

# ‘Second Opinion’ on City of Oslo’s Green Bond framework

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## Summary

Overall, City of Oslo's Green Bond framework and environmental policies provide a progressive, clear and sound framework for climate-friendly investments. City of Oslo takes a broad view of climate change impacts in its climate and environmental policies. The Green Bond framework lists eligible projects that are supportive of the objective of promoting a transition to low-carbon and climate-resilient growth. Strategies and plans supporting low carbon and climate resilient growth in particular, and development towards a sustainable municipality in general, are well developed by City of Oslo both at a general and a more detailed level. City of Oslo's policies support regular and transparent updates to investors and the public. Procedures for monitoring and measurement of activities are well documented.

Based on an overall assessment of the activities that will be financed by the planned Green Bond issuance, the City of Oslo's Green Bond framework gets a dark green grading.

CICERO has some concerns regarding the ambition level of energy saving targets since building standards are not clearly defined for all building categories. CICERO encourages City of Oslo to include life cycle assessments of climate and environmental effects, as well as independent auditing of performance.

## 1. Introduction and background

As an independent, not-for-profit, research institute, CICERO (Center for International Climate and Environmental Research - Oslo) provides second opinions on institutions' framework and guidance for assessing and selecting eligible projects for Green Bond investments, and assesses the framework's robustness in meeting the institutions' environmental objectives. The second opinion is based on documentation of rules and frameworks provided by the institutions themselves (the client) and information gathered during meetings, teleconferences and e-mail correspondence with the client.

CICERO's Second Opinions are normally restricted to an evaluation of the mechanisms or framework for selecting eligible projects at a general level. CICERO does not validate or certify the climate effects of single projects, and, thus, has no conflict of interest in regard to single projects. CICERO is neither responsible for how the framework or mechanisms are implemented and followed up by the institutions, nor for the outcome of investments in eligible projects.

This note provides a Second Opinion of City of Oslo's Green Bond Framework and policies for considering the environmental impacts of their projects. The aim is to assess City of Oslo's Green Bond Framework as to its ability to support City of Oslo's stated objective of low-carbon and climate resilient growth.

Climate change will have a significant impact on economic development, both from the perspectives of sustainable future development pathways and from the perspective of adapting to changing circumstances. The recently released Intergovernmental Panel on Climate Change report (IPCC, 2013) on the physical science of climate change highlighted the seriousness of human-induced climate effects. The report can be viewed as an immediate call to action on the challenge of reducing greenhouse gas (GHG) emissions. The 195 countries that have ratified the United Nations Framework Convention on Climate Change (UNFCCC) have agreed to reduce GHG emissions to limit global temperature increase to below 2°C above pre-industrial level. Reaching this target requires shifting development pathways towards low- or zero-emitting economies without delay, and avoiding locking-in high-emitting capital.

CICERO takes a long-term view on activities that support a low-carbon climate resilient society. In some cases, activities or technologies that reduce near-term emissions result in net emissions or prolonged use of high-emitting infrastructure in the long-run. CICERO strives to avoid locking-in of emissions through careful infrastructure investments, and moving towards low- or zero-emitting infrastructure in the long run.

### **Expressing concerns with ‘shades of green’**

CICERO Second Opinions are graded dark green, medium green or light green, reflecting the climate and environmental ambitions of the bonds and the robustness of the governance structure of the Green Bond framework. The grading is based on a broad qualitative assessment of each project type, according to what extent it contributes to building a low-carbon and climate resilient society.

This Second Opinion will allocate a ‘shade of green’ to the Green Bond framework of the City of Oslo:

- Dark green for projects and solutions that are realizations today of the long-term vision of a low carbon and climate resilient future. Typically this will entail zero emission solutions and governance structures that integrate environmental concerns into all activities.
- Medium green for projects and solutions that represent steps towards the long-term vision, but are not quite there yet.
- Light green for projects and solutions that are environmentally friendly but do not by themselves represent or is part of the long-term vision (e.g. energy efficiency in fossil based processes).
- Brown for projects that are irrelevant or in opposition to the long-term vision of a low carbon and climate resilient future.

The project types that will be financed by the Green Bond primarily define the overall grading. However, governance and transparency considerations also factor in, as they can give an indication whether the institution that issues the Green Bond will be able to fulfil the climate and environmental ambitions of the investment framework.

## 2. Brief description of City of Oslo's Green Bond framework and environmental policies

In January 2015 City of Oslo had a population of nearly 650 000 people, with a projected population growth in the medium growth alternative at 700 000 people by 2020. This makes City of Oslo the fastest growing major city in Europe. In 2012 City of Oslo's emissions amounted to 1.4 Mton CO<sub>2</sub>, of which the dominating sector was transportation at 0.85 Mton CO<sub>2</sub>.

The City of Oslo have adopted the following targets for its climate and environmental policies:

- Direct greenhouse gas emissions should be reduced by 50 % by 2030, compared to 1991 level (equivalent to a reduction of 0.6 Mton CO<sub>2</sub>).
- All greenhouse gas emissions should be phased out by 2050.

City of Oslo's investment framework includes a Green Bond framework lending to eligible projects that target:

- a) Mitigation of climate change, including investments in low-carbon and clean technologies, such as energy efficiency and renewable energy programs and projects ("Mitigation Projects")
- b) Adaptation to climate change, including investments in climate-resilient growth ("Adaptation Projects") or
- c) To a smaller extent (max 20 %) projects which are related to a sustainable environment rather than directly climate related.

The projects are supported by comprehensive environmental and climate plans with mostly quantified targets (documents 2, 3 and 5 respectively in Table 1). See Table 1 for an overview of all documents and references on which this second opinion is based.

City of Oslo's climate and energy strategy (document 3) is structured around five key focus areas: city development, transportation, buildings, energy production and –distribution, and resource utilization. For each area, a long-term vision has been defined, as well as a set of shorter term milestones.

**Table 1 Documents received from City of Oslo.**

Ref. nr.	File name	Content
1.	Green Bond Framework for the City of Oslo	Brief memo on the Green Bond framework
2.	Oslo kommune, Prosjektoversikt – grønne obligasjoner	Spread-sheet listing planned projects for use of Green Bond proceeds.
3.	Oslo kommune, Klima- og energiprogrammet, Det grønne skiftet – Utkast til Klima- og energistrategi for Oslo	Compact description of the green transformation and strategies for City of Oslo.
4.	Oslo kommune, Byrådsavdeling for miljø og samferdsel, Miljø- og klimarapport, Oslo kommunes virksomheter 2014.	A comprehensive report on the status of environment and climate of City of Oslo's services and activities.
5.	Oslo kommune, Byrådet, Klima- og energistrategi for Oslo, Byrådssak 156/15	Detailed account of City of Oslo's climate and energy strategy.
6.	Miljøstrategi 2012-2015 – Et bærekraftig skolebygg å være stolt av! Undervisningsbygg, 2012.	A memo describing the environmental strategy by the agency responsible for building and operating schools in the City of Oslo.
7.	Årsberetning 2014, Oslo kommune, Undervisningsbygg Oslo KF – Kapittel 053	A comprehensive annual report on schooling services provided by the City of Oslo.
8.	Instruks for beslutningsprosessen i investeringsprosjekter, Byrådssak 1038/14, Oslo kommune, Byrådsavdeling for finans	A memo on process and quality control requirements related to all investment projects in City of Oslo.

City of Oslo's Green Bond framework includes a list of eligible mitigation and adaptation projects that promote the transition to low-carbon and climate resilient growth (see Table 2).

### **Selection of Eligible projects**

The City Council decides on the project investments through The City of Oslo's annual budget. Projects that support the adopted climate- and energy strategy are deemed qualified for consideration. The City Government (Department of Finance and Department of Environmental Affairs) jointly select eligible projects which comply with the categories listed in the Green Bond framework.

**Table 2: Eligible project categories**

Primary objective	Examples of eligible project types
Energy efficiency and sustainable housing projects	<ul style="list-style-type: none"> <li>• Reduce energy consumption in buildings by 1.5 TWh within 2020.</li> <li>• Using national and local instruments.</li> <li>• New schools, kindergartens and nursing homes will be built according to national energy efficiency standards.</li> <li>• Fossil fuels for heating purposes in commercial buildings and private houses completely phased out by 2020, and replaced by alternative energy sources.</li> </ul>
Water management and –clearing facilities	<ul style="list-style-type: none"> <li>• New and expanded water clearing plant at Bekkelaget by 2020, to increase capacity due to population growth, and as an adaptation to climate change (reduce flooding risk; prevent decreased water quality of Oslo fjord).</li> </ul>
Environment transportation services	<ul style="list-style-type: none"> <li>• Services for the expected population growth handled through increased public transportation services.</li> <li>• Improved conditions for bicyclists and pedestrians.</li> <li>• Entire public transportation system driven by renewable energy sources by 2020.</li> </ul>
Environmental projects (max 20 %)	<ul style="list-style-type: none"> <li>• Urban planning to reduce need for vehicle transport within the city.</li> <li>• Densification of buildings in inner parts of the city, while keeping green lungs and recreational areas.</li> </ul>

## Transparency

The City of Oslo will publish investor letters in relation to each specific forthcoming Green Bond issuance providing information on the projects financed through the issuance and the expected climate effects.

The publicly available information will be produced by The Department of Finance in cooperation with The Department of Environmental Affairs and the City of Oslo’s Climate- and Energy agency, the City of Oslo’s professional agency for assessing climate- and sustainability effects on the City of Oslo’s operation.

To enable investors to follow the development and provide insight to prioritized areas, City of Oslo will annually release information including 1) a list of projects financed 2) achieved climate effects by the financed projects, and 3) a summary of City of Oslo’s Green Bond development. The investor letter will contain information on the climate effect in terms of CO<sub>2</sub> reduction for the specific fulfilled projects, or in terms of another suitable variable for measuring expected climate effects. In addition the investor letter will inform about the specific standards applied in Green Bond financed projects. The investor letter will be made publically available on City of Oslo’s web page (according to the principle of free access to public records).

The Department of Environmental Affairs, which is the City of Oslo's competent unit on environmental matters, will be responsible for the continuous reporting on the climate- and energy strategy to the City Council.

### **3. Assessment of City of Oslo's Green Bond framework and environmental policies**

Overall, the City of Oslo's Green Bond framework and environmental policies provide a progressive, clear and sound framework for climate-friendly investments. The framework and procedures for City of Oslo's environmental investments are assessed according to both the project level impacts and the wider (macro-level) impacts in this section.

#### **Municipal environmental policies**

The vision of City of Oslo's environmental work is to solve current environmental and climate problems and not leave them to the next generation. The City of Oslo's work on environmental sustainability focuses on climate- and environmental-friendly city development, non-fossil public transportation (including all taxis on renewable fuels by 2020), energy-efficient buildings, low-carbon energy production and –distribution, and efficient resource utilization, with the aim to half direct greenhouse gas emissions by 2030 and remove all emissions by 2050.

#### **Management of proceeds**

An amount equal to the net proceeds of the issue of the Notes will be credited to a special budget account that will support the City of Oslo's lending for eligible projects. As long as the Notes are outstanding and the special account has a positive balance, at the end of every fiscal year, funds will be deducted from the special budget account and added to the City of Oslo's lending pool in an amount equal to all disbursements from that pool made during such year in respect of eligible projects. This management of proceeds is in accordance with the Green Bond Principles (ICMA, 2015).

#### **Eligible projects under the Green Bond framework**

The eligible projects listed in the Green Bond framework are generally supportive of City of Oslo's identified objective of promoting a transition to low-carbon and climate-resilient growth, see Table 3.

**Table 3. Likelihood of meeting objectives.**

Primary objective	Examples of eligible project types	Green grading and some concerns
Energy efficiency and sustainable housing projects	<ul style="list-style-type: none"> <li>• Reduce energy consumption in buildings by 1.5 TWh within 2020.</li> <li>• Using national and local instruments.</li> <li>• New schools, kindergartens and nursing homes will be built according to national energy efficiency standards.</li> <li>• Fossil fuels for heating purposes in commercial buildings and private houses completely phased out by 2020, and replaced by alternative energy sources.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Dark green.</b></li> <li>• Energy efficiency standards not specified, confer e.g. BREEAM or LEED standards.</li> <li>• Target for reduced energy consumption in buildings should also be given as percentage.</li> </ul>
Water management and –clearing facilities	<ul style="list-style-type: none"> <li>• New and expanded water clearing plant at Bekkelaget by 2020, to increase capacity due to population growth, and as an adaptation to climate change (reduce flooding risk; prevent decreased water quality of Oslo fjord).</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Medium green.</b></li> <li>• Enhanced capacity to handle flooding important adaptation measure for water management</li> </ul>
Environment transportation services	<ul style="list-style-type: none"> <li>• Services for the expected population growth handled through increased public transportation services.</li> <li>• Improved conditions for bicyclists and pedestrians.</li> <li>• Entire public transportation system driven by renewable energy sources by 2020.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Dark green.</b></li> <li>• Phasing out all fossil fuel use in public transportation by 2020 is ambitious.</li> </ul>
Environmental projects (max 20 %)	<ul style="list-style-type: none"> <li>• Urban planning to reduce need for vehicle transport within the city. Densification of buildings in inner parts of the city, while keeping green lungs and recreational areas.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Dark green.</b></li> <li>• Compact city has significant potential for reducing energy use and emissions of greenhouse gases.</li> </ul>

### Energy efficiency of buildings

Several voluntary environmental certification systems provide some level of measurement of the environmental footprint of a building, including energy efficiency measures. One of the most widely used certification system is Leadership in Energy and Environmental Design (LEED), although many other country-specific systems exist. See LEED (2009a, b, c) for a description. Another similar system originating in the United Kingdom is the BREEAM ratings. BREEAM also includes a comprehensive consideration of environmental and energy issues associated with buildings, including a category on land use and site selection. A rating is issued based on points earned, similar to LEED, with minimum requirements for some environmental issues.



Undervisningsbygg, which is the agency responsible for all planning, refurbishment, building, and maintenance of schools in the City of Oslo, was in 2010 certified according to ISO14001. Two schools have been built under the FutureBuilt program, where the aim is to facilitate climate-friendly city development and 50 % reduction in greenhouse gas emissions compared to present practice. City of Oslo requires that all schools constructed after 2014 should meet a 'passivhus-standard'.<sup>1</sup> In addition, after 2011 all refurbishment projects for school have to meet the 'energiklasse B' standard.<sup>2</sup> All schools will be fossil fuel free from 2020. It is not clear what building standards apply to other building categories than schools, and also not what national and local instruments will be used to meet the overall energy saving target - that is in addition to the building standard for schools.

## Strengths

- The City of Oslo's strategies and procedures are wide-spanning, comprehensive and ambitious, where most targets are clear and quantified for the long and shorter term.
- The City of Oslo will demand environmental efficiency from its supply chains.
- In eligible transport projects fossil fuel will be phased out over five years.
- Reporting and transparency is at a high level.
- The City Oslo has a comprehensive system for monitoring and reporting on the climate- and energy strategy.
- The City of Oslo reports on climate and energy saving achievements from the Green Bond financed projects.

## Governance

Under the governance structure of City of Oslo's Green Bond framework, Department of Environmental Affairs together with Department of Finance selects projects eligible for Green Bond financing. This structure creates a good base to ensure that only green business and projects are financed by the proceeds of the Green Bonds.

## Weaknesses

- We find no major weaknesses in City of Oslo's Green Bonds Framework.

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<sup>1</sup> According to standard NS3701. Under this standard at least 40 % of heating must be based on renewable energy.

<sup>2</sup> Supplied energy for schools should be higher than 118 kWh per m<sup>2</sup>.

## **Pitfalls**

The Green Bond framework includes targets for energy savings in buildings, but the ambition level is not clear as long as these targets do not relate to specified building standards. It would also be helpful if instruments to achieve the energy efficiency targets were specified.

Beyond the consideration of specific project types, it is important to evaluate the potential for macro-level impacts of climate activities.

## **Impacts beyond the project boundary**

Due to the complexity of how socio-economic activities impact the climate a specific project is likely to have interactions with the broader community beyond the project borders. These interactions may or may not be climate-friendly, and thus need to be considered with regards to the net impact of climate-related investments.

All building projects in City of Oslo are aimed at minimizing life cycle costs under present quality standards, but it is not clear to what extent life cycle perspectives with regard to climate and environmental impacts are included in the planning and implementation of Green Bond financed projects. The City of Oslo considers the environmental impacts of its activities outside of the City of Oslo area, through a regional as well as supplier chain perspective, and through its role as major buyer of commodities and services. These factors are likely to internalize a fair share of any external impacts and as such a positive characteristic of City of Oslo's Green Bond Framework.

## **Rebound effects**

Another macro-level concern is the potential for rebound effects. This can occur when GHG reductions result in a net increase in emitting activities. For example, energy efficiency improvements that lower energy costs, inducing more energy use and partially offsetting energy savings. This can have the end result of lower reduction in GHG emissions than anticipated. While these effects can never be entirely avoided, it is recommended to be aware of possible rebound effects and avoid investing in projects where the risk of such effects is particularly high. We cannot see that the risk for substantial rebound effects is high in the case of City of Oslo's Green Bond framework.

## **Transparency and monitoring, reporting and verification**

Transparency, reporting and monitoring are key in order to enable investors to follow the implementation of City of Oslo's Green Bond program, and to provide information of the positive social and environmental returns to investors. The Green Bond Principles state that issuers should report on the "expected environmentally sustainable impact" of the investments funded by Green Bond proceeds, and "use external

assurance to confirm their alignment with the key features of Green Bonds”. This could take the form of a periodic, independent evaluation against predefined key performance indicators. Transparency is essential to ensure that investors are able to understand the Green Bond process and issuers are able to demonstrate both that they have a reasonable process in place and that the process is being implemented.

The reporting and validation procedures are described well in the Green Bond framework and other documents. City of Oslo’s policies support regular and transparent updates to investors and the public. Annual reports on Green Bond investments, achieved climate change mitigation effects, and a summary of City of Oslo’s Green Bond development will be made public (in line with the principle of free access to public records). The City of Oslo’s Department of Environmental Affairs is responsible for reporting on climate and energy saving achievements, but no external auditing function is involved.

## References

BREEAM (2013). “BREAM SE English Manual for New Construction and Refurbishment”, Version 1.0, Swedish Green Building Council.

ICMA (2015), Green Bond Principles.

IEA/UNDP (2011). Modernizing Building Energy Codes, International Energy Agency and United Nations Development Programme.

IPCC (2013). Climate Change 2013: The Physical Science Basis, Fifth Assessment Report, Intergovernmental Panel on Climate Change.

LEED (2009a). LEED 2009 for Core and Shell Development, US Green Building Council.

LEED (2009b). LEED 2009 for Existing Buildings Operation and Maintenance, US Green Building Council.

LEED (2009c). LEED 2009 for New Construction and Major Renovations, US Green Building Council.