

Delivering Social Value via the Private Sector:
A Framework for Market-Based Interventions

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Overview and Objective

Over the last 10 years, the International Finance Corporation (IFC) has secured over US\$ 250 million in *public* funds to support private-sector activities designed to generate both social and commercial benefits.* IFC has structured and implemented more than 30 innovative environmental projects, developing a range of interventions – from ‘refundable grants’ to partial guarantees to high-risk equity – that catalyze the private sector to deliver sustainable social benefits. This experiment in blended value investing is founded on a simple conviction: that in certain situations, the private sector is a more effective and efficient vehicle for delivering social value than the public sector.

As a recipient of funding that would otherwise go to the public sector, IFC has had to articulate, and sometimes even defend, its approach to delivering social value via the private sector. The focus has always been on the social benefits created through these activities, with the private sector functioning merely as the vehicle for achieving the public goals. This perspective complements the views on blended value investing as seen from the private and philanthropic sectors (and outlined in the other background paper for this workshop, “Private Investment for Social Goals and the Blended Value Capital Market”).

The objective of this paper is not to describe IFC’s various blended-value investments, but rather to draw from IFC’s experience in this field to **propose a framework for market-based interventions that may be applicable to a wider range of blended value activities**. This framework can be used in identifying, structuring, executing and evaluating private-sector projects with social goals. More broadly, it can help answer the question: What’s the best way to support socially beneficial activities that the private sector *could* be pursuing but isn’t at present?

This paper is organized in the following sections:

1. Project Example
2. How to Engage with the Private Sector
3. A Framework for Market-based Interventions
 - (1) *Diagnosis*
 - (2) *Barrier Identification*
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4. Applying the Framework
 - Financial Mechanisms
 - Who to Engage
5. Lessons Learned from IFC’s Environmental Experience

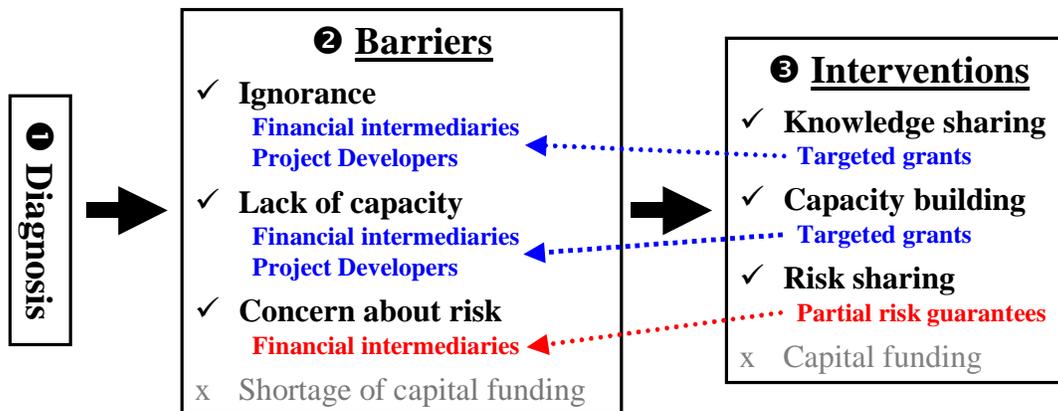
The concepts presented below are intended to be thought-provoking and to open debate on a number of topics. This is a discussion draft and should not be quoted outside the workshop without first contacting the author. Comments are welcome and should be sent to lboorstin@ifc.org. Please also see the *Acknowledgements* at the end of the paper.

* IFC is the member of the World Bank Group that invests directly in sustainable private enterprises in developing countries. IFC’s primary function is to provide market-rate financing for private-sector projects. For further information on IFC, please see: <http://www.ifc.org>. The activities described in this paper have been undertaken by IFC’s Environmental Finance Group with external funding from the Global Environment Facility and other donors. For a summary of the group’s activities, please see the Annex. For further information on the group, please see: <http://www.ifc.org/efg>. Please note that many other parts of IFC also use public funds to deliver social benefits.

1. Project Example

The Hungary Energy Efficiency Co-Financing Program (HEECP) offers a good example of how to apply the framework for market-based interventions proposed in this paper. HEECP aims to increase the efficiency of energy use in a transitional economy, thereby achieving the social benefits of reduced local air pollution and mitigation of global climate change. HEECP is notable for its use of an unusual financial instrument – partial-risk guarantees – but a more fundamental issue is *how* that type of intervention was selected. The process of designing HEECP is summarized in the following diagram, which is explained below:

Applying the Framework to HEECP



Problem: In the mid-1990s, Hungary faced a clear need for energy efficiency improvements in a wide range of sectors. However, funding for these improvements was generally unavailable.

1. *Diagnosis.* An in-depth review of the market determined that the most appropriate source of funding would be local leasing companies and banks because they could lend relatively small amounts in local currency, which is what's needed for energy efficiency upgrades. But these financial institutions (FIs) rarely made loans for that purpose. Further analysis showed that the underlying cause for this behavior was not several oft-cited reasons (e.g., lack of funds or high interest rates).
2. *Barriers.* Three specific barriers were identified to increased lending for energy efficiency:
 - Lack of experience by local FIs with the energy efficiency sector and with project finance (the type of loans best suited to energy efficiency needs) and small borrowers.
 - Perception of high credit risk for energy efficiency loans by local FIs.
 - Weak capacity of local developers to prepare 'bankable' energy efficiency project proposals.
3. *Market-Based Interventions.* To break down these barriers, two types of tools were designed:
 - Training Tool – Train the local FIs on energy efficiency lending and the local developers on how to work with the FIs using targeted, limited grants.
 - Risk Management Tool – Share the risk with the FIs by providing partial guarantees to increase their comfort when lending for energy efficiency improvements.

By building the capacity and actual experience of local FIs, HEECP wanted to establish new patterns of lending for energy efficiency projects that would continue after the program ended. This approach also exploited a key market force – increasing competition among FIs was making them hungrier for new business, which made energy efficiency an attractive opportunity. And it *avoided* the conventional tools that were not as sustainable, such as grants to end users or government agencies and interest rate subsidies.

And the results of this process? HEECP has engaged seven FIs in Hungary, representing 95% of lending market assets. The program has been instrumental in establishing active competition among Hungarian banks to develop and market energy efficiency project financing products in multiple sectors. And HEECP has facilitated development of innovative financial products which provide loans to several developmental sectors for which debt was previously unavailable, including small municipalities, SMEs and cooperative housing. Turning to key performance criteria (please see next section), HEECP is succeeding across all the indicators:

- *Sustainable*: Creates self-sustaining market behavior – lending for energy efficiency projects – that will continue *after* the current program ends.
- *Replicable*: Encourages private enterprises that are *not* participating directly in the program to change their behavior. Moreover, this model has been transferred to 5 other European countries under another IFC project and will likely be applied elsewhere.
- *Highly Leveraged*: Expected to catalyze commercial financing totaling at least 20x donor funding ... and likely much higher if, as expected, most of the guarantee funds are not used.
- *Innovative*: Complements and catalyzes private sector activity by combining non-grant financing and targeted, limited grants.
- *Efficient*: Supports latest energy-saving technology and management techniques from the private sector.

2. How to Engage with the Private Sector

Engaging the power of the marketplace to deliver social benefits is appropriate *only* if the private sector offers the most effective method of delivering that social value (effective both in terms of higher performance and lower cost). But the private sector shouldn't be considered as just another route to achieve social goals – in certain cases it actually offers a much better alternative. To assess when this is likely to happen, the following set of **criteria for effective interventions** can be used:

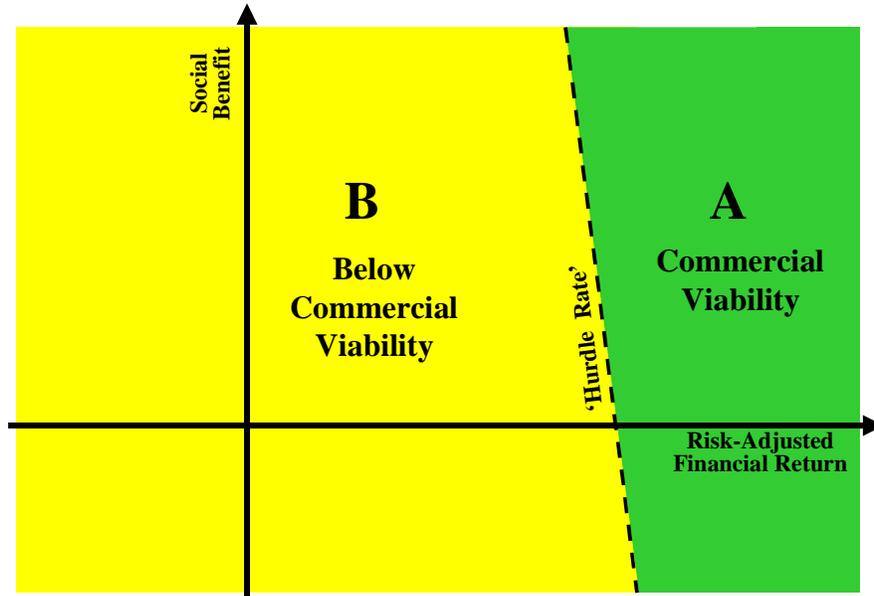
- **Sustainability** – A well designed and well executed private-sector project can substantially increase the chances for sustainability of changes in behavior *after* the intervention is completed. This is because once an activity is shown to be commercially viable, the private sector is likely to pursue it without further subsidies.
- **Replication** – A success in the private sector naturally leads to imitation by others who also want to earn a profit. So, the competitive effects of market forces will produce replication without further public support.
- **Leverage** – Instead of using only public or philanthropic funds to support a project, private capital can be catalyzed to support social objectives, thereby minimizing the use of scarce donor funds. And if non-grant funding (e.g., guarantees or loans) is used, as is often the case with private-sector projects, the net amount of donor funding will be reduced by any repayments, hence increasing leverage and recycling funds for other socially beneficial activities.
- **Innovation** – Engagement with the private sector provides direct access to new technologies and business models that can meet social objectives more effectively.
- **Efficiency** – Working directly with the private sector offers access to the latest management techniques and systems, while also benefiting from the focus on efficient operations and cost savings demanded by the marketplace.

As indicated by this set of criteria, there is a fundamental difference between engaging with the private sector and more traditional grant-based public or philanthropic programs. The key distinction is that interventions with the private-sector are intended to **catalyze changes in the way companies, financial institutions and consumers operate** rather than simply paying for specific public goods or services. In particular, IFC has used donor funding to accelerate market movement towards socially beneficial products and services by supporting new business models and/or technologies. Sometimes these activities are near to commercial viability, in which case an extra push is needed to fully engage the market. In other cases, stand-alone commercial viability may not be expected for several years, and a project's impact is to bring that day closer. In all cases, the external funds serve as a complement, not a substitute, for market forces.

The diagram on the following page illustrates this catalytic approach to the marketplace, using a matrix that tracks social benefits on the vertical axis and the commercial viability of a particular activity on the horizontal axis. If the expected return from a project exceeds the 'hurdle rate' established by the market for that particular activity, then it's deemed commercially viable and the private sector will typically fund it. This is the green area in the diagram, marked "A". The yellow zone, marked "B", covers activities with sub-commercial returns that the private sector typically will not pursue on its own. Note that the hurdle rate isn't a vertical line but instead tilts backwards: this indicates that the private sector is likely to

derive some financial value (more likely in the long run) from activities with social benefits and hence would set a slightly lower hurdle rate for such projects.*

Social Benefits and the Marketplace

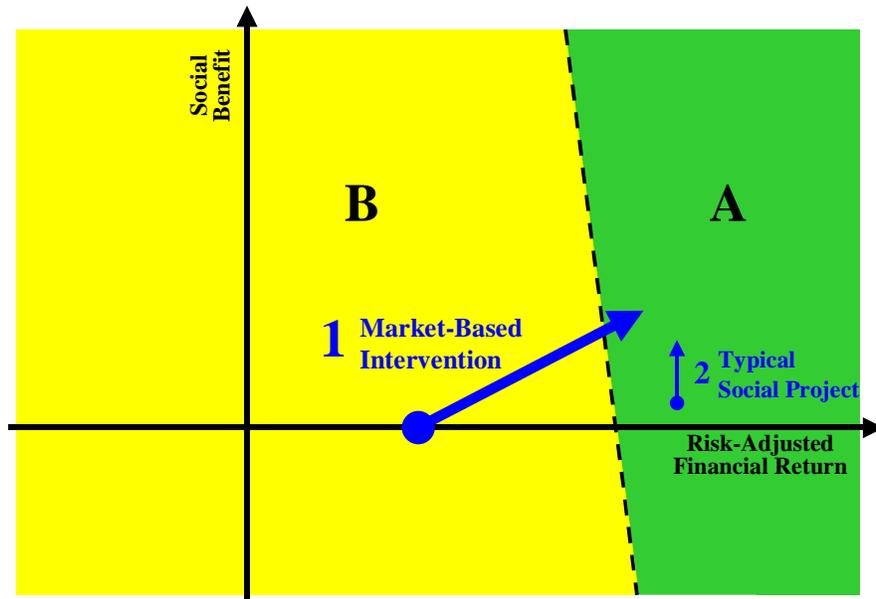


The second diagram, on the following page, illustrates two types of potential interventions, as represented by the blue arrows. The large blue arrow, marked “1”, illustrates how external funds can be used to encourage changes in market behavior. Look first, however, at the smaller blue arrow, marked “2”, which represents a more typical social intervention. Under this type of approach, the additional funding aims to deliver social benefits directly. For example, a grant might be provided to an eco-tourism lodge in order to improve protection of biodiversity in a nearby area. This is structured similar to a project executed through the public sector, except that it is managed by the private sector. For this typical project, the arrow moves vertically to represent the focus on direct social benefits with little impact on private sector return. This approach works because the commercial returns are already high enough for the private sector to pursue the underlying venture on its own – which is why arrow 2 starts (and ends) in zone A.

In contrast, the market-based intervention represented by arrow 1 starts in zone B, meaning that initially the private sector is *not* pursuing this activity. In this situation, **social benefits cannot be achieved unless the market is convinced to engage in this business.** The challenge, and the opportunity, here is to understand why the private sector isn’t engaging, determine if some external assistance could spark a change in that behavior, and decide if the social benefits from doing this outweigh the costs. If an appropriate intervention can be designed and implemented, then the result is the big blue arrow – a project that catalyzes a positive market response, generating social benefits through the vertical gain and a commercially viable activity through the horizontal shift into zone A. In many of these situations, social benefits are delivered *indirectly* because the external funds focus on moving the private activity into commercial viability, which in turn generate social benefits through their products or services.

* This is a simplified graphic meant to illustrate general principles not specific situations. A similar argument can be made using the Net Present Value (NPV) method of valuation instead of Risk-Adjusted Rate of Return.

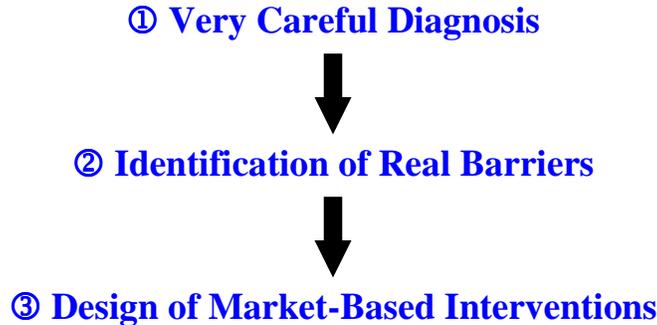
Market-Based Interventions



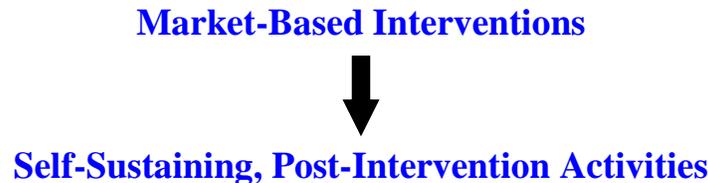
In advocating this approach, it's important to clarify that the aim is not so much to transform markets as to *accelerate* market activities that would eventually occur on their own. And tackling these challenges with a degree of humility is important for a fundamental reason – most markets are reasonably efficient in allocating resources, especially capital. If the private sector isn't pursuing a particular activity that would generate a social benefit, it's for one of two reasons: (i) there's insufficient return for the inherent risk (i.e., the market is working efficiently and has decided the activity isn't worth funding); (ii) there's a misperception by the market of the risk-return tradeoff for that activity (i.e., there's a market failure and the activity really should be funded). In either case, interventions that 'push the market' into new activities needs to be approached with care. And that is why IFC's experience has led us to propose the following 3-step framework, which starts with a very careful understanding of what's really going on.

3. A Framework for Market-Based Interventions

The **three components of the framework** are as follows:



As indicated by the diagram, the components are undertaken in sequence. Each component will be discussed in detail below, but it's important throughout this discussion to bear in mind the final goal of the process:



If the design and implementation of a private-sector project is successful, then market forces will continue the desired behavior *after* the intervention is completed. This is true sustainability and clear evidence that the real barriers to achieving social benefits through the marketplace have been overcome for that particular project. In some cases, where the activity was far from commercial viability, further subsidies might be needed after the project is completed – but the amount of the subsidy will have dropped substantially and the time to full commercial viability will be nearer.

① Diagnosis

The first step is a very careful diagnosis of the existing situation, including a thorough understanding of market data and market drivers. This step is critical because some of the biggest mistakes occur when inaccurate assumptions are made about the underlying causes for market behaviors. One needs to be fully aware of all the factors that can contribute, or detract, from the success of a proposed project. If these factors – which relate not just to the private sector but frequently to public policy as well – aren't aligned appropriately, all the money in the world won't change the current system ... it will just be wasted.

Each diagnosis should be approached without preconceived notions of what's currently happening and why that is. For that reason, there's not a one-size-fits-all outline for appraising projects. To the contrary, the complexity of market dynamics calls for a team with in-depth experience in the sector being evaluated and for a flexible method of evaluation that can develop new lines of thinking as needed.

Still, a number of factors are common to most diagnoses, and – as long as these aren't used in a rote fashion or to the exclusion of other factors – they can be organized under a model for the successful

creation of public value.* A private-sector intervention starts with a **diagnosis that addresses these three core elements:**

- **Value**
 - Direct social benefits – meets immediate social objective
 - Indirect social benefits – replicable and scalable
 - Demonstrated and incremental need – appropriate and efficient use of resources
 - Innovation – supporting the *status quo* doesn't usually yield major changes
- **Operational Capacity**
 - Commercial sustainability – near- to medium-term, key to overall sustainability
 - Strong sponsor/implementer – critical for effective delivery
 - Partners – for knowledge, capacity, on-the-ground implementation
 - Financing – financial markets are key to long-term commercial viability
- **Legitimacy and Support**
 - Policy and regulatory climate – conducive or at least not harmful
 - Leveraging – maximize use of private-sector (i.e., commercial rate) funding
 - Local legitimacy and support – better implementation and reduced risks.

Again, this isn't an exhaustive or exclusive list, but it does provide an idea of the breadth and depth of analysis required to perform a solid diagnosis for a private-sector intervention.

② Identification of Real Barriers

If the key diagnostic elements look good, then the focus turns to identifying and exploring the barriers preventing realization of the social goals. As noted above, the fundamental barrier to be considered is the market's perception of the risk-return trade-off associated with the desired activity. Clearly, if an intervention is under consideration, the market has thus far decided that the trade-off isn't attractive and so the private sector isn't pursuing the activity. But *why exactly* has this decision been made – that's the question to investigate. Is the proposed activity not sufficiently well understood by key participants in the market and, if so, who are those particular participants and what additional knowledge do they need? Or is the activity well understood but the returns just aren't yet there to attract sufficient investment? Or is it something else?

From IFC's experience, we have identified **four general classes of barriers that can prevent the private sector from pursuing an activity with social benefits:**

Barriers facing the Private-Sector

1. **Ignorance**
2. **Lack of capacity**
3. **Concern about risk**
4. **Shortage of capital funding**

* This model was created by Prof. Mark Moore of Harvard University and is presented in his book, Creating Public Value.

Interestingly, the initial focus in most cases is only on the fourth barrier, assuming that there's a shortage of funds: "It's the private sector; they just need some more money, right?" The resulting interventions typically throw money at the problem, and the outcomes are predictably poor. Instead, careful consideration of the *real* barriers at work can yield significant insights into the market forces at play:

- **Ignorance** often results when market participants maintain a narrow focus on their core/existing business. For example:
 - Entrepreneurs in new market segments can be ignorant of how to work effectively with mainstream market institutions (e.g., banks), not knowing how to 'speak their language.'
 - Mainstream financial institutions and even larger companies can be ignorant of the risk-return tradeoff available in new market sectors and how to structure such transactions.
- **Lack of capacity** arises when private-sector entities recognize an opportunity but don't have the resources to act on it. Examples include:
 - Smaller companies whose operations could be run in a more socially-beneficial manner often do not have the capacity to make the changes needed to achieve this.
 - Larger companies that see opportunities may still need assistance to educate their staff on how to approach a new, socially-beneficial line of business.
 - New ventures may require a public policy framework (e.g., regulatory structure) that is not yet in place.
- **Concern about risk** can constrain or even prevent private-sector engagement in a new activity. In particular, lack of experience with new types of sponsors, business models, markets and/or technologies can make private sources of capital too wary to fund innovative ventures.
- **Shortage of capital funding** occurs when the projected returns from a project aren't high enough (given the expected level of risk) to attract sufficient private-sector capital. The *type* of capital which is appropriate to the situation – ranging from short-term working capital to long-term equity – and the likely return (from a realistic, not optimistic, perspective) must be considered.

③ Design of Market-Based Interventions

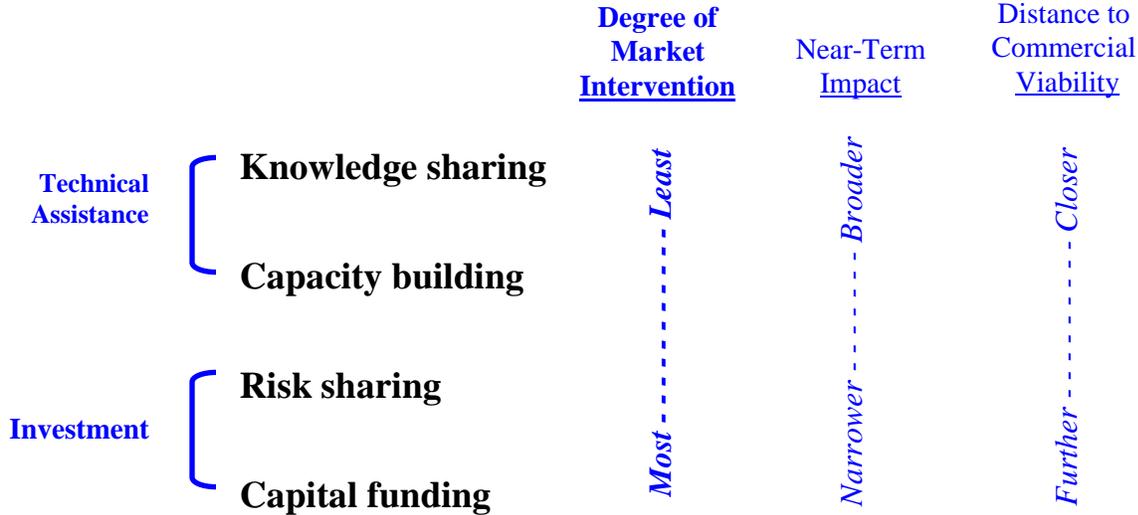
The **four basic types of private-sector interventions** correspond to the four classes of barriers described above:

Market-Based Interventions

1. **Knowledge sharing**
2. **Capacity building**
3. **Risk sharing**
4. **Capital funding**

As with the first two stages, each intervention is customized to fit the specific challenge. In that sense, the project team doesn't select a type of intervention but rather *designs* the approach to be used. Furthermore, in many projects it's appropriate to use multiple interventions in order to address a range of barriers.

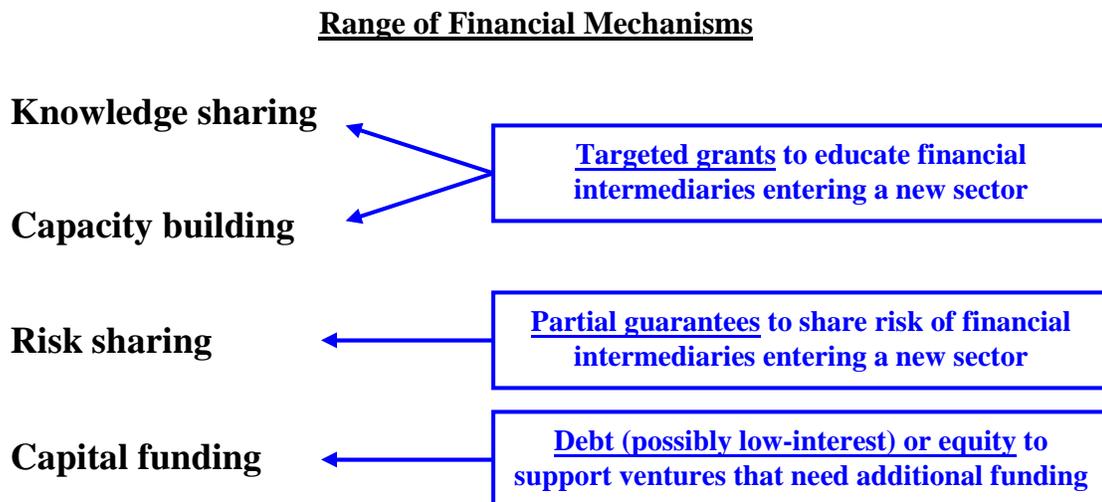
The order of these approaches is not by chance: going from top to bottom, they move from the least to the most ‘interventionist’ methods. Put another way, these approaches start by ‘assisting the market’ with knowledge sharing and capacity building and transition downward to ‘pushing the market’ through risk sharing and capital funding. Indeed, the first two approaches typically take the form of ‘Technical Assistance’ whereas the last two involve some form of ‘Investment’. In IFC’s experience, the provision of technical assistance can have a quicker and broader impact on the market than investment approaches ... but only when the market is predisposed to allocate investment resources to a new area. In that case, the additional knowledge and/or increased capacity acts to unleash those resources. This is a very attractive and effective role for social funders – providing targeted technical assistance that catalyzes previously unavailable private capital – but again it only works if the desired activities are quite close to commercial viability. For that reason, while it’s tempting to propose a ‘hierarchy’ of market interventions that gives preference to the approaches at the top of the list, it’s just not that simple: the design of interventions depends on each project, and a combination of technical assistance and investment support may well be appropriate.



4. Applying the Framework

Financial Mechanisms

Several different types of financial mechanisms, ranging from grants to equity investments, can be used to deliver market-based interventions. Selecting – and sometimes *designing* – the right type of funding for an intervention is critical, and the choice should depend on what the market needs: knowledge, capacity, risk mitigation and/or capital. The goal should be to **maximize influence on the market while minimizing market distortions**. Unfortunately, this market review process is sometimes skipped in favor of simply *assuming* that private-sector projects need equity or other types of capital funding. In fact, a careful diagnosis may indicate that the most appropriate type of funding is a targeted grant, a short-term working capital loan, a guarantee for long-term debt or something else. The following diagram shows some of the funding instruments that IFC has used in its environmental projects:



But beware – the instruments presented above are not always the right tools to use for the indicated interventions. **The type of mechanism(s) used should follow from the project-specific diagnosis, not vice versa.** Furthermore, some financial mechanisms can be employed in different ways, so it can be misleading to associate a particular financial mechanism with a type of intervention. Take grants, for example. A targeted grant can be used for awareness raising, as in the Hungary energy efficiency project described above. But a grant can also be used to subsidize the cost of pre-commercial technology. IFC has used a grant for exactly that purpose in supporting a grid-connected solar power project in the Philippines. Although this technology is relatively far from commercial viability, IFC identified an opportunity to support its application in a novel way, hence accelerating the day when no subsidies are required. Same financial mechanism ... but used in a very different way.

Once the basic type of mechanism is selected (e.g., grant, guarantee, loan), structuring the specific terms and conditions requires a clear understanding of the recipient of the funding and standard market practices. When combined with some creativity, this knowledge allows one to tailor each instrument in a way that meets the dual goal of maximizing influence on the market while minimizing distortions. Key factors to consider in negotiating these terms and conditions include:

- *Timing of Payments.* In both the private and public sectors, it's clearly preferable to 'pay on performance.' For example, whenever possible grant funds should be paid out *after* a desired outcome is realized. But this isn't always feasible, especially in cases where donor funding is needed up-front to support capital and other start-up costs. Even in these situations, however, it may be possible to negotiate features that effectively achieve payment on performance. IFC faced such a situation with the grid-connected solar project noted above, where donor funding was clearly needed up-front to subsidize capital costs. To ensure that these funds would be well-used, IFC attached a condition to the grant requiring that the project meet minimum operating performance requirements for at least 5 years. If not, the grant becomes repayable. The private sponsor had no problem accepting this condition, but it's unclear if a public entity would have responded the same way.
- *Other Performance Incentives.* Building effective performance incentives into market-based interventions can be especially challenging when the funding recipient is an intermediary with discretion in how the funds are used (which in turn is appropriate to meet changing market conditions). In such cases, a key performance measure is the volume of funds on-lent to end users. But volume shouldn't be achieved at the expense of quality, otherwise funds will be wasted. So a combination of incentives is needed to balance these factors. Incentives must also be appropriate to the specific recipient. For example, one IFC program has a reward system under which it forgives a portion of loan principal to intermediaries that succeed in being repaid by their borrowers. While this incentive may seem counter-intuitive (after all, more repayments to the intermediary should mean that they can repay the program more easily), it's fully consistent with a key social goal for the program – to encourage more business-like behavior by the program's intermediaries, many of whom are NGOs with clear social objectives.
- *Expected Rate of Return.* In negotiating the terms of non-grant mechanisms, it's essential to be realistic about the expected rate of return. Forecasts of returns are frequently too optimistic, which can result in disappointed investors and other partners. To avoid this outcome, flexible financing terms should be employed to align the funding mechanism with the *realistic* expected return. IFC has experience with a wide range of funding mechanisms, and those with more realistic expectations and the flexibility to accommodate lower – but still reasonable – returns have been much more successful.

Who to Engage

Of equal importance to deciding how to engage with the private sector is choosing *who* to engage. The sponsor (the main promoter and executor of a project) and other partners are critical to the success of an intervention, and if appropriate parties cannot be identified for all key roles, then the project should not proceed. Furthermore, the choice of partners can determine whether a project has an impact beyond its direct activities. The sustainability and 'replicability' of an intervention are linked closely to the role that key partners play in the marketplace.

This latter point is sufficiently important that it should be addressed first: priority should be given to partners that are most likely to achieve the goal of catalyzing self-sustaining post-project behavior. In practice, this often leads to the selection of local, as opposed to international, sponsors and particularly financial institutions. **Engaging with local banks, local project sponsors and other local enterprises offers long-term benefits as these are the mainstays of the marketplace** – if catalytic funding can change how they do business, then replication will naturally occur without further assistance. For larger projects or when local partners are not yet strong enough, there's clearly a role for international sponsors and financiers, but preference should be given to local parties whenever feasible (noting that 'local' can include locally based businesses with foreign ownership).

The range of potential partners covers the private sector as well as the public sector and civil society:

Potential Partners

<u>Private Sector</u>	<u>Others</u>
Entrepreneurs	Government Regulators
Financial Institutions	NGOs
Co-Investors	Certifiers
Equipment Suppliers	Research Institutes
Media	Other Multilateral Institutions

When selecting a partner (or partners) for a market-based intervention, a key consideration is the degree of alignment between their core business and the desired social activity. Closer alignment will typically make it easier to implement the steps needed to achieve the social goals and to design performance incentives. Many other factors – such as leverage, sustainability and innovation – also come into play when choosing partners, as outlined in the 3-stages of the framework presented in the previous section.

5. Lessons Learned from IFC's Environmental Experience

To date, IFC's most consistently successful environmental interventions have been **market development programs** aimed at changing the behavior of lenders, companies and consumers related to specific environmental activities. These projects have yielded social benefits that are sustainable, replicable and in some cases highly leveraged. The programs have employed a range of knowledge sharing, capacity building and risk-sharing tools – but rarely capital funding – to engage with existing market institutions, including local financial intermediaries, project developers, industry associations and utilities.

IFC environmental interventions that have primarily provided capital funding for **investments** have shown more mixed results. The weakest performance has come from **private equity funds** expecting commercial (i.e., very high) or near-commercial rates of return. Three such funds were closed down prematurely by their investors because they could not identify and complete enough transactions meeting pre-agreed investment criteria. However, IFC has also supported more successful “**fund-like**” vehicles that have the flexibility and patience to accept lower returns and/or to meet the market's need for a wider range of financial instruments (i.e., not just equity) while also providing limited technical assistance. These vehicles have been operated by IFC itself and by partner organizations under varying degrees of oversight by IFC.

IFC has gained considerable experience from working with the **environmental enterprises** financed by these funds and fund-like vehicles. For example, IFC has indirectly supported more than 20 investments in off-grid solar power through several vehicles and has similar experience for biodiversity-related enterprises. As would be expected, some of these investments have performed better than others – both in financial and social terms – yielding useful experience on key success factors.

IFC has learned a number of lessons – some the ‘hard way’ – from its experience with these market development programs, investment vehicles and environmental enterprises. Those lessons are summarized in the three sections below. Working across all of these approaches has also yielded a few broader principles that are applicable to market-based interventions:

- IFC initiatives add considerable value by supporting **new business models and approaches** that otherwise would not be funded for some years to come. In that sense, while some projects involve emerging *technologies*, they are not typically taking much ‘technology risk’ but rather ‘market risk.’ For example, the technology for off-grid solar power is relatively stable, assuming certain minimum standards are met. However, the methods of marketing solar home systems – whether through sales or loans or fee-for-service – and the channels for financing – whether through equipment suppliers or local financial intermediaries – are much less established. So the real goal of IFC's interventions in this and other sectors is to identify profitable and replicable business models.
- As noted under ‘Who to Engage’ in the previous section, identifying the **appropriate partner(s)** for each private-sector intervention is a critical factor for success. Given the relatively small size of many environmental ventures, IFC prefers wherever possible to work with local financial institutions, entrepreneurs and other entities, as they are the most sustainable sources of financing and sponsorship in the long run.

Market Development Programs

IFC's experience with market development programs has highlighted the importance of using the **framework** outlined in this paper when designing these interventions. Consistent application of the framework leads to effective programs that catalyze changes in market behaviors while minimizing distortions in the market and costs to social funders. In particular, choosing the right set of tools for an intervention depends on the stability of the market(s) in which the program will operate:

- In stable markets with similar projects, the appropriate intervention(s) can be identified and selected during the appraisal process following a careful diagnosis.
- In changing markets with varying projects, it's more difficult to select interventions up-front because market conditions may well change before the program has been executed. In those cases, a range of flexible, responsive tools should be chosen following a careful diagnosis. As the project is executed, the tool(s) that are most appropriate to the actual market situation will be deployed.

Investment Vehicles – Private Equity Funds and Fund-Like Vehicles

Investors in **private equity funds** demand some of the highest returns in the capital markets, and IFC has learned that it is difficult to achieve such returns through funds dedicated to investing in a relatively narrow range of environmental ventures in emerging markets. Several funds failed both to meet their investors' expectations *and* to provide the type of capital needed in their target environmental sectors. This mismatch indicates that the **investment vehicles were inappropriately designed for their target markets**, which is a key lesson learned. Note that this failure should not be interpreted as a reason for investors to avoid these sectors in the future nor to discount all environmental funds, some of which have succeeded. The funds also encountered market forces that were not nearly as conducive as expected, a risk inherent in all market-based interventions.

At a fundamental level, the environmental funds suffered from two common problems: (i) the *actual* pool of potential investments ended up being much smaller than had been expected; and, (ii) the most likely investment candidates ended up being harder to work with than was expected. These challenges made it difficult for the fund managers to find appropriate investments while also raising their costs in identifying, negotiating and then overseeing the few investments that were approved. The factors underlying these challenges were as follows:

- The funds had a relatively narrow range of eligible investment sectors and/or project types (and in one case, a geographical restriction as well). That constrained the pool of potential deals from the start.
- Many investment candidates were seeking financing other than equity, such as long-term debt or working capital. That further narrowed the pool of potential investments. One of the funds eventually responded by broadening its range of investment instruments ... but that further reduced the expected rate of return.
- Finding investments that could yield the high target rates of return required by the funds proved quite challenging and again narrowed the field of candidates.
- Many of the potential investments turned out to be in smaller enterprises. These ventures are typically ill-suited to private equity structures because of inherent management limitations and the difficulty in negotiating control provisions and exit options. The more successful private equity funds in both developed and developing markets typically work with a smaller number of larger investments where they take an active role in directing the company, often replacing the management team. This approach rarely works for smaller, family-owned businesses in emerging markets as few sponsors will agree to this degree of outside involvement.

- Effective investing in smaller enterprises calls for a fund manager to have a substantial field presence in order to find, structure and then actively supervise projects. But that creates a dilemma for the fund manager, who is forced either to carry the high costs associated with field staff or reduce costs with a centralized team that will be less effective.

An alternative to private equity funds, as noted above, is **fund-like vehicles** that have more flexibility in their investment criteria and instruments. The initiatives of this type supported by donors have shown stronger performance than the private equity funds, and these vehicles share some common features as exemplified by the IFC/GEF SME Program, managed directly by IFC, and Verde Ventures, managed externally by Conservation International (CI):

- IFC and CI both have extensive internal and external networks of offices and partner organizations. IFC has more than 80 field offices and CI has about 40 local offices worldwide. While the field staff are not experts in environmental investments, they provide an invaluable local presence with insight on business and regulatory practices, assessment of potential sponsors and on-site supervision of projects. A wide range of external partnerships offers similar benefits.
- The SME Program has exclusively made loans and Verde Ventures has relied primarily on loans, as debt avoids the exit problems associated with equity and is easier to negotiate with less sophisticated clients. Loans are also less complicated than equity transactions, helping to reduce transaction time and legal fees for documentation.
- Notwithstanding the preference for debt over equity, all investments are treated as *risk capital* no matter what type of security has been pledged. The IFC and CI investment teams believe that the real work begins after disbursement, as they actively engage with enterprises' management teams to anticipate problems and to find opportunities to add value on financial and environmental performance.
- Both the SME Program and Verde Ventures started small, with limited expectations and an ability to shut down if the chosen investment approach was not performing well.
- Finally, Verde Ventures identifies one of its key strengths as a strong, independent investment committee. CI's seven-member committee is larger than most private equity funds and includes only individuals with extensive private-sector background, none of whom are affiliated with donors or investors. IFC has used a much smaller investment committee for the SME Program but has benefited from advice and input from a wide range of internal colleagues who are unaffiliated with the program.

Note, however, that IFC has also encountered challenges with some fund-like vehicles, particularly those with relatively narrow investment criteria and/or more rigid structures.

Environmental Enterprises

Potential investments in innovative environmental enterprises need to be evaluated on a case-by-case basis, focusing on the critical elements that are most likely to determine success or failure. In that sense, these ventures should be treated like all other high-risk investment candidates, subject to in-depth appraisal and analysis. Nonetheless, IFC has identified some broader lessons that are worth bearing in mind when reviewing and structuring investments in environmental enterprises:

- Rely on economic drivers, not regulatory pressures, to sell products and services.
- Watch out for enterprises operating in highly competitive sectors with strong conventional rivals. For example, an organic hearts-of-palm venture will likely have its sales prices capped at a small percentage over the sales price of conventional palm products ... while still facing the extra costs of establishing a brand name, building distribution channels and achieving organic certification.
- Focus on the service being provided (e.g., lighting and power for appliances) instead of the technology (e.g., photovoltaics) or even the product (e.g., off-grid solar home systems). This leads to a better understanding of the venture.

- The hardest goal to achieve is commercial viability, so working with companies that are already profitable is more likely to deliver social benefits. Start-up ventures need to focus on financial survival as a first (and often only) priority.
- In particular, be cautious of ventures where environmental benefits are not embodied in product delivery as commercial challenges can prevent realization of any social goals. This occurs in environmental enterprises that need to operate in a particular way (e.g., organic farming) in order to deliver social benefits. It is not an issue for ventures that generate social benefits through their operations (e.g., renewable energy).
- Consider all the factors necessary for a business to succeed, including those inside and outside of its control. For example, IFC (and other investors) have funded only a few off-grid solar power ventures that could be considered highly successful (one such venture is Grameen Shakti in Bangladesh, which has been funded under the SME Program). Extensive analysis of this sector has identified a set of success factors, *all of which* typically need to be in place to achieve sustainable, replicable results. These include: (i) affordable products (if not, subsidies need to be secured on a long-term basis); (ii) competent enterprises to provide solar home systems; (iii) access to capital for those enterprises; (iv) availability of consumer financing, typically through existing financial institutions; and, (v) supportive government policies and regulations.

Annex: Activities of IFC's Environmental Finance Group

Main activities by funding source:

- Global Environment Facility – US\$ 183.5 million approved since 1994 for 23 projects addressing climate change and biodiversity loss. See partial list below.
- Environmental Opportunities Facility – US\$ 11.3 million committed since 2002 by government donors and IFC to fund innovative projects addressing local environmental issues such as air and water pollution. Provides funding for project preparation and investments, focusing on highly innovative ventures and cleaner production opportunities. US\$ 2.3 million approved to date for 10 projects. See partial list below.
- Carbon Finance – US\$ 80 million under management to purchase, on behalf of the Government of the Netherlands, carbon credits under the Clean Development Mechanism and Joint Implementation mechanism of the Kyoto Protocol. US\$ 30 million in commitments expected in the next year. IFC is also developing new value-added products that will unlock the latent financial value in carbon contracts and mitigate risks in this rapidly growing market.

Principal approved projects*:

Project	Funding Committed		Country/ Region	Description
	Source	US\$ M		
Market Development Programs				
Commercializing Energy Efficiency Finance	GEF	18.0	Europe	Guarantees and targeted technical assistance to catalyze lending for energy efficiency by local financial institutions in 5 countries: Czech Republic, Estonia, Latvia, Lithuania, and Slovak Republic.
Conservation of the Eg-Uur Watershed	GEF	1.0	Mongolia	Supports a public-private-NGO partnership to implement an innovative concession for low-impact tourism, thereby creating monetary value from biodiversity conservation.
Developing Legal & Regulatory Framework for Wind Power	GEF	0.7	Russia	Technical assistance to prepare policy framework and model documentation for wind power projects.
Efficient Lighting Initiative	GEF	15.0	Global	Multiple approaches (product certification, consumer awareness, utility-based financing, etc.) to stimulate market for energy-efficient lighting in 7 countries: Argentina, Czech Republic, Hungary, Latvia, Peru, Philippines, and South Africa.
Environmental Business Finance Program	GEF	20.0	Global	Investment funding and technical assistance for banks and other financial institutions lending to SMEs for activities that benefit the global environment.
Exploring Non-timber Revenue Streams for Sustainable Forestry	EOF	0.3	Brazil South Africa	Support to companies certified by the Forest Stewardship Council to identify new sources of revenue from sustainable forestry.
Hungary Energy Efficiency Co-Financing Program	GEF	5.7	Hungary	Guarantees and targeted technical assistance to catalyze lending for energy efficiency by local financial institutions.
Marine Aquarium Market Transformation Initiative	GEF	6.6	Philippines Indonesia	Capacity building and certification support to convert collection of aquarium fish to sustainable practices.
Poland Efficient Lighting Project	GEF	5.0	Poland	Multiple approaches (product certification, consumer awareness, etc.) to stimulate market for energy-efficient lighting.

* Table includes both active and completed/closed projects. Funding amounts are from donors only and do not include co-financing from IFC, the private sector or other donors. Environmental Enterprises listed on following page are directly funded and do not include ventures supported through Private Equity Funds or Fund-Like Vehicles.

Project	Funding Committed		Country/ Region	Description
	Source	US\$ M		
Private Equity Funds				
Renewable Energy and Energy Efficiency Fund	GEF	30.0	Global	Private equity fund to invest in mid-sized sustainable energy projects. GEF funding could co-finance smaller/riskier ventures and incremental investment management costs.
Solar Development Group	GEF	10.0	Global	Private equity fund to invest in off-grid solar power enterprises paired with a business development facility. GEF funded 2 nd tier capital that supported commercial investors.
Terra Capital Fund	GEF	5.0	Latin America	Private equity fund to invest in ventures generating biodiversity benefits. GEF funding supported incremental investment management costs only.
Fund-Like Vehicles				
Asian Conservation Company	GEF	4.5	Philippines	Funding to local NGOs that are working in partnership with a private equity company on conservation activities in threatened marine areas.
Eco-Enterprises Fund	GEF	1.0	Latin America	Combined fund and technical assistance facility that works through SMEs partnering with local groups to deliver biodiversity conservation benefits.
Photovoltaic Market Transformation Initiative	GEF	30.0	India Kenya Morocco	Supports the expansion of solar power through provision of flexible financing (working capital, guarantees, equity, etc.) to companies, banks and others. 12 sub-projects approved.
Small and Medium Scale Enterprise Program	GEF	20.8	Global	Low-interest loans to intermediaries, including NGOs, that in turn fund SMEs generating global environmental benefits. 21 intermediaries have financed over 140 sub-projects in sustainable forestry, eco-tourism, organic agriculture, solar energy and energy efficiency
Environmental Enterprises				
CEPALCO Distributed Generation PV Power Plant	GEF	4.0	Philippines	Support for a grid-connect 1 MW solar photovoltaic power plant that operates in conjunction with an existing hydropower facility. Local sponsor is private utility.
Cleaner Production Improvements	EOF	0.05	Colombia Pakistan	Grants to explore improvements in wastewater management for industrial plants, in order to reduce need for end-of-pipe treatment and to cut costs.
Distributed Drinking Water Purification	EOF	1.2	Global	Equity investment in a firm with proprietary, scalable technology to disinfect drinking water at relatively low cost. Operating in Philippines and soon in India and Ghana.
Inka Terra	GEF	0.7	Peru	Conservation of a reserve linked to an eco-tourism operation in the Amazon.
Irrigation Foot Pumps	EOF	0.03	Tanzania	Funding for company manufacturing treadle pumps that make efficient use of water.
Lolkisale Biodiversity Conservation Support Project	GEF	0.5	Tanzania	Grant for an integrated conservation management plan for an area of high biodiversity near an eco-tourism lodge partly owned by the local village.
Poison Dart Frog Ranching	GEF	0.8	Peru	Support for a commercial venture that coordinates breeding, collection and marketing of sustainably harvested poison dart frogs to international hobbyists.
Water Recovery Technology	EOF	0.1	Mexico	Co-financing for pilot plant using new water recovery technology for industrial processing in arid regions. Funds to be repaid if commercial viability is established.
Wastewater Treatment for Straw Pulp Mills	EOF	0.6	China	Equity investment to fund pilot plants using new technology that cleans the wastewater from pulp and paper plants using straw and other non-wood raw materials. Potential application across this industry in China, which is a major source of water pollution.

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Any errors in this paper are the sole responsibility of the author. The views represented here are not necessarily the views of IFC's management.