector capacities needed to scale up country-driven climate-change mitigation actions, mainly by providing focus in five areas: GHG Inventory Systems; Low Emission Development Strategies (LEDS); Nationally Appropriate Mitigation Actions (NAMAs); Measuring, Reporting and Verification (MRV) systems; and strategies for including the private sector. The LECB Programme is made possible through generous contributions from the European Commission, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and the Australian Government. More information can be found at www.lowemissiondevelopment.org

The importance of the role of the private sector in the transition to low-emission development is well recognised. In theory, this role may include identifying project or programme ideas for reducing greenhouse gas (GHG) emissions—these may be through a LEDS and/or NAMAs—then developing these, investing in them or otherwise funding them. In developing countries to date however, there is limited real-world experience of such private-sector engagement.

The aim of this study is to analyse experiences that countries participating in the LECB Programme have had in engaging the private sector and to provide some recommendations on how to do so in the future. Those likely to benefit from this study include local climate-change-mitigation practitioners, donor agencies, and international institutions involved in capacity building or in the design and implementation of mitigation actions in developing countries. Lessons learned here may also be of interest to climate-change negotiators.

The study combines desk reviews of existing publications on important factors for mobilising private-sector financing, as well as data covering the experiences of countries within the LECB Programme. It includes information from a set of semi-structured interviews with national experts from Chile, Vietnam, Mexico, Lebanon and Ghana, LECB staff, representatives from the private sector and several international NAMA practitioners working in LECB countries. In total, 20 interviews were conducted, including:

- four interviews with international NAMA practitioners running LEDS and NAMA capacity-building projects;
- ten interviews with national government practitioners in Chile, Ghana, Vietnam, Mexico and Lebanon; and
- six interviews and a number of informal discussions with private-sector representatives and business associations operating both internationally and locally within the study's focus countries.

Information from the interviews was collected with the assurance of anonymity, in order to ensure candid responses. Therefore, the study does not directly cite participants, and the results presented are based on a synthesis of the points made.

The desk review and the interviews have been complemented here by a survey on experiences and challenges encountered in the area of engaging the private sector. This survey was disseminated to policy-makers and national experts in all countries participating in the LECB Programme. In all, 31 responses to the survey have been received. These cover 17 countries: Bhutan, Chile, Costa Rica, Democratic Republic of Congo (DRC), Ecuador, Egypt, Ghana, Kenya, Lebanon, Malaysia, Mexico, Moldova, Peru, Tanzania, Uganda, Vietnam and Zambia.

Preliminary results of the study were presented and feedback received at the global LECB workshop in Vietnam in September, 2013 and at a side event at the COP 19 in Warsaw in November, 2013.

This analysis also includes three case studies, which provide more detailed information on experiences with the private sector in Ghana and with respect to efforts in Chile.

Through analyses like these of the experiences countries have had in terms of engaging the private sector, the LECB Programme seeks to help countries identify desirable, effective mitigation activities and to assist them in coming up with practical, concrete approaches to their implementation. It is hoped that this analysis will serve as valuable information to national teams and the wider policy-making community, helping them attract domestic support for the implementation of mitigation actions. This study provides practical guidance on the challenges and solutions of which countries should be aware as they continue on their journey to low-emission development.

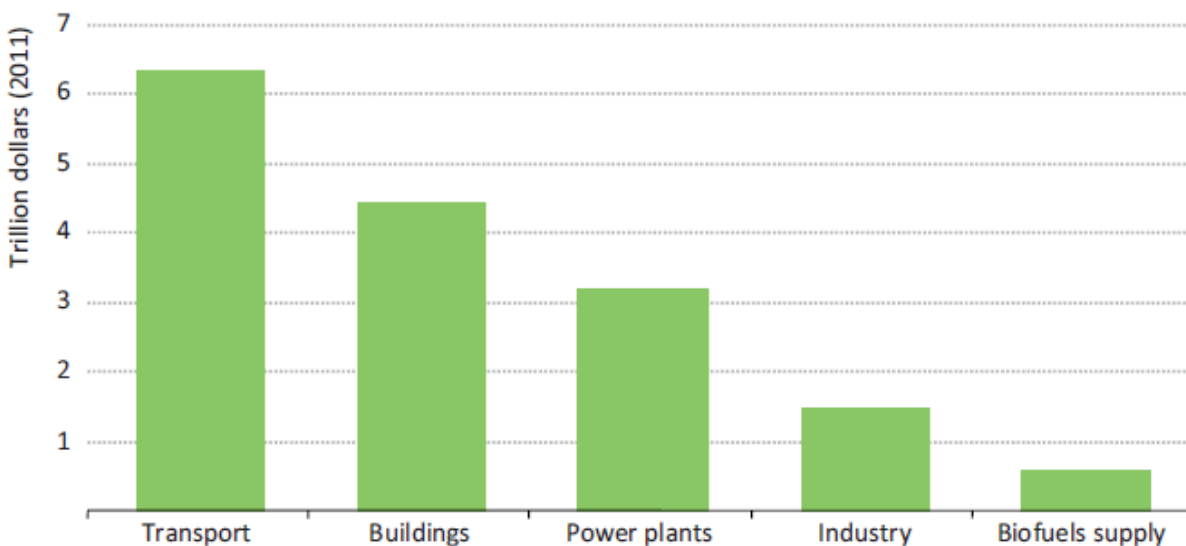
Financing and Technology Needs for the Transition to Low-emission Development

1

According to a recent analysis by the International Energy Agency (IEA), limiting the global temperature increase to 2° C and limiting CO2 concentrations to 450 ppm “requires increased investment in the power sector and in end-use sectors, and reduced investment in fossil-fuel supply.” The IEA compares this “450 Scenario” to the “New Policies Scenario,” which essentially consists of business as usual with the addition of some further developments, such as the implementation of formally declared policy commitments, and with more caution in terms of emissions. The IEA uses this “New Policies Scenario” as its baseline. Not surprisingly, a higher level of investment is needed to make the “450 Scenario” a reality. Such additional investment across countries of the Organisation for Co-operation and Economic Development (OECD) reaches about US\$590 billion per year, and US\$760 billion per year in non-OECD countries until 2035 (IEA, 2013).

In terms of sectors, under the “450 Scenario,” the largest additional overall investment of US\$6.3 trillion is needed in transport, in particular for the purchase of more fuel-efficient or alternatively powered vehicles. This is followed by the buildings sector, where an additional US\$4.4 trillion is needed to achieve direct emission abatement from buildings and indirect abatement through reduced electricity demand. In the energy sector, a net US\$2 trillion is needed, after taking into account the resulting lower expenditures on transmission and distribution lines in modified systems. Over 80% of additional spending in the electrical energy sector is for renewable energy (RE) (IEA, 2013). These data are shown in Figure 1.

FIGURE 1: CUMULATIVE CHANGE IN WORLD INVESTMENT BY SECTOR IN THE “450 SCENARIO” VERSUS THE “NEW POLICIES SCENARIO” (THE BASELINE), 2012-2035



Note: Investment in power plants increases, but investment for transmission and distribution (not shown here) declines by a cumulative total of around \$1.2 trillion over the period.

Source: IEA, 2013

Clearly, the financing needs are enormous and public expenditures alone will not be sufficient to adequately transform economies. The largest share of additional investment would have to come from the private sector, which is already responsible for the largest share of climate financing globally (See Figure 2 below). According to the latest data from the Climate Policy Initiative (CPI), the private sector has contributed US\$224 billion of the total US\$359 billion of climate financing to date (Buchner, B., et al., 2013). However, as we can see, these figures are only a fraction of the investment needed, according to the above IEA data.

Although to date it comprises the largest group of climate-change investors, the private sector is nevertheless driven by favourable returns on investments, and in any project, investment decisions are made based on the relationship between risk and return. The challenge for policymakers then, as well as the opportunity, is that of using limited public resources and policy tools to create incentives that will help private investors better their returns on low-emission investments. This is a particularly significant factor in terms of resource mobilisation, since much of the climate-related financing raised to date has been facilitated through public investments (Buchner, B., et al., 2013).

The fundamental problem for making the transition to low-emission development is not generating capital, but rather “redirecting existing and planned capital flows from traditional high-carbon to low-emission, climate-resilient investments” (UNDP, 2011). So this capacity to redirect capital becomes one of the primary goals and effectiveness indicators of LEDS and NAMAs.

BOX 1: KEY MESSAGES FROM SAN GIORGIO GROUP STUDIES ON MOBILISING GREEN PRIVATE INVESTMENT

- Action is needed to help private actors overcome real and perceived risks and deliver large-scale green investments. A variety of instruments make such action possible. Any measures taken with regards to this type of investment must reduce policy-related credibility risks.
- Well-designed resource injections can lower investment risk and change private-sector behaviour at a reasonable cost. The private sector responds to well-designed policies, but it does so with some lags, costs, selectivity, and self-interest.
- New risks hamper the growth of green financing and call for consistent updating and innovation with regards to risk-mitigation instruments.
- Green investment should focus on developing markets, especially emerging economies, in which opportunities exist to meet growing energy demands in ways that are consistent with low-carbon, climate-resilient development.

2012 „Source: Buchner, B. et al

While many countries have policy frameworks that provide such incentives, significant gaps in know-how and a lack of incentives remain (Buchner, B., et al., 2013). CPI has analysed several case studies of low-carbon investment, focusing specifically on mobilising investment from the private-sector. This research showed that lessening risk is particularly important for enabling private investment. Box 1 presents some of that work’s most important findings.

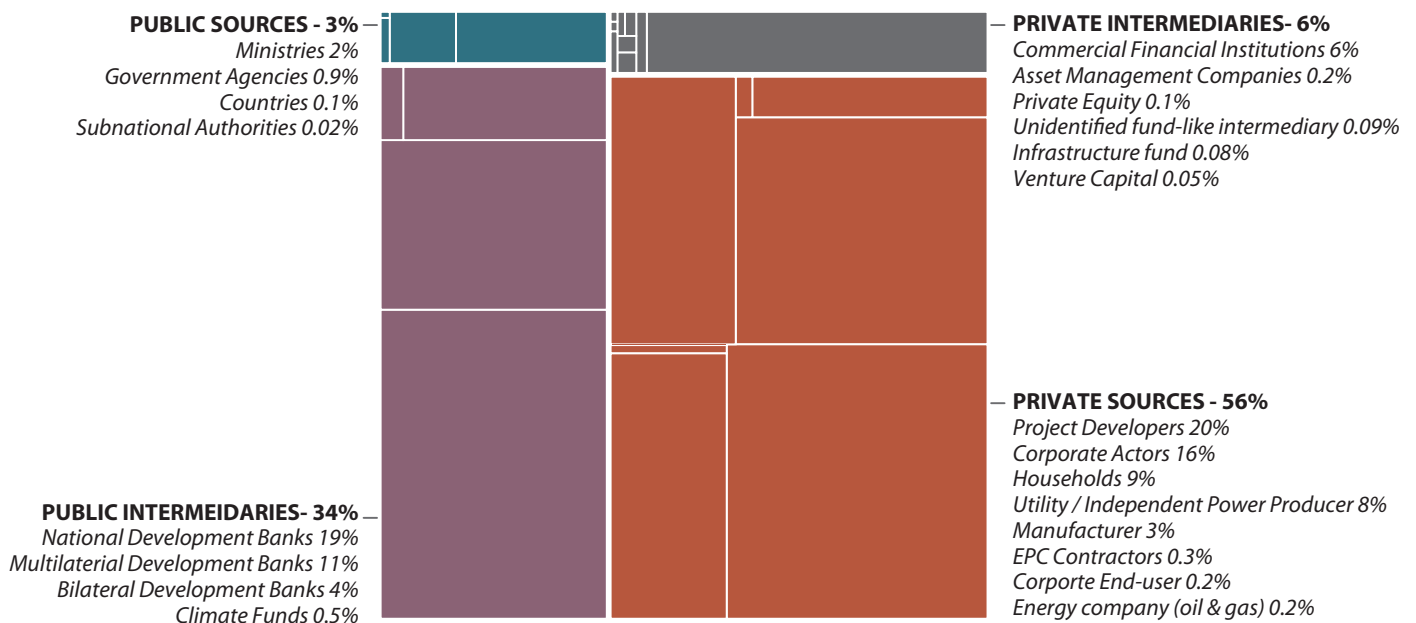
The Role of the Private Sector in Low-emission Development

2

The private sector is of central importance in making an effective transition to low-emission development. The main kinds of private-sector actors in this area are the following:

- Financing** — Private sector actors provide debt and equity financing for commercial investment. A distinction here should be made between venture capital investors, institutional investors and retail lenders. Venture capital investors are likely to assume higher risk in the early stages of a project or of applying a new technology, but they expect higher returns on their investment. Institutional investors are prepared to see lower returns but make only relatively secure investments. Retail lenders fall between these two. Figure 2 below provides an overview of private-sector actors who play a role in climate financing, either as direct funding sources or as financial intermediaries.
- Technology** — Corporate project owners and technology providers are essentially the entities developing project ideas and who will implement them, provided that they are able to raise the necessary capital. These actors are often the primary targets of NAMAs and of LEDS policies aimed at creating regulation, such as technology standards, carbon taxes and emission-trading schemes.
- Services** — These are actors involved in the development of such things as a LEDS/NAMA consultancy, underlying projects, MRV, carbon trading, etc.

FIGURE 2: PRIMARY INVESTORS IN LOW-CARBON PROJECTS IN 2012



Source: Buchner, B., et al., 2013

The private sector is not a homogenous entity and includes various types of actors, all of whom have different roles to play, economic interests and modes of operation. Further distinctions can be made between types of companies that are directly involved with a LEDS or NAMA and those that belong to the related value chain. Examples of the former include renewable-energy developers who will benefit from feed-in-tariffs or car manufacturers who will receive a subsidy for producing and/or selling low-emission vehicles. Examples of the latter include producers of equipment such as wind turbines or solar panels, or suppliers of batteries for electric vehicles.

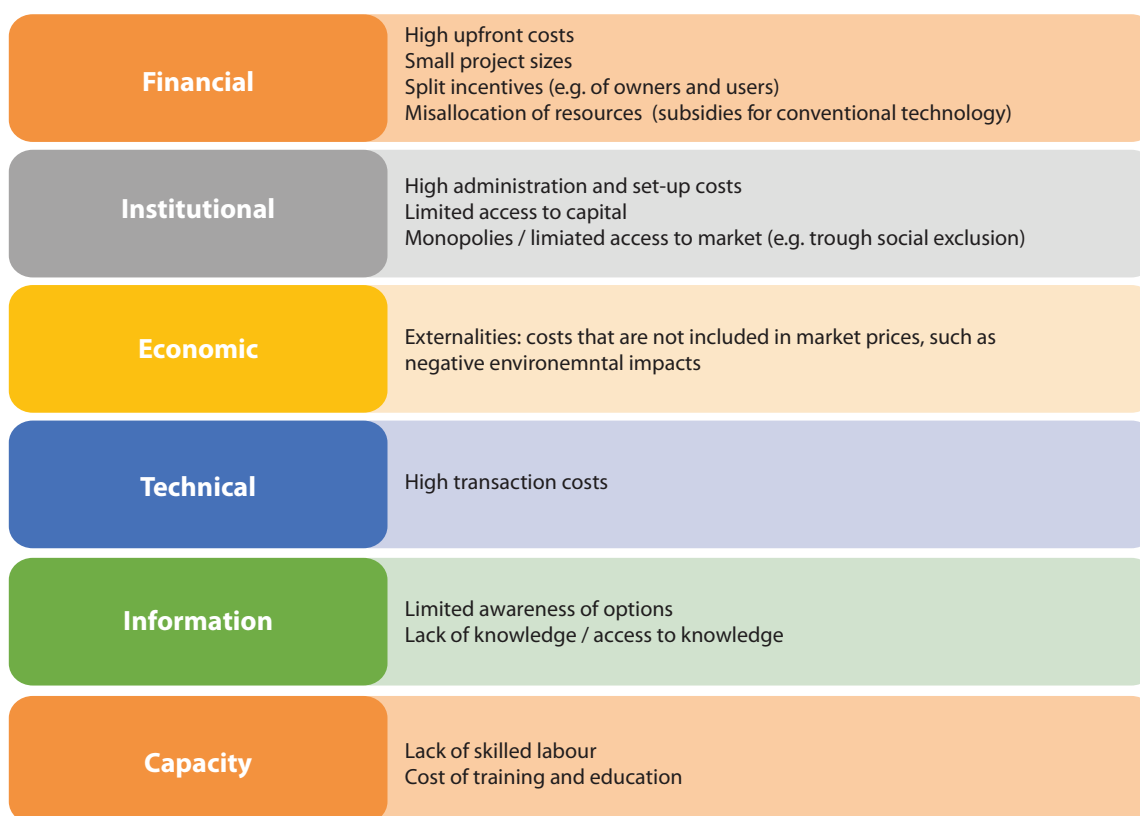
When designing policy interventions aimed at creating market conditions for low-emission technology, the entire value chain should be considered. This is necessary in order to understand the full spectrum of potential barriers to the development of such a market. For example, the availability of replacement parts and repair service for electric vehicles in the local market may affect the feasibility of implementing this technology, even if competitively priced electric vehicles themselves are available. Similarly, when considering private-sector financiers, the complete spectrum of potential investors should be identified and analysed.

Instruments for Mobilising Private-sector Investment

3

There are a number of barriers to obtaining private-sector financing. Most of these have to do with the risk-reward relationship of the investment itself or with the country's wider investment climate. Others are related to low technical or other capacity levels and a lack of information. These barriers vary by sector, technology and country and depend on the overall economic and political environment in each. Figure 3 shows some typical barriers at a glance.

FIGURE 3: TYPICAL BARRIERS TO LOW-CARBON INVESTMENTS AND SUSTAINABLE DEVELOPMENT



Source: GIZ, 2013

The Climate and Development Knowledge Network (CDKN) makes a distinction between the following types of barriers that affect private-sector engagement:

- general competitiveness issues of low-carbon investment when externalities are not included in the absence of a price on carbon;
- a lack of experience with new and unproven technology;
- a lack of information resulting in behavioural failures; and
- overall financial, regulatory and political issues in the country and the size of the market in question (Berliner, J. et al., 2013).

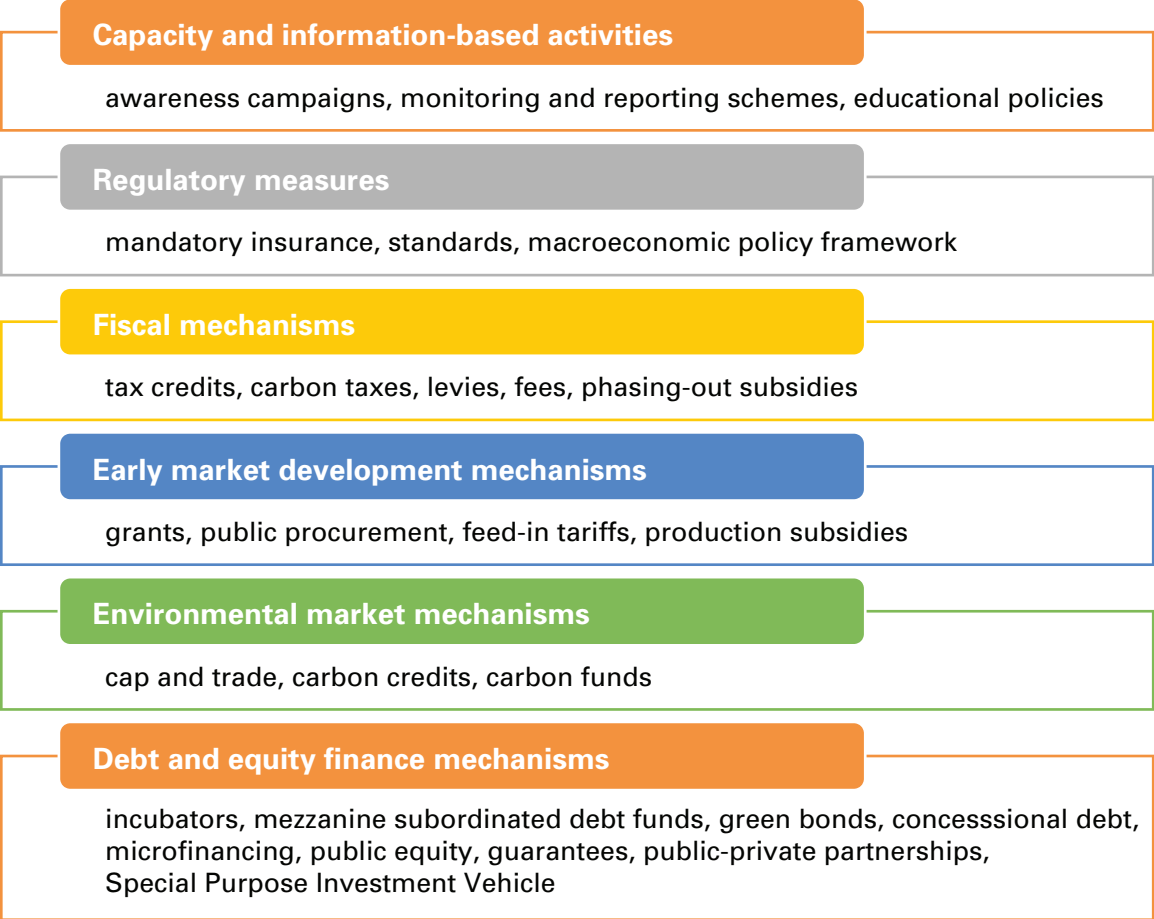
Higher financing costs in developing countries indicate the presence of one or more of the barriers mentioned, either actual or perceived, and this affects the perception of investment risk. The main issue in financing the transition to low-carbon development, especially in the energy sector, is not so much the generation of capital as it is the lowering of investor risk (UNDP, 2013b). Therefore the main objective of any governmental intervention should be to alter the risk-reward relationship in such a way as to make low-carbon technology more locally competitive vis-à-vis higher-carbon alternatives.

A number of methodologies can be applied to the design of appropriate policy interventions. The UNDP, for example, applies a four-step methodology for catalysing private sector investment, which includes:

- identifying priority technology options;
- assessing the key barriers to technology diffusion (these might be behavioural, institutional, regulatory, financial or technical);
- selecting financing options and creating an enabling policy environment; and
- determining the appropriate policy mix (UNDP, 2011).

Figure 4 provides an outline of more specific mechanisms which may form part of government intervention for catalysing private-sector investment.

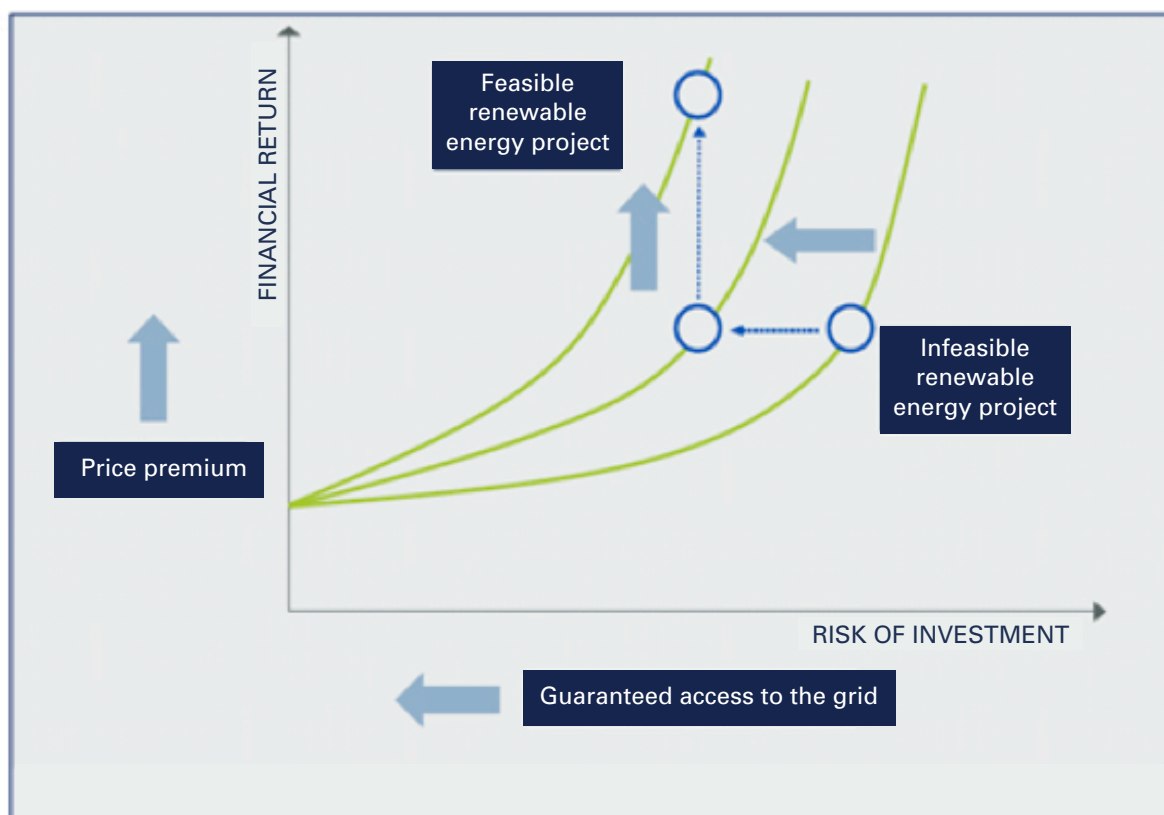
FIGURE 4: SPECIFIC INTERVENTIONS THAT CATALYSE LOW-CARBON INVESTMENT BY THE PRIVATE SECTOR



Source: Adapted from GIZ NAMA tool, 2013

The choice of policy intervention and particular instruments will depend on the country, sector and the specific barriers that it is trying to address. Policymakers can improve the risk-reward profile of RE technology, either through limiting risk (and therefore lowering the cost of capital) or increasing rewards through policy incentives, such as feed-in tariffs. Figure 5 below provides an example of this based on a renewable-energy project.

FIGURE 5: IMPROVING THE RISK-REWARD PROFILE OF A RENEWABLE ENERGY PROJECT



Source: UNDP, 2013b

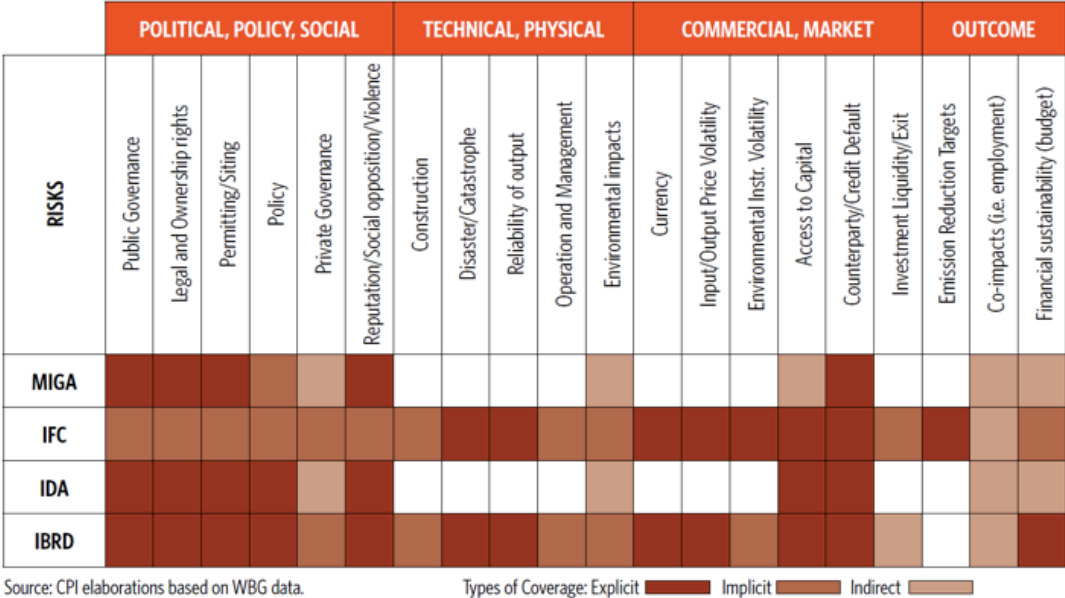
Feed-in tariffs and power purchase agreements both increase the magnitude and the security of the expected return from RE projects, improving their financial profiles. A functioning carbon market could potentially play a similar role. The provision of cheap debt or some kind of guarantee for investors against project failure decreases the cost of capital and can make a project more financially attractive. In situations in which local markets are not large enough to attract investors, the aggregation of projects into a portfolio allows for risk sharing and economies of scale.

The instruments mentioned can be combined in order to mobilise different types of investment from various kinds of investors so that funds cascade down to the level of technical implementation (GIZ, 2013).

Given the limited availability of public financing, risk mitigation instruments offer an attractive and effective way to mobilise private investment. Instruments such as risk guarantees, risk-sharing facilities and insurance products have been widely used in other development areas, but are relatively new to climate-related investment. One of their greatest advantages is that they allow cash to be set aside for investment, since public funding is only used in the case of a guarantee being called in (when a project has major problems or fails).

According to a recent CPI study, public institutions such as Multilateral Development Banks provide risk coverage to sectors and countries for which private providers either charge very high rates or won't consider at all. Figure 6 shows examples of the types of risks covered. Most of these institutions cover a range of policy-related risks, while IFC and IBRD cover the full range of risks, including commercial ones.

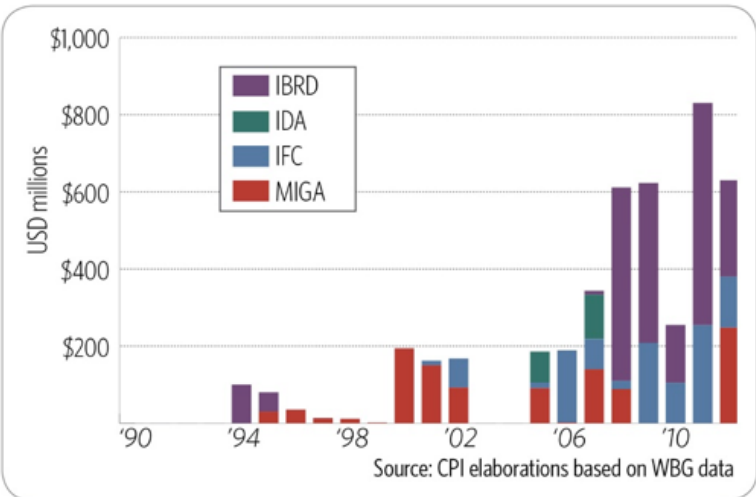
FIGURE 6: EXAMPLES OF RISK MITIGATION INSTRUMENTS OFFERED BY WORLD BANK GROUP TO ALL PROJECTS



Source: Micale, V., et al., 2013

Generally, growing attention to climate-related risk mitigation can be seen in these organisations, which means that there is potential for increasing the use of these types of risk coverage for climate-related projects even more. As an example, Figure 7 shows total climate-related risk coverage by institutions of the World Bank Group.

FIGURE 7: CLIMATE-RELATED RISK MITIGATION INVESTMENTS PER INSTITUTION



Source: Micale, V., et al., 2013

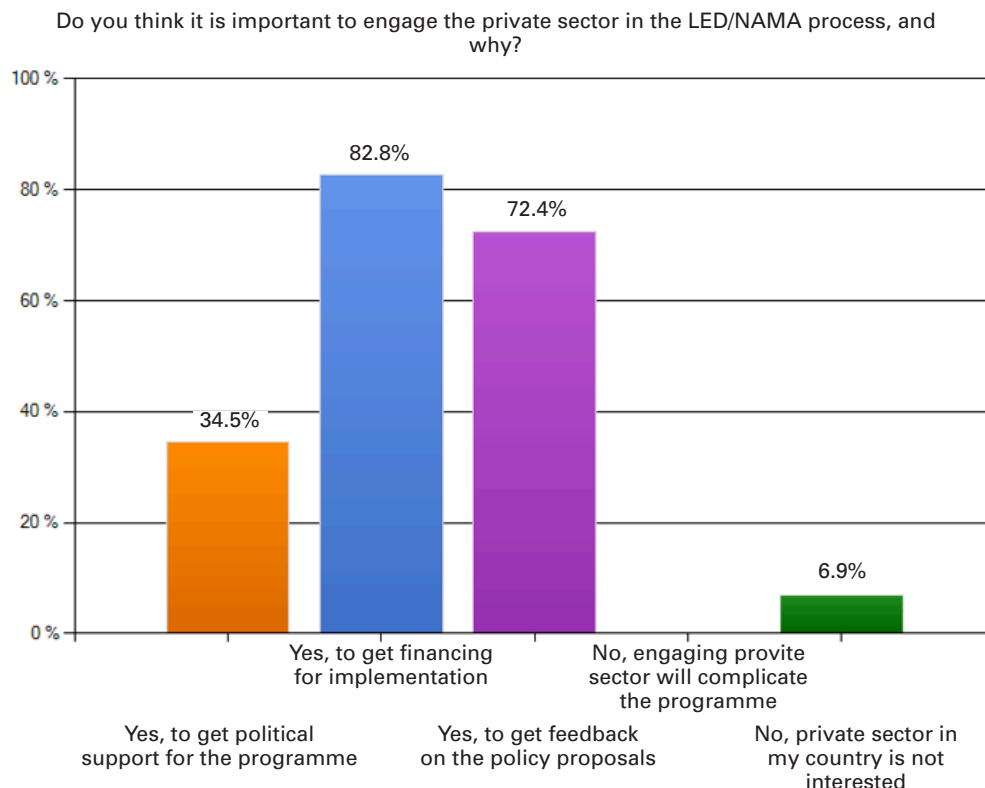
The Experience of LECB Countries in Engaging the Private Sector

4

Engagement of the private sector in GHG emission-mitigation activities has yet to become a primary focus in most developing countries, particularly those in which LEDS and/or NAMA development are at early stages. According to interviews conducted for this study, the primary challenges to the very consideration of this have to do with varying understandings of what the role of the private sector should be, a lack of clarity as to exactly who should be involved (since the sector is not homogeneous, as mentioned above) and uncertainty as to when and how to go about it. A number of questions in the survey specifically targeted these issues.

Figure 8 below presents the views of surveyed LECB experts from participating countries on the reasons for engaging the private sector. Not surprisingly, over 80% of the respondents indicated that private-sector involvement is critical in terms of financing the implementation of a LEDS or of a NAMA, and over 70% indicated that it is important to seek feedback from the private sector on proposals for such programmes or projects. Interestingly, only about one-third of the respondents feel that getting the private sector on board will help secure political support for a LEDS and/or a NAMA, while around 7% expect that there will be no private-sector interest in the issue in their country.

FIGURE 8: VIEWS ON THE REASONS FOR ENGAGING THE PRIVATE SECTOR IN LEDS AND/OR NAMAS IN LECB COUNTRIES



Some experts noted that, in addition to the reasons given in Figure 8, engagement of the private sector will also help build the capacities and technical expertise of teams working on the design of GHG mitigation programmes and help clarify national priorities. Additionally, it was noted that importing and applying low-carbon technology are important roles of the private sector.

While recognising the importance of the private sector, the public-sector experts interviewed and surveyed outlined a number of challenges to engaging these players. These are summarised in Box 2.

BOX 2: CHALLENGES TO ENGAGING THE PRIVATE SECTOR IN LEDS AND NAMAS: VIEWS OF THE PUBLIC SECTOR

- The profit-driven nature and the risk-reward focus of the private sector may come into conflict with the wider social and environmental objectives of LEDS and NAMAs.
- There are potential conflicts of interest and a lack of private-sector confidence in the notion of sustainability.
- Attracting investment in energy efficiency and RE is difficult, due to competition with high-carbon technology in terms of returns.
- Reducing GHG emissions is often seen by the private sector as a burden rather than an opportunity.
- The private sector is mistrustful of government policies and programmes as a result of:
 - mixed experiences with the CDM;
 - regulatory aspects: the private sector may wish to be involved in the instrument design, but in some countries, regulations are cumbersome;
- Gaps in private-sector skills and capacities; and
- Private-sector time constraints and limited attention to the issue.

The extent of these challenges depends on the broader economic, political and social context of each country. Yet all of them can be addressed through the design of a LEDS or a NAMA, and it is important to engage the private sector early on in the development process in order to do so.

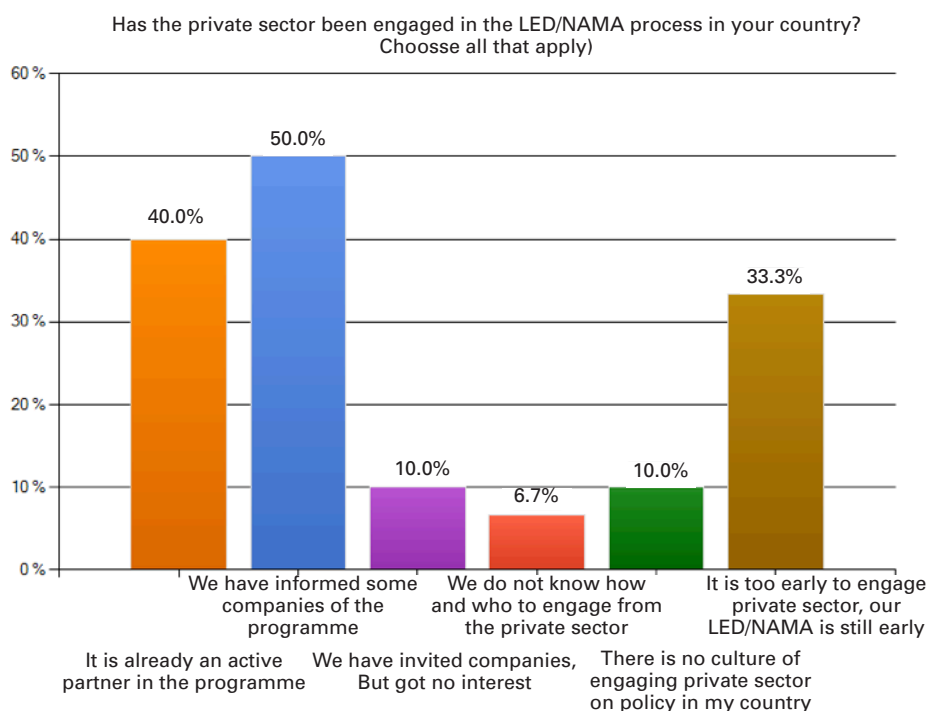
There already exists some of this type of experience on the part of countries in the LECB Programme. In Mexico, for example, the government is attempting to engage members of the private sector in the industries of mining and detergents, in order to build capacities and enable them to participate in NAMA development. Ghana is focusing heavily on the issue of private investment, and as part of the LECB Programme, the Ghanaian government, in partnership with the national development bank, is developing an investor guide. Several countries in Latin America, in particular Chile, Mexico and Costa Rica, are specifically aiming their LECB projects at private-sector outreach. Though these efforts are still in the early stages, some experiences from them are shared as case studies below. Box 3 provides a brief look at other examples of engaging the private sector in LECB countries.

BOX 3: EXAMPLES OF PRIVATE-SECTOR ENGAGEMENT IN LECB COUNTRIES

- Interviews with associations and invitations to participate in activities (Ecuador)
- Studies on investment opportunities, capacity building (Africa Carbon Credit Facility, Ghana, others)
- The private sector is represented on the LEDS/NAMAs committee in technical working groups (Ghana, Chile)
- In Kenya, private-sector involvement in the formulation of national plans; and in Peru, of plans in the construction sector; Mitigation Action Plans and Scenarios (MAPS) and GEF projects (Chile, Colombia)
- Corporate programmes: voluntary GHG emission reporting (Mexico, Chile), national climate-neutral targets (Costa Rica)
- The private sector is directly targeted for NAMAs/LEDS, e.g., in the mining, chemical, cement, RE and waste sectors (Mexico, Egypt, Chile, Colombia)
- First investments or interest in wind, solar, geothermal energy (Vietnam, Tanzania), biofuels and renewable energy (DRC), green technology promoted by private entrepreneurs (Bhutan)

Figure 9 provides an overview of experiences had in engaging the private sector in LECB countries, based on the results of the survey that was conducted for this study. In half of the cases, some companies have been informed of activities, while in a third, experts felt that it was too early to engage the private sector.¹ In some countries, experts noted that it was not culturally appropriate to engage the private sector at all, and in some cases no interest from the private sector was received after an initial outreach was made. Interestingly, 40% of respondents felt that the private sector was already an active partner in their project or programme. In most cases this included formal representation of private-sector actors in LECB-sponsored or other LEDS/NAMA projects.

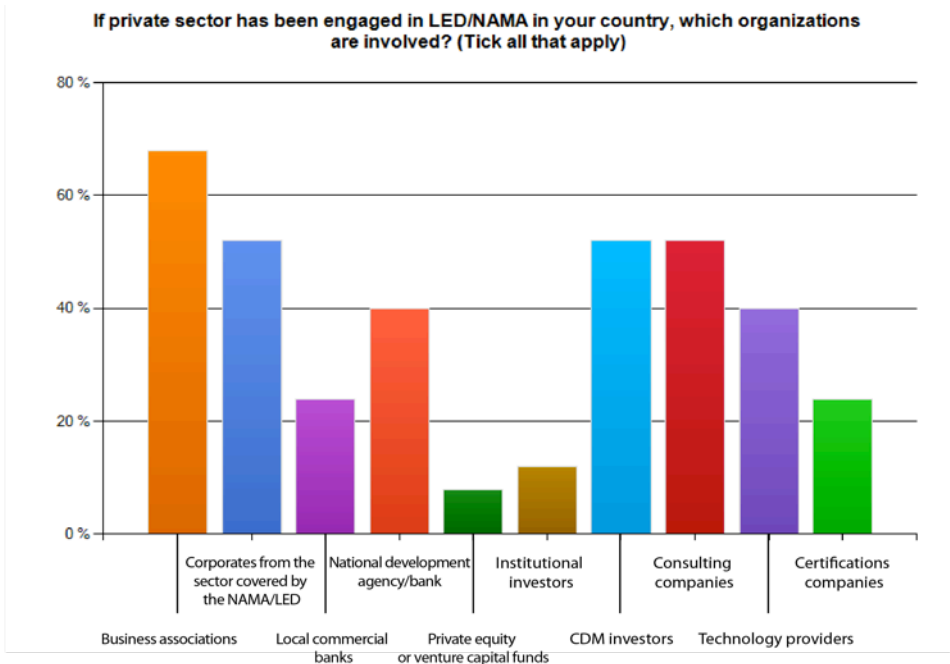
FIGURE 9: ENGAGING THE PRIVATE SECTOR IN LECB COUNTRIES TO DATE



¹ The number of responses varied by country, and the percentages in these results are based only on responses received. They are therefore percentages of responses, rather than of views across LECB countries.

Most private-sector engagement to date has been achieved through business associations in the host countries (See Figure 10 below.) It was noted that working through business associations is easier for the government, since they provide a single point of contact and there are usually established relationships present. The downside is that such outreach is limited to the active members of the associations, and this may not be appropriate for some sectors. Furthermore, representatives from the associations normally come from environment and safety departments, and they have little technical knowledge to contribute to the investment decisions of their business, nor do they have the power to influence such decisions. They no doubt serve as a good starting point for exploring initial interest. In later stages of LEDS/NAMA development, however, it is important to extend the outreach to other business departments.

FIGURE 10: PRIVATE-SECTOR ORGANISATIONS ENGAGED BY GOVERNMENT IN LEDS/NAMA DEVELOPMENT



About half of the respondents mentioned direct outreach to companies operating in the sectors affected by a LEDS or NAMA. But in this type of outreach as well, ministries of environment have limited contacts with decision makers in the companies. In light of this, several countries reported that sectorial ministries (i.e. of energy, transport, industry) are better suited for this kind of outreach, since they have better regular contact with companies operating in their sector.

Other private-sector actors who have so far been engaged in LEDS or NAMA development nationally include consulting companies, Clean Development Mechanism (CDM) project developers and traders and-to a lesser extent-the financial and investment community (local commercial banks in particular), institutional investors and providers of private equity or venture capital funds.

The study shows that the importance of the role of the private sector for the successful design and future effectiveness of LEDS or NAMAs is clearly recognised, but that there is still limited practical experience in this regard. It is important to note that in general, there has been little engagement of the financing and investor communities. Also, in a few countries, since the private sector was not engaged early on, there is now opposition to mitigation proposals. Yet there are positive examples too, including Chile’s experiences with RE and waste management NAMAs, Costa Rica’s work with the coffee and dairy industries and Ghana’s capacity-building efforts with potential investors.

CASE STUDY 1 - GHANA: OVERCOMING BARRIERS TO PRIVATE-SECTOR INVESTMENT IN RENEWABLE ENERGY

Background

The aim of one NAMA in Ghana is to scale up investment in RE, for which engagement of the private sector is a priority. The LECB project team is focusing on attracting financing for the project from national and regional investment banks.

Earlier negative experience with the CDM is helping to get attention from the banks. Under the CDM local banks had expressed interest in investing only in the later project stages. This led to fewer project being financed in Ghana and to fewer local banks being able to participate in the opportunity. This time around, more attention is being given to local investors. Other potential investors being targeted include venture capital fund providers and business start-up companies that are part of the World-Bank-led Ghana Energy Development and Access Project (GEDAP). Investment in the energy sector is expected to come primarily from the private sector outside of Ghana.

Thus far, the main barriers to engaging the private sector in Ghana are:

- repercussions of the negative CDM experience, which resulted in frustration and a loss of trust;
- the lack of national capacities related to climate-change mitigation;
- little buy-in to NAMA concepts on the part of the private sector;
- the up-front cost and transaction costs of developing NAMA project proposals, which are perceived to be high; and
- the fact that there are as yet no success stories for NAMAs going beyond the concept stage.

Engaging private-sector participation

The Ghanaian government-appointed NAMA Coordination Unit hosts quarterly breakfast meetings with a group called the CEO Forum, comprised of leaders of the largest national companies. Outreach with regards to the issue of climate change is also being made to Club 100 companies that have Corporate and Social Responsibility budgets. There is still room for other corporations to identify opportunities for high investment returns.

So far, the feedback received from the private sector is that their main incentives with regards to investment decisions are the return on investment and branding opportunities. In order to attract private-sector interest in investing in low-emission projects under a LEDS or a NAMA, they need to be shown investment opportunities with promising long-term returns, branding possibilities, likely social benefits, political connectivity and recognition.

The government has taken steps in this direction by establishing mechanisms for recognising companies for their achievements. It created an environmental-awareness award system for the manufacturing sector, known as the "Akoben": Environmental Performance Rating and Public Disclosure. This entity's ratings for 2012, released in November 2013, included 100 companies, a significant improvement over the 50 companies that were rated back in 2009, when the "Akoben" was initiated.

In addition, Ghana is drafting a Public-Private Partnership (PPP) Law, and a special PPP Minister has been appointed. As mentioned in Chapter 4, the government, in cooperation with LECB and an investment bank, is also developing an Investor Guide for NAMAs. This initiative focuses on articulating what makes for a good investment. Future efforts may include capacity-building initiatives, including international investor-exchange programmes, which would target the private sector. This idea could prove useful for both bankers and NAMA project developers.

CASE STUDY 2 - CHILE: A BOTTOM-UP INITIATIVE OF THE PRIVATE SECTOR – THE PRICE STABILISATION FUND

This project was started by two co-owners of the private company Antuko Comercialización, who provide consulting services for the renewable energy industry. It aims to create a financial mechanism known as the Price Stabilisation Fund (FEP-ERNC) to support non-conventional RE development in Chile on a commercial basis.

Barriers to RE in Chile

Currently about 30% of Chile's electricity is generated by hydro power. Non-conventional RE – small hydro, geothermal, biomass, biogas, wind, solar photovoltaic, and solar thermal generating systems, contributed only around 3.5% to the nation's total electrical power in 2012. Chile's energy demand is expected to grow by 5-6% annually over the next five years, which will likely lead to higher electricity prices. Despite this trend, non-conventional RE projects continue to struggle to enter the market. One of the major barriers to investment in this area is the high volatility of energy prices. In the absence of Power Purchase Agreements (PPAs), it is very difficult for investors to obtain financing.

There is no stabilised power supply price, and so customers are struggling to get new energy contracts on a fixed-price basis, for which they are also typically required to pay a fee. The contracts are normally based on the "marginal cost" of hydro-power generation. This cost varies depending on hydrology conditions in any particular year. In dry seasons and years, when energy generation from hydropower falls, peak demand is being met via diesel generators. This increases the marginal cost of energy to over US\$300/MWh, resulting in a corresponding increase on what the customers must pay for energy under their contracts. In wet seasons and years, when peak demand is met by hydropower generation, the marginal cost normally stays below US\$150/MWh.

Another barrier is that RE projects must compete with conventional energy suppliers through PPAs. These designate fixed blocks and hours, including times when RE systems are not generating energy. In this type of relationship, these periods of non-generation, either seasonal or daily, create risk for RE system owners when they sign PPAs.

Presently, there are no financial mechanisms in Chile to stabilise prices or to move from contracts based on marginal costs to those based on fixed prices. This latter type of contract would make non-conventional RE projects more attractive to potential investors. Also, the common practice is that financing for new projects comes through existing companies, which hinders the entry of new players in the market.

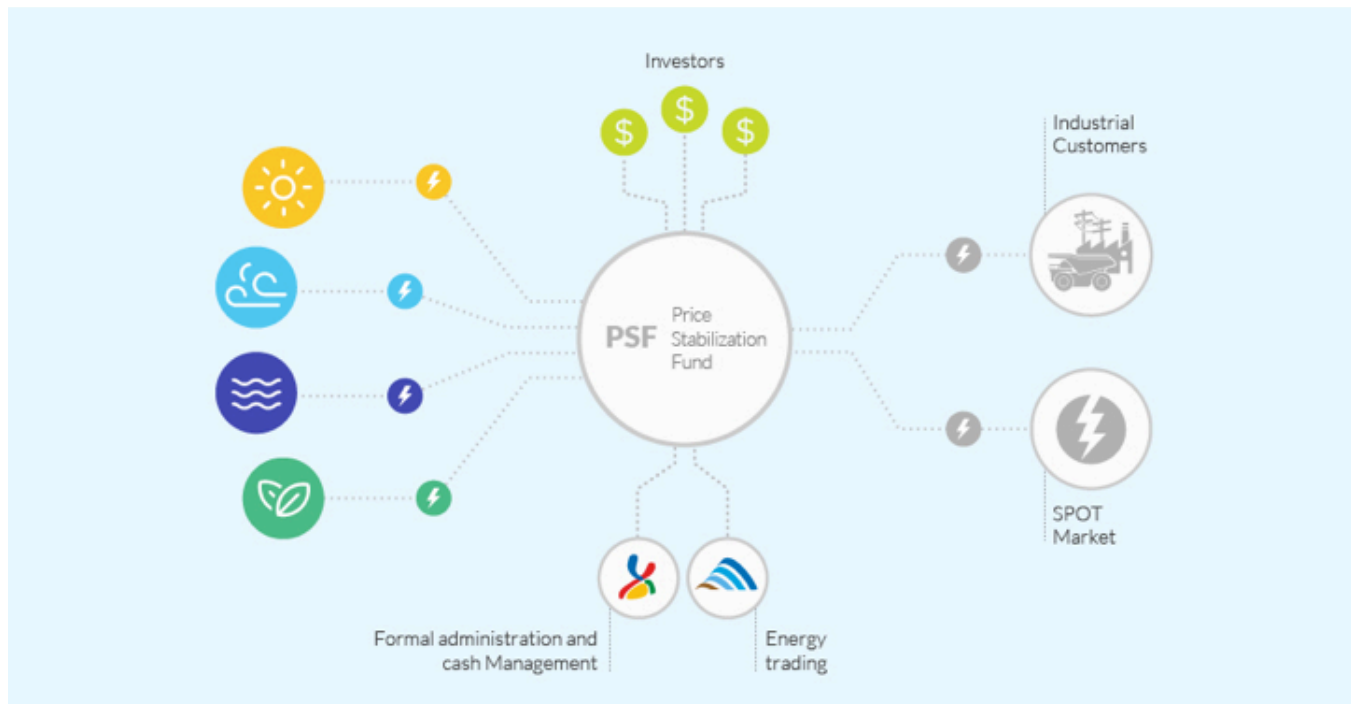
The concept of the Price Stabilisation Fund

FEP-ERNC is a private investment fund managed by the local bank BCI Asset Management, advised by Antuko. The fund aims to provide a solution by which electricity-generating firms will be able to stabilise future revenues, through long-term power-purchase contracts at a minimum guaranteed fixed price. Large non-conventional RE projects of over 1 MW may participate. The fund will buy up to 750 GWh-year over 10 years.

The fund's solvency is guaranteed through its economic assets and an insurance policy covering the harshest hydrology scenarios. First, the fund creates a diversified portfolio of energy, grouped by technology (i.e., solar, wind, hydro, biomass) and by geography, in order to lessen the seasonal risk that comes from power generation based on one single technology, and to achieve a stable blend of energy suppliers.

The fund offers power suppliers the ability to buy energy they produce, assuming the risk of variability in production and price. Then this purchased energy is resold: two-thirds go at a fixed price to individual or regulated electricity consumers in the market, such as industry, mining, trades or distributors; and the rest is sold to the spot market at the marginal-cost price. (See Figure 11.)

FIGURE 11: STRUCTURE OF THE PRICE STABILISATION FUND IN CHILE



Source: Antuko Energy, 2013

With its intermediation and risk management, the fund stabilises the national electricity market by providing solutions for energy producers and buyers. Producers can sell their energy at a minimum fixed price known in advance. This provides them with a long-term, predictable source of income enabling a secure source of funds to further develop the project. Buyers have access to RE projects without having to assume the seasonal risks of these technologies, since the fund offers parcels of energy at a fixed price known in advance.

Challenges and opportunities for scaling up

The idea for the fund came from the private sector. It is not based on a subsidy; rather, it is a business instrument addressing market volatility by linking to derivatives. Project developers are partners and share in the fund's profits, which result from the price difference between the spot market and secondary market (price of delivery to end users). It provides energy security that is demanded by both sides-developers and end users. As of August 2013, the fund was fully capitalised and had started to select project developers with whom to enter into contracts, the main target being venture capital investors.

The main challenges for the project so far have been convincing investors, structuring insurance and closing funding deals. The project sought support from the government and multilateral institutions for obtaining less expensive, less complicated insurance and funding for projects. However, due to limited experience with such instruments, as of August 2013, it had not received support from these entities. The project has been offered customised contingency insurance by the private sector at a very high premium.

In order to scale up this and similar initiatives, active financing channels for underlying RE projects are needed. A NAMA targeting this area would be particularly helpful and allow for expanding investment. Similarly, providing a more affordable insurance product would free up additional capital for growing the initiative. As private-sector experts have noted, government could play a strong role by focusing on the regulatory and policy side and on improving access to private-sector financing. There is also a need to involve energy market experts and development banks in the policy formulation process. However, one challenge that private-sector actors have raised in terms of engaging the public sector is the government's traditionally slow pace of decision making, which is not compatible with private-sector time frames, especially in an environment of growing electricity demand. This must be taken into account as the government advances its work on LEDS and NAMAs.

Essentially, what are needed to scale up this effort are institutional investors. But such investors demand projects (or portfolios) with greater amounts of capital investment and more stable returns. Private-sector experts noted that, with regards to this, a promising kind of mechanism for the future is that of guarantees. These have greater potential than soft loans, since they help distribute risk rather than create subsidies. Guarantees makes every project compete against others, ensuring that better quality projects get through. Under guarantee instruments, governments share risk with local banks, and this helps depoliticise the debate and creates market conditions appropriate for quality investments.

CASE STUDY 3 - CHILE: ENGAGING THE PRIVATE SECTOR IN LEDS AND NAMAS

Existing NAMA-based initiatives

Participation of the private sector is an important focus for many policy initiatives, as Chile generally takes a pro-market approach and sees the need to involve the private sector in NAMAs. All current NAMA projects are designed to overcome barriers to private-sector investment in some way.

The renewable energy NAMA directly targets the private sector. The Center for Renewable Energy is working on an instrument that will provide incentive for energy service companies to create a subsidy that will enable private-sector companies to develop self-supply solar projects and sell excess energy to the grid. The NAMA is currently in a stage of development in which the Center has consulted with the private sector on the barriers to investment, and continues to stay in close contact with project developers.

The waste NAMA creates a subsidy for the private sector for installing organic waste treatment facilities. It is designed to become self-sustained over time, with incentives being provided only in the early stages in order to overcome financing barriers. According to interviewed experts, since fines for mismanagement of waste are currently low, there is little incentive for the private sector to invest in waste management. The national law for waste-management violations will not be enforced for another four to five years.

A critique from private-sector experts has been that as yet no clear waste-management strategies or rules have been established, and that current government strategies favour some technologies over others. The view has been expressed that more consultation and sharing of information with the private sector would be desirable.

Next steps

According to public-sector experts interviewed, the government is emphasising greater engagement with the private sector for the next stages of the projects. There is also a need to for MRV capacity building in the private sector and to get people there up to date and comfortable with the issues.

In terms of engaging the private sector in the LEDS and NAMAs, the Ministry of Environment has left this role to the sectorial ministries. The challenge for the government has been that it is difficult to reach out to the private sector and to move beyond the “carrot and stick” approach, to open dialogue on how to create incentives for action. In order to address this, as part of an analysis within the MAPS project,² the government is placing emphasis on identifying the business-related benefits of various mitigation measures. These include investment in new technologies, the creation of new markets or the improvement of access to the existing markets, such as those in which certification of production standards is required. Between 250 and 300 experts from Chile are involved in the MAPS project, including 60 senior strategic scenario-building experts covering all sectors. The scenario-building work is done by sectorial ad hoc working groups comprised of project developers, investors, consultants and other members.

Chile is also planning to host a regional conference focusing specifically on outreach to the private sector within the context of NAMAs. The conference will target local and international investors and project developers.

2 MAPS is a collaborative effort among developing countries to support the long-term transition to low-carbon, climate-resilient economies. It combines policy and planning with research, modelling and engagement of stakeholders from key sectors. The initiative grew out of the experience of the government-mandated Long Term Mitigation Scenarios (LTMS) process in South Africa in 2005-2008. Currently Chile, Colombia, Brazil and South Africa are implementing MAPS projects.

5 How to attract private-sector participation

Private-sector actors perceive the government's role ideally as one of designing policies and facilitating investment through stable and transparent policy frameworks. According to the discussions at a two-day workshop in March 2013, organised by the World Business Council for Sustainable Development (WBCSD) in cooperation with the United Nations Framework Convention on Climate Change (UNFCCC), companies indicated that they see NAMAs as government-owned programmes or projects. However, it is acknowledged that the lion's share of NAMA implementation work would need to come from the private sector. Therefore, private-sector participation is needed at both national and regional levels in the development and implementation of NAMAs (WBCSD, 2013). The earlier the private sector becomes involved, the greater the chance of achieving senior-level institutional buy-in and ensuring high-quality technical and financial components of LEDS and/or NAMAs (WBCSD, 2013).

Based on discussions at the above workshop and on the interviews conducted with private-sector representatives for this study, there is an appetite for private-sector-led activities and investment, but these would need to have government endorsement in order to qualify as NAMAs. Specifically, the "national appropriateness" of such initiatives would need to be addressed through a mechanism designed by the government. Other roles of the government would be to report back to the UNFCCC and international public financiers on what has been achieved and facilitate scaling up of the activities, in order to achieve a true transformational change to low-carbon development. An example of this type of involvement can be seen in the above case study of Chile's Price Stabilisation Fund.

Investment decisions by the private sector are not going to be made based on the general NAMA template currently being used by governments. While this template is a good starting point from which governments can articulate initial ideas, a more detailed business case is needed for the private sector. This should clearly articulate who will do what and who will bear the costs. Government should act as a facilitator, bringing NAMA developers and investors together, by providing policy guarantees, for example.

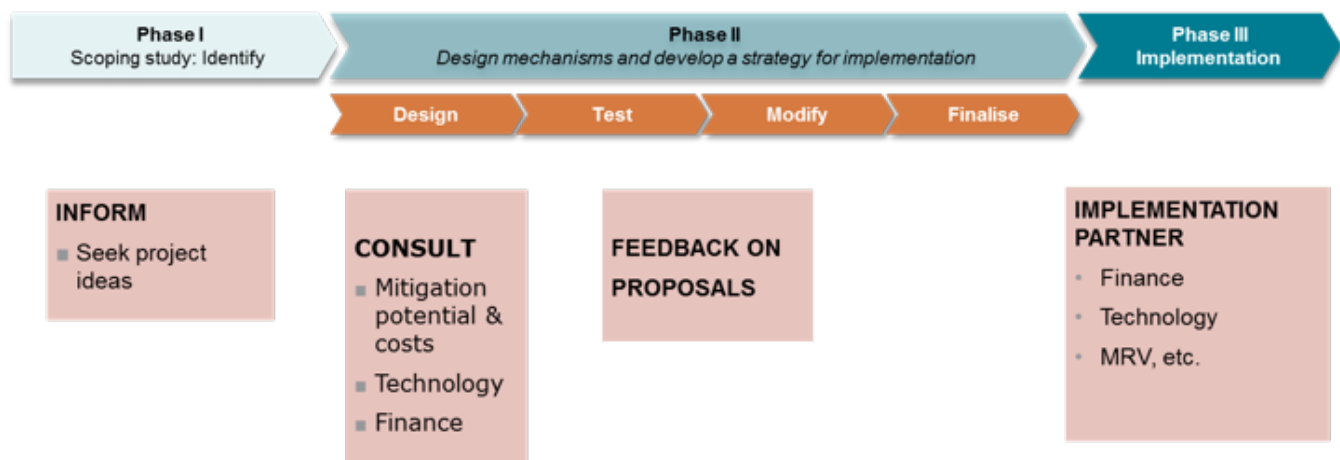
According to the WBCSD, "policy frameworks that attract an active engagement of the private sector in realising NAMAs, including strong investment participation, will need to:

- provide long-term clarity and stability;
- provide measures to reduce risk for investments in the short-term, lowering the cost of and facilitating access to capital;
- support the competitiveness of low-carbon options compared to more polluting technologies, such as through the use of carbon pricing, regulations or standards;
- address investment barriers in developing countries, possibly through capacity building;
- provide coherence among actions in different sectors/levels;
- support leveraging private-sector financing rather than replacing it with public funding (encourage "crowding in" private-sector financing, rather than crowding it out);

- provide incentives for leveraging different sources of financing; and
- include realistic policy goals and delivery plans” (WBCSD, 2013).

In light of this, in order to achieve the effective involvement of the private sector, the above factors should be addressed in LEDS and NAMA proposals. Clearly, it is not possible to address all of these factors in the initial stages. Yet at least a clear objective and a transparent process must be in place that ensures progress towards addressing all of them. The private sector can be involved effectively in each stage of the process in order to do this, its members’ roles differing according to the varying stages of LEDS and/or NAMA development. (See Figure 12.)

FIGURE 12: PRIVATE-SECTOR INVOLVEMENT THROUGHOUT THE LEDS AND NAMA PROCESS



Source: Adapted from WBCSD, 2013

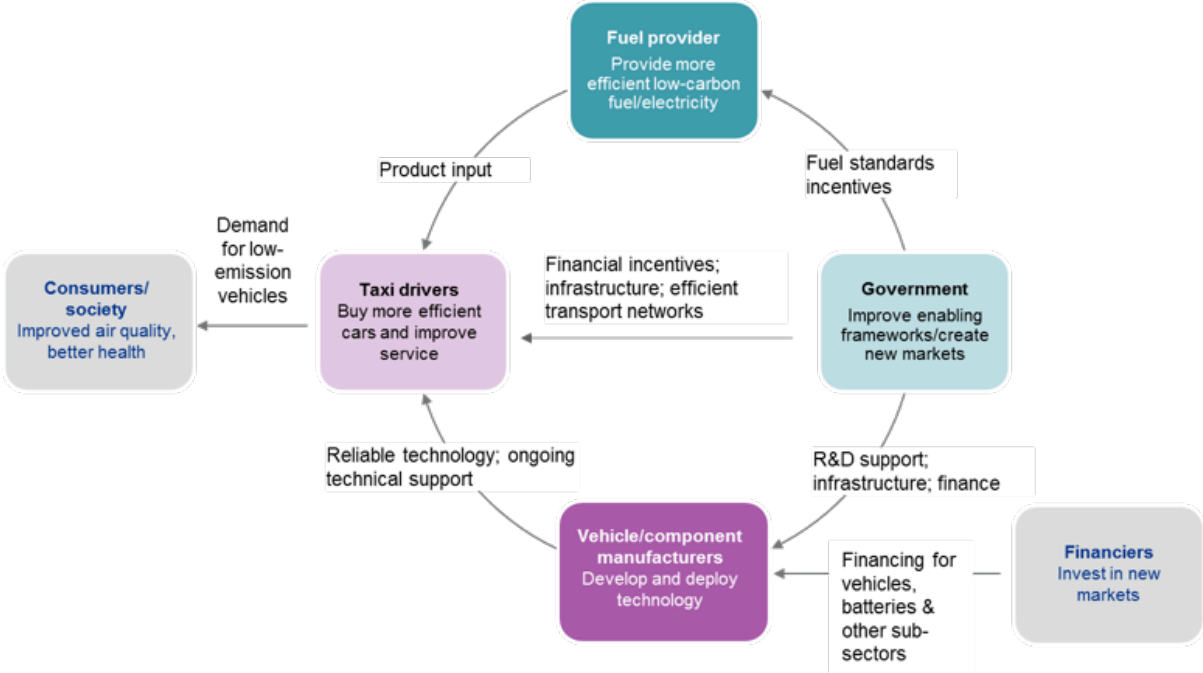
During the initial scoping-study phase, it is useful to inform the private sector of the upcoming initiative(s) and of potential opportunities, as well as to seek project ideas or technical information which experts there may be able to provide. In order to start this process, it is important for the government to identify and familiarise themselves with the key relevant private-sector actors and the incentives, benefits, costs and barriers inherent to a given LEDS or NAMA. The target audience at this point would mostly involve consultancies and members of companies operating in the sectors affected by the LEDS or NAMA. As an example, as part of the preparation of a NAMA proposal involving the dairy sector in Costa Rica, the Ministry of Environment has approached companies in the dairy industry in order to sound them out on ideas.

As the process advances to the design of concrete policy or project elements, it is appropriate to consult with the private sector on mitigation options, technology needs and alternatives available, barriers and ways to overcome them, and on financing options. The audience at this stage is likely to be broader and needs to include the finance and investment community, as well as companies covering the entire value chain of the product or technology in question. Once the elements have been formulated, direct feedback from the private sector should be sought. It is also possible for some NAMA proposals to be developed by the private sector. For example, Mexico is encouraging the chemical and mining industries to come up with proposals for bottom-up NAMAs. Chile’s aforementioned Price Stabilisation Fund is another example of what could become a private-sector-developed NAMA.

During the final implementation stage, the private sector needs to become a partner with the government, with direct involvement in the LEDS and/or NAMA through investment, delivery and operation of technology, and the provision of relevant services such as MRV.

As previously mentioned, it is important to look beyond the immediate private-sector actors that come to mind and to evaluate the entire value chain of the technology or market in question, in order to fully consider potential barriers to low-carbon investment. Figure 13 shows the value chain for a proposed NAMA in Chile that involves establishing incentives for low-emission and electric vehicles, beginning with Santiago’s taxi fleet scaling up in the future. It is clear that in order for the market to function, not only is affordable vehicle availability important; of equal importance is the underlying infrastructure, including charging stations, supplies, hardware, repair services, financing options, and so on. Creation of the market requires involvement of a full range of actors, including car manufacturers, taxi companies, financiers and others. A detailed analysis of the value chain allows for a more robust evaluation of barriers and policy requirements, as well as better identification of stakeholders and their roles.

FIGURE 13: EXAMPLE OF A VALUE CHAIN - CREATING A MARKET FOR LOW-EMISSION VEHICLES



Source: Adapted from KPMG, 2012

Open dialogue with the private sector is key to the success throughout all stages of LEDS or NAMA development and implementation. It is also necessary for the government to be well prepared for effective interaction and not appear to waste the time of private-sector representatives with poorly articulated objectives, inefficient meetings and over-optimistic promises. It is better to set modest, clear objectives for interaction than to overcommit and under-deliver. Again, co-benefits are seen by the private sector as an important component of a NAMA, and it is increasingly important for them that a business case be presented. Supplying these will increase the chances of attracting private-sector interest.

Furthermore a good understanding of the initiatives that target the same segment of the private sector is necessary. These may come from other organisations, policies, processes or projects, and they may affect similar issues or fall under the responsibility of the same ministries. It is also necessary to follow

advances in technology and to understand the activities in which the private sector is already involved. This understanding can be developed through engagement with consultancies working in specific sectors and through private-sector liaison officers in the sectorial ministries.

Experience to date also suggests that successful engagement of the private sector has often been based on finding champions. Champions are companies, groups of companies or individuals who are likely to understand the concept, buy into the idea and help carry it through to more mature stages. Making the effort to identify and engage these champions has proved more effective than struggling with a larger group of random, passive stakeholders.

Finding champions is often a chance process, however some logic can be derived from recent experiences. For example, in Mexico, the CDM has played an important role in generating understanding of the operations and benefits of climate-change-mitigation projects in both the public and private sectors. The Mexican chapter of the WBCSD has been very active and made significant advances in promoting private-sector engagement in GHG mitigation activities and in facilitating public-private interactions. There are also examples of individual corporate leaders playing a prominent role with regards to sustainability. For example, leaders at the large cement company Cemex are already implementing sustainability projects, sometimes with international financing. Cemex was first exposed to carbon regulations in Europe after acquiring several cement companies there. The Mexican government is building some of its LEDS and NAMA activities around these leaders in order to generate successful examples for scaling up activities in the future.

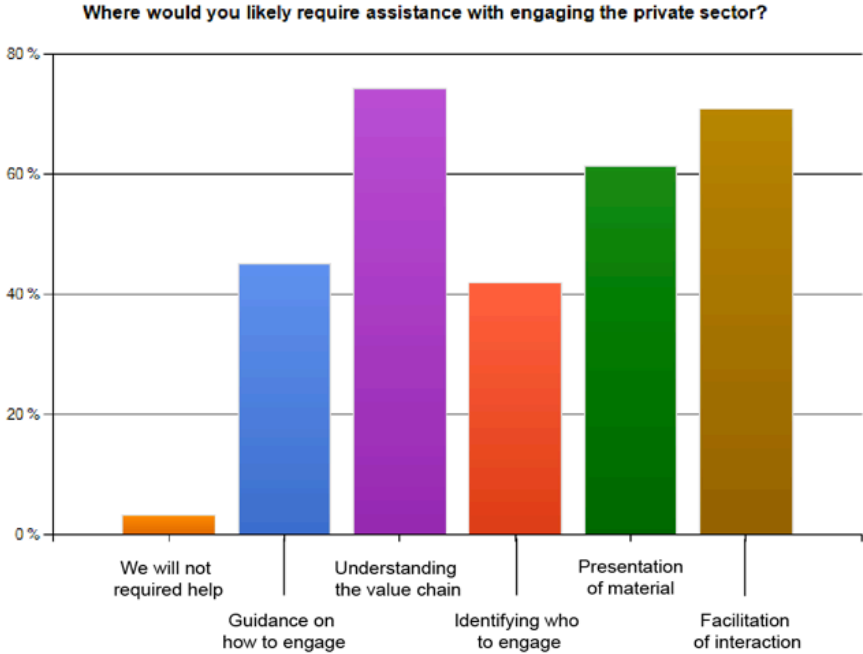
Summary: The LECB experience in meeting the challenge of engaging the private sector

Despite the growing volume and variety of climate-financing resources, there is still a clear need to catalyse private financing for low-carbon technology in developing countries. Public financing alone is insufficient to meet on its own the scale of the investment needed. Rather, public financing should be carefully husbanded and creatively used to catalyse private financing. A significant amount of investment which supports low-carbon, climate-resilient development is already coming from the private sector. Indeed, the amount of private climate financing nearly triples that of public financing (Buchner, B., et al., 2012), so the fundamental problem is not capital generation, but rather the redirection of existing and planned capital flows from traditional high-carbon to low-emission, climate-resilient investments (UNDP, 2011). LEDS and NAMAs should become the vehicles for this redirection, through the creation of policy frameworks that remove barriers and create incentives for low-carbon investment. In this way, the private sector will become a key group of stakeholders in the development and implementation of LEDS and NAMAs.

This study shows that there is great interest in engaging the private sector in LEDS and NAMA development and implementation. We have seen some examples of reaching out to the private sector to solicit feedback on policy proposals (Costa Rica), to participate in the LEDS and NAMA working groups (Chile) or to make the private sector the primary target of NAMAs (Mexico, Ghana). Examples presented in this study also indicate interest from the private sector in potentially undertaking bottom-up initiatives within the context of LEDS and NAMAs.

Nevertheless, as mentioned earlier, there has been little concrete experience of this nature to date. According to the survey, LECB countries in particular see the need for assistance with understanding the value chains of various sectors, facilitating interaction with the private sector and presenting information in the most appropriate way. (See Figure 14.)

FIGURE 14: NEEDS IN LECB COUNTRIES FOR CAPACITY BUILDING FOCUSED ON ENGAGING THE PRIVATE SECTOR



Engagement of the private sector can take various forms, ranging from providing information, to consulting on key mitigation data, to giving feedback on draft LEDS and/or NAMA proposals, to becoming an implementation partner. Within this context, a clear strategy is extremely important in order to determine what happens and when it happens. Box 4 provides a brief summary of what has been learned so far from the LECB experience in this regard.

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The LECB Programme is made possible through generous contributions from the European Commission, the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), and the Australian Government.

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