

Ph.D. Asbjørn Torvanger  
Senior Research Fellow  
CICERO  
15 January 2013

# Second opinion on Export Development Canada (EDC)'s framework for Green bonds

---

## Contents

- 1. Introduction..... 2
- 2. Selection and categorization of relevant projects..... 2
- 3. Challenges in evaluating effects of projects on GHG emissions ..... 4
- 4. Evaluation of project categories for Green bond investments ..... 4
- 5. Conclusions..... 6
- References..... 6

## **1. Introduction**

The background for this second opinion on the involvement of Export Development Canada (EDC) in Green bonds is an independent quality assessment of relevant projects in terms of climate impacts, specifically reduction of carbon dioxide and other greenhouse gases (GHG), in a situation where Canada and nations have to move into a low climate impact future to avoid significant climate change that could imply serious consequences for humans and other species.

This second opinion is based on documents EDCa, EDCb and EDCc (see reference list). In addition IFC (2012) and Auditor General of Canada (2009) have been useful for the evaluation.

This evaluation is furthermore focused on projects' effects on emissions of greenhouse gases (GHG), and is carried out at a general level. Thus the evaluation is focused on EDC's framework for assessing whether projects are eligible for Green bond investments, but not going into the detailed methods for such assessments, and obviously also not going into assessment of projects. EDC is building its assessment on frameworks from IFC, World Bank, and OECD (confer IFC 2012). Projects must also be in line with host country requirements.

In making more detailed assessment of projects a number of challenges will arise, in terms of choosing a method when different methods may provide different results, data availability, and possibility of different interpretations and level of subjectivity when undertaking assessments. Many of these challenges will remain even if independent experts are contracted to do such assessments.

For the purpose of building confidence in green bond investments transparency is important, not only in terms of assessment and selection procedures, but also in terms of public availability of information about the projects deemed eligible for green bond investments and actual investments done.

## **2. Selection and categorization of relevant projects**

EDC first filters out small projects that last for less than two years. Only if a project has a value of more than SDR 10 million, or a value less than SDR 10 million and project located in or near a sensitive area,<sup>1</sup> it will be included for a stringent assessment, also with regard to Green bonds. Given

---

<sup>1</sup> Sensitive locations are defined to include, inter alia, national parks and other protected areas identified by national or international law, and other sensitive locations of international, national or regional importance, such as wetlands, forests with high biodiversity value, areas of archaeological or cultural significance, and areas

this practice there is a possibility that small projects that lead to increased (or smaller reduction) in GHG emissions will be accepted by EDC. However, small projects must comply with the criteria and eligible sectors listed in Table 1 (EDCc).

Then projects are classified into categories A, B and C. Category A contains projects that have significant adverse environmental and social effects that are sensitive, diverse, or unprecedented. Category B projects have less adverse potential environmental and social effects than those in category A. Category C projects are likely to have minimal or no adverse environmental and social effects.

Based on an earlier evaluation coal power is not deemed eligible for Green bond investments. If and when carbon capture and storage (CCS) becomes commercial this policy may change.

All projects in categories A and B are to be evaluated by EDC's Environmental Advisory Services (EAS) with regard to climate change risks according to EDC's Environmental and Social Review Directive (EDCa), the Equator Principles, and/or the OECD Common Approaches.

Projects that currently produce or are expected to produce more than 25,000 tons of CO<sub>2</sub> equivalents annually will be scrutinized by EAS with regard to inclusion of data on GHG emissions, check that alternatives to reduce GHG emissions that are technically and financially feasible as well as cost-effective have been considered, has taken into account technically and financially feasible and cost-effective measures to improve efficiency in resource consumption, have documented its key conclusions, and has entered GHG data into EAS's internal log.<sup>2</sup>

EDC has established a separate list of project categories that are eligible for Green bond investments; see Table 1 (EDCc). EDCa states that it may enter into projects with adverse environmental and social effects: "... EDC will determine whether, despite these effects, EDC is justified in entering into a transaction in respect of such project." (EDCa, points 23, 24, and 25). My interpretation is that such projects could be acceptable for EDC, but not for Green bond investments.

When assessing projects in categories A and B estimates of GHG emissions should be provided, using GHG Protocol, IFC performance standards, and common Export Credit Agency (ECA) reporting objectives (EDCb).

---

of importance for Indigenous Peoples or other vulnerable groups (EDC Environmental and Social Review Directive; EDCa).

<sup>2</sup> Based on email from EDC dated 7 December 2012.

### **3. Challenges in evaluating effects of projects on GHG emissions**

A number of challenges are likely when assessing projects. Some of these are general, but others may be more accentuated in the case of potential Green bond projects.

A small number of evaluation frameworks are used by EDC. Even if some of these are related, there is a risk of in-consistencies between different frameworks. If different frameworks are used to assess different projects, a consequence may be some dependency of assessment results on choice of method. Furthermore, using more than one framework assessing a project may produce differing results, which then would give more room for a subjective interpretation of results.

The expected outcome of using an assessment framework or method that depends on data inputs will not have better quality than the quantity and quality of available data. Data quality may be compromised due to measurement and reporting difficulties, and uncertainties. An issue of subjective interpretation could additionally be involved if data are based on e.g. a stakeholder's interpretation of primary sources, rather than primary data. Data in the first case can be referred to as secondary data.

Even if the evaluation framework is well chosen and data quality is satisfactory, there will be a room for subjective element in the assessment of a project. If different personnel are assessing different projects results could depend on disciplines represented, earlier experiences, or simply due to different interpretation and valuations of methods, data and results.

In the case of Green bonds projects additional issues may arise. One of these issues is a rebound effect, which means that the effect of a project in terms of reduced GHG emissions is partly offset by a secondary increase in GHG emissions. The secondary GHG emissions increase is caused by the (energy) efficiency improvements of the project making production cost lower and therefore production more competitive, giving incentives to increased production.

### **4. Evaluation of project categories for Green bond investments**

Turning to the list of eligible Green bond project categories, Table 1 contains an evaluation of likely direct and indirect impacts on GHG emission from each category.

The categories in Table 1 that do best in the evaluation of likelihood of GHG emission reductions are listed in bold.

<b>Sector</b>	<b>Likelihood of direct GHG reductions</b>	<b>Likelihood of indirect GHG reductions</b>	<b>Notes</b>
<b>Waste Management</b>	Good practice waste management should reduce emissions of methane	Waste energy production could replace some fossil fuel based energy production and thus reduce carbon dioxide emissions	
Remediation & Soil Treatment	Difficult to assess effect on carbon dioxide and methane emissions from soils		
<b>Recycling &amp; Recovery</b>	Likely reduced GHG emissions due to saved primary materials (e.g. metals) use		
Water Management	Likely little effect on GHG emissions		Positive for water supply security and can have positive environmental effects
Sustainable Forests Management	Likely reduced emissions of carbon dioxide, but many challenges measuring and verifying effect		A question of permanency; what is time horizon?
Sustainable Agriculture Management	Likely reduced emissions of methane and carbon dioxide, but many challenges measuring and verifying effect		
<b>Renewable Energy</b>	Less emissions than fossil-based energy, but may be additional to existing fossil based production		There are environmental impacts from renewable energy development
Biofuels & Bioenergy	Effects of bio projects depend on scale and type of bio energy/fuel source.		Biofuels may be based on corn and other crops, inducing increased crop prices
Smart Grid Energy Infrastructure	Should lead to less emissions through more efficient power production and consumption		
<b>Alternative Energy Transportation and Public Ground Transport</b>	GHG reduction from electric cars depends on power source. Hybrid cars and more efficient engines reduce emissions compared to older technologies. Effects of biofuels more controversial. Less GHG emissions from public transportation than private vehicles, but may only replace a small share of these		Less potential for public transport in rural areas
<b>Industrial Process Improvements</b>	Could reduce various GHG emissions, dependent on process type	Could reduce production costs, energy use and other types of pollution	

**Table 1. List of project categories eligible for Green bond investments (EDCc).**

## 5. Conclusions

The scope of this second opinion has been to evaluate the framework and procedures used by EDC to assess project candidate eligibility for Green bonds investments, not an in-depth assessment of methods or evaluation of single projects. Only effects on GHG emissions have been considered.

Overall EDC has established a reasonable system for assessing whether projects should be deemed eligible for Green bond investments. There are, however, challenges due to limitations of methods and data, as well as a likely not insignificant element of subjective judgment. A variety of methods for assessing GHG emission effects of projects makes this evaluation challenging. A single integrated and simplified assessment framework would be more transparent and reduce the probability of inconsistencies between frameworks.

Transparency is important to build confidence in green bond investments, especially in terms of making information about green bond projects and investments publicly available.

This second opinion concludes that the project categories most likely to generate reduced GHG emissions among the categories singled out by EDC for Green bond investments are waste management, recycling & recovery, renewable energy, alternative energy transportation and public ground transport, and industrial process improvements.

## References

Auditor General of Canada (2009), Environmental Review at Export Development Canada, Office of the Auditor General of Canada, June.

[http://www.oag-bvg.gc.ca/internet/English/parl\\_otp\\_200906\\_e\\_32632.html](http://www.oag-bvg.gc.ca/internet/English/parl_otp_200906_e_32632.html)

Export Development Canada (EDCa), Environmental and Social Review Directive.

Export Development Canada (EDCb), Environmental and social risk management policy.

Export Development Canada (EDCc), Green Bond framework proposal (with title 'Special Account').

International Finance Corporation (IFC) (2012), IFC Performance Standards on Environmental and Social Sustainability.

[http://www1.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC\\_Performance\\_Standards.pdf?MOD=AJPERES](http://www1.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES)