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## Green Credit Lines Lessons Learned from Evaluation

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**This Evaluation Update distils the experience of several years of evaluating green credit lines into practical questions we can ask while designing them.**

Green credit lines - credit lines to support investments in renewable energies and energy efficiency via financial institutions - have become a major instrument in our attempt to promote green economies. After the boom of microfinance many development finance institutions shifted their focus towards green credit lines.

Green credit lines come in many different forms. The good news is that almost all reach a satisfactory level of utilization; even though striking differences in the speed of implementation testify to the fact that not all lines are equal. There are examples of green credit lines that fully disburse within six months and others that take years to reach a satisfactory level of utilization. Among the latter many only start to disburse more quickly after eligibility criteria regarding final investments

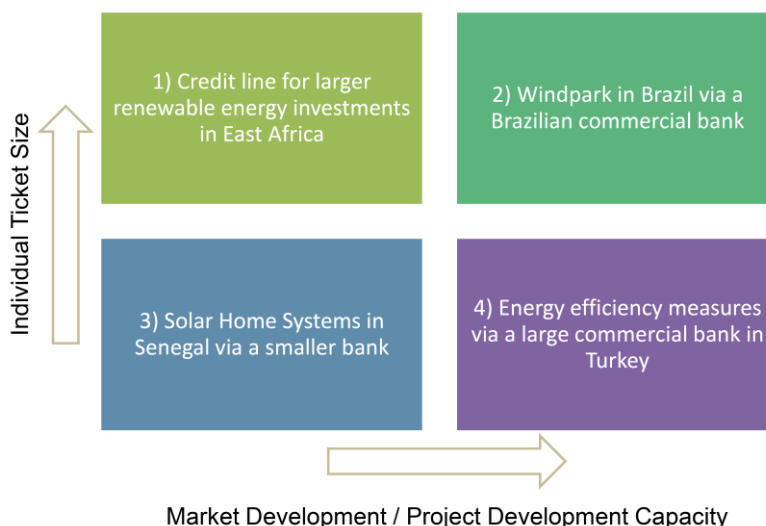
are modified or entire scopes of credit lines are changed.

### Taxonomy of Green Credit Lines

To understand these differences it is helpful to categorize green credit lines using two simple features (Figure 1):  
1) The local project development ca-

capacity and 2) the size of the type of project the credit line supports. In fact, it is crucial to know where to locate a green credit line in this taxonomy because the details of the financing and the technical assistance depend a lot on the type of credit line to be designed.

**Figure 1: Taxonomy of Green Credit Lines and Examples**



## Technical Assistance

Technical assistance is almost always viewed as a key component of green credit lines. Our experience shows, however, that depending on the type of credit line, the nature of the technical support needed varies a lot.

1) For credit lines in less developed markets with lower project development capacity but sizable tickets (and thus relatively complex technologies) technical assistance is indeed crucial. It might even make sense to institutionalize it. However, complex technical support or trainings that focus on engineering issues are often not well received by the banks (and distributing technical assistance among banks proves to be tricky for credit lines that work with several banks in one country at the same time). More relevant may be the support of another actor like a chamber of commerce (that for example organizes energy audits at companies).

2) To implement a credit line with - for example - an established Brazilian commercial bank to finance wind parks (the wind park industry is well developed and the banks are generally at ease with financing such kind of projects) on the other hand, excessive technical assistance is unnecessary in the first place. Such credit lines can disburse rapidly. The impact of additional training often remains invisible. Instead, here, more time should be spent on looking into the environmental and social risk management systems of partner banks to understand whether their procedures reflect our own standards.

3) For credit lines targeting smaller projects in less developed markets (like solar home systems, mini-biogas installations) technical assistance should - if at all - focus on banking aspects; but not necessarily on engineering. The engineering aspects behind such systems are usually simple. Feasible solutions for various types of small-scale green technologies exist in almost every country of the world. For this type of credit lines, scaling-up is key. For technologies that are new to a market, advisory services on maintenance, disposal of systems etc. may be targeted to actors outside of the bank. For the

banks, anyways, there must be a proper business case and technical assistance can only sometimes be helpful to create that case (for example by advising on a roll-out strategy).

4) For credit lines in support of small-scale projects in more developed markets, banks may be less in need of support to build a business case. However, as with all credit lines that focus on smaller investments scaling-up remains key and often organizational or regulatory issues have to be overcome by banks to scale-up (e.g. how to organize the modernization of buildings that is inhabited by several parties in Turkey). Technical assistance may help a bank to find the right partnerships to develop a product, while the technical aspects often are less of a problem.

**The guiding questions thus must be: Does the bank really need this training in the long-run? Are there other actors in the market that are more suited to build-up engineering knowledge related to green finance?**

## Banks and Subsidies

Our evaluation experience shows: It can be hard to get the banks on board. Banks need to see a clear business case in the provision of green credit. First and foremost banks look at earnings, and technical assistance or the chance to label a bank as green - in most cases - do not work by themselves.

It is true that our green credit lines almost always come at preferential terms compared to the rest of the bank's refinancing options. And behind the problem to get banks on board is an often poorly defined strategy - by us and our partners - how to use and distribute these subsidies.

The first step must be to understand to what extent a credit line is advantageous compared to the rest of a bank's refinancing options (i.e. how much subsidy do we have to distribute). Then, to use the subsidies meaningfully, it is first of all instructive for the banks (and us) to formulate an idea about the financial viability of the targeted final investments; this is particularly true for small individual ticket sizes that rely on scalability. Some

final investments are already financially viable without any additional subsidy (the idea here is for the banks to create demonstration effects); some others need to be subsidized further to become workable for the bank's client.

After formulating an idea about the necessity of subsidies for the end-borrower, our credit lines should attempt to avoid windfall gains for banks. In practice, this is done mostly by capping the margin banks are allowed to charge on top of the initial costs of the credit lines. After all it is the margin that matters to the banks, not the costs of the credit line provided. In practice, however, setting the margin that strikes the right balance between incentivizing banks (rewarding them for their effort to push for green projects) and passing on subsidies to the end-borrowers (if needed) proves to be inherently difficult.

There are cases in which a margin set too low decimated the banks' interests to promote and use the credit line significantly. There are certainly others where windfall gains for banks were created (though this may be hard to detect). Sometimes, investment grants that provide cash-back incentives for investors at project completion and avoid the choice of a margin that banks can charge may be a meaningful alternative. Certainly, the choice of the margin must be preceded by a thorough analysis of the bank's portfolio, financial situation, and also the product to be targeted. Many credit lines (including their disbursement) would profit strongly from a much clearer strategy how subsidies are to be distributed.

We must equally be aware that banks, as soon as they have a product to offer that is considerably cheaper than the rest of their other product range, do not distribute such a treat randomly among their clients. Instead, the cheaper product will often be used strategically for the most valued clients or to poach clients from other institutions. As we cannot credibly follow our financing through the balance sheet of our partner institutions (again this is particularly problematic for credit lines that aim at smaller ticket sizes) this may affect the target

group we reach. In the most extreme cases - whenever subsidies are passed on to final borrowers - one borrower may receive subsidized credit and another may not, for the same investment, based on characteristics that we cannot control. While we may not always be able to avoid such circumstances it still means that - again - we must understand a bank's existing portfolio before providing a new line of credit.

**The key questions are: What is the subsidy we have to offer? Who needs the subsidy (the bank or the borrower)? What options do we have to distribute and monitor the subsidies?**

### Objectives of Green Credit Lines

Finding a clear strategy on how to distribute subsidies also necessitates properly defining the credit line's objective. In reality, green credit lines are often overcharged with objectives. We identify three main objectives that almost all of them share (Figure 2).

objective is uplifting an underdeveloped financial market, a stronger subsidization of the banks may well be justified.

Similarly, a strongly additional credit line - in the sense that it clearly manages to finance projects that otherwise would not have been financed at all - deserves more subsidies. We can never be sure if a credit line is additional. There are, however, examples where we can say with confidence that the line managed to open new markets or push banks to engage in green finance in a sustainable way. The fact that not all credit lines are strongly additional (and this may be particularly true for energy efficiency measures) does not imply failure; the impact can still be positive. But, technical assistance and subsidies provided must match the expected additionality and the needs of the markets.

support of the private sector, informal networks, banking associations...). This is particularly true for energy efficiency measures. We should consider these institutions as possible multipliers for our credit lines and a way to create demand.

During the process of scouting investment opportunities, the bank's employees will usually know less about the prospective projects than their customers, quite naturally so as a bank's core skill is not engineering.

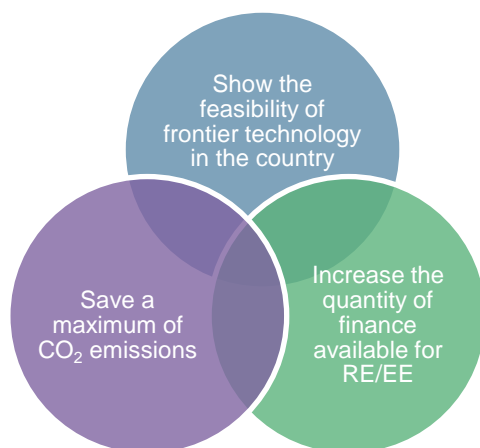
In fact, and this is immediately related to the discussion about the suitable type of technical assistance, the banks should only become knowledge carriers (in the form of a positive list for eligible investment, or in-house engineers for bigger banks) if there is a clear and sustainable business case to do so.

For many green credit lines, the type of extra-knowledge required - that can be built up realistically to identify new projects - is poorly defined and the lines often struggle to differentiate themselves from other bank products. It is instructive to note that, after all, any standard SME-investment also necessitates some sort of technical knowledge by the bank to judge the creditworthiness of an applicant. Without a clear definition of the required additional *green*-knowledge the banks are unlikely to fulfill their intended role as a multiplier vis-à-vis their customers.

To maximize outreach, we must also notice that there are many reasons for a bank's clients to invest in a green project, besides the more obvious financial gain (Figure 3). For households the motivation to invest most often is to improve living conditions (for example to enjoy more hours of electric light per day by investing in a solar home system). For businesses, local and export market regulation (that necessitate the use of more environmentally friendly production processes) may play an important role.

**In the best case scenario we take a broad perspective on the possible investment motives and ask: How can I combine different motives to invest (for example with a regulation that moves forward and the appropriate financing that follows**

**Figure 2: Objectives of Green Credit Lines - A choice to be made**



To be clear, those objectives are not exclusive but prioritizing more strongly among them will allow for greater impact. Credit lines that try to maximize the financing provided by banks to green projects may not (at the same time) be able to push banks to go for frontier, i.e. highly risky technologies; while the frontier technology in a country may not always be the one that maximizes CO<sub>2</sub> emissions reductions, and so on. Unfortunately, we have to choose. The choice is closely linked to the question of how to distribute subsidies. If a credit line's main

**Trying to maximize a green credit line's impact we should ask: Does the credit line address the key market deficiency identified? Did I overcharge my credit line with objectives?**

### Identifying Investments (Banks as Multipliers?)

There are many ways for the investors and the banks to find each other. It is not necessarily the banks alone that need to promote a credit line. Many types of institutions can help us to endorse green products (e.g. chambers of commerce, institutions in

to support the implementation)?  
 Can I try to get the bank to multiply the effects of my credit line?

is a better fit with the business' financial situation in general.

the credit line has a clear incentive to monitor CO<sub>2</sub> emissions, even more so in cases where it involves considerable technical skills. CO<sub>2</sub> emission reduction data are also hard to interpret and while presenting them we should focus on tangible examples (e.g. savings equivalent to the amount of emissions by all cars in our partner country during...) instead of pure numbers.

**Figure 3: Identifying Investments - A multitude of reasons**



**Making Green Investment Happen**

Structuring technical assistance, we often focus on the projects and much less on the general situation of the bank's client that is behind. Yet, our credit lines rarely finance investments that use a real project finance approach for which the cash-flows from the project serves to repay the bank (and for which a separate legal entity is created). This type of financing structure is usually only used whenever projects reach volumes in the higher double-digit millions. This is why it is the investor's situation in general and not necessarily the single project itself that matters to a bank that wants to ensure the timely repayment of a loan; the project being as good as it may. In particular for projects of larger ticket sizes, whenever a single loan poses a considerable financial risk, thinking our support in a more holistic way may be more likely to help the bank. In the best case this support complements and does not interfere with the bank's proper credit appraisal.

In some cases the fact that a project constitutes only a small part of an investor's cash flow also helps to explain why long loan tenors (that can be, but do not have to be vital to a credit line) are not passed on to customers. An investor's requirement to manage his or her cash-flow may differ from the financing need for the single project and sometimes investors prefer a shorter loan tenor given it

Another pitfall that can be avoided is to neglect non-financial risks that inhibit investment by the banks. In particular land rights or access to the resources used (e.g. biomass projects) prove to be crucial in the area of green credit lines. These types of risk surpass the usual financial analysis that technical assistance provides, and are often poorly covered in feasibility studies, but pose an important barrier to investment. Sometimes it may be pertinent to support the analysis of such non-financial risks.

**To help banks to invest in green projects it is important to ask: Which are the risks that inhibit lending for green projects? How to support the bank or the customer to overcome them?**

**Monitoring**

Finally, we find that monitoring credit lines and sub-projects is a daunting task (even if there is a certain progress for the newer credit lines in our evaluation portfolio). The data available at evaluation stage is almost always far from being complete and on CO<sub>2</sub> emission savings usually only ex-ante data is available. But in particular for energy efficiency measures, ex-ante estimations depend quite strongly on the underlying assumptions; for example on the future growth of the business (the problem is less pertinent for larger renewable energy projects where CO<sub>2</sub> emissions reductions can easily be deducted from output). Often we find that no party involved in

The use of specific tools to estimate reductions (as is the case in some credit lines in particular for smaller projects) constitutes an extra-workload. If we want the investors (or the banks) to use such tools, we must provide clear incentives (for example by providing a product that is financially clearly more attractive to the bank's clients).

We must therefore think about whether CO<sub>2</sub> emission reduction measurement is necessary for all of our credit lines, or whether we can work with estimations backed up by certain pilot evaluations of the impact on CO<sub>2</sub> reductions.

**To find realistic solutions to monitor green credit lines we must ask: What can be clear and sensible incentives (or rules) for our partner institutions?**

A more targeted monitoring will not only help us to raise understanding and appreciation for green credit lines but also to learn for the future, so perhaps we will be able to know in advance whether utilization of a credit line will live up to expectations.



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