



Design and implementation of green bonds for the Prague SECAP 2030

20 – 21 October 2022

Final Report

Brief presentation of the beneficiary and its motivation to host a peer review

In 2019, the Capital City of Prague accepted a breakthrough decision, through which it voluntarily declared to actively monitor and slowly reduce its direct and indirect carbon dioxide (CO₂) emissions. The city therefore officially announced its **climate pledge** to a 45% CO₂ emission reduction by 2030 and confirmed that it sees the departure from fossil fuel use in energy production, transport, and other economic activities as an opportunity, rather than a threat, in transforming the city into an **eco-friendly metropolis and an attractive place to live**. Prague has a very ambitious Climate Plan but needs to find more resources for financing energy efficiency initiatives and projects to reach its climate target of 45% reduction in CO₂ emissions by 2030.

In Prague's Climate Plan, there are 10 priority projects, among which constructing new metro line D, constructing a biogas station, or utilising the low-temperature potential of waste heat from Central Wastewater Treatment Plant can be mentioned. Besides priority projects, there are also 69 measures proposed in four sections (sustainable energy and buildings, sustainable mobility, circular economy, adaptation measures). In comparison with the complex description of planned activities and measures to reduce CO₂ emission, financial strategy for the planned investments is not very detailed.

The motivation for the peer review was to find out, how other cities and governments in Europe are using innovative forms of financing (green bonds in specific) to finance their sustainable-linked investments.

Specification of the policy challenge encountered

The Prague's Climate Plan is divided into 4 priority areas, with 3 of them having the biggest potential in reducing CO₂ emissions:

- **Sustainable energy and buildings**
- **Sustainable mobility**
- **Circular economy**

The largest potential for reducing CO₂ emissions lies in:

- **renewable energy sources:** construction of solar, water, zero- and low-emission power plants (using cogeneration and natural gas)
- decarbonisation of the **heat production and supply (district heating) sector**
- reduction in the **consumption of energy in buildings**
- decarbonisation the **transport sector**

- **circular economy**

The overall costs for realization of all priority projects and other 69 measures are estimated to reach 230 billion CZK (or 9,4 billion EUR) in ten years. The city of Prague budget should cover the investment of 32 billion CZK (1,3 billion EUR), other costs should be covered by Prague companies and other sources, including grants. As the financial strategy to cover all investments envisaged in Prague's Climate Plan is not very detailed, the ambition was to get inspiration from other regions how innovative forms of financing could be developed. Particularly it was intended to find out more about key points:

- GB development process overview: steps, timeline
- Resources requirements: internal and external
- How to select underwriting financial institution
- How to select third party rating agency
- How to attract investors
- Comparison of bonds vs green bonds (benefits, such as greenium and high market interest; disadvantages such as extra effort...)

Prague / Czech Republic has multiply financing sources at hand, many of which are subsidies/grants:

- State Environmental Fund / Modernisation Fund
- National Recovery Fund
- Financial Instruments (from OP of Structural Funds)
- ELENA and EIB facilities

This means there is **no immediate need to go for green bonds**, but in the **long-term it might be interesting**.

As the peers are having several years of experience with green bonds framework, Prague could learn a lot from their experience.

Participants

- *Local stakeholders involved*
 - o Zdeněk Hřib (welcoming speech), Vladan Kubec, Marek Mahdal, Tereza Líbová, Michal Vokurka, (City of Prague); Jaroslav Klusák, Miloslav Franěk (Prague Renewable Energy Community); Michal Borecký, Anton Poprik (Prague Public Transit Company); Ivo Marcin (State Environmental Fund of the Czech Republic); Lucie Lísková (Ministry of Environment); Ondřej Fišer, Aleš Králík (Ministry of Finance); Vladimír Sochor, Čestmír Hrdinka (National Development Bank); Tomáš Černý, Martin Pečený (Česká spořitelna, Erste Group); Ondřej Ptáček, Petr Dovolil (PriceWaterhouseCoopers); Daniel Vlček, Tomáš Patočka (EnerSolutio); Tereza Zubrová (Inconex)
- *Peers*
 - o Nina Hellström Narancic (City of Malmö, Sweden), Claes Ramel (City of Malmö, Sweden), Fredrik Block (City of Göteborg, Sweden), Anna Beil (State of Hessen, Germany), Alexander Labermeier (Federal State of Hessen, Germany), Andrea Berger-Schulze (City of Munich, Germany), Timo Werner (City of Munich, Germany)
- *Interreg Europe team*

- Elena Ferrario, Thematic Manager, INTERREG EUROPE Policy Learning Platform, Katharina Krell, Thematic Expert Low-Carbon Economy, INTERREG EUROPE Policy Learning Platform, Magda Michalíková, Thematic Expert Circular Economy and Resource Efficiency INTERREG EUROPE Policy Learning Platform, Charo Camacho, Senior Policy Officer – Low-carbon economy, INTERREG EUROPE Joint Secretariat, Petra Polášková, Senior Communication Officer, INTERREG EUROPE Joint Secretariat

Policy Recommendations

Key insights:

- Green Bonds are one of the instrument of choice to raise money for **large or “repetitive” green projects**
- **‘Green’ or ‘social’ framework** is a mega trend and is sought after by the market
- **Avoid liability** – be careful not to make a legal commitment regarding the green impact
- Build **trust** with the investors – building **long-term relationships** is key and will pay out also for ‘normal’ credits
- Green investments bring green halo effect to the City (image credit line and banking interest): positive effect to any credit
- **Start** with a **small** GB issuance for a specific project
- Keep it as simple as possible
- EU Taxonomy is still under development – start with well accepted market standards (eg ICMA principles) and develop it further if needed
- Ensure close monitoring of EU GBS and alignment with the current Climate Action Plan
- Sometimes banks are a better provider and sometimes the market is - **diversification** is important
- If you have existing relations with banks work with them and negotiate a better discount for green and social projects
- Use the **PR potential** of green bonds
- Have dedicated resources (people, financial) to design the framework and manage the green bond scheme
- Acting on three levels is key: Political, technical, stakeholder engagement

Financing strategy for Prague Climate Plan 2030

- Prague Climate Plan 2030 needs strong political support for effective implementation
- A dedicated sustainable financing strategy incl. securing new funding sources is to be set up in cooperation with relevant administration departments (environment, energy, budget, investment, asset management, school, health depts, etc) – set up a team
- The Climate Plan needs a larger strategy incl. capacity building, stakeholders involvement etc.
- Identify and detail individual sub-projects
- Apply green impact indicators for each sub project of Climate Plan
 - Other funds also have green or social impact requirements
- Build a pipeline of high-quality investment-ready projects to absorb the available funds
 - Invest resources in project development

- Develop a pool of green projects
- Break down 2030 goal into ambitious annual investment targets
- Gap analysis: what amount is missing / can't be covered by existing funds?
 - Candidates for a first Green Bond

Set up a dedicated 'GB Committee'

- Get people formally on board from different departments (e.g. in sustainable finance committee, or intercity working group)
- Different disciplines in the team: technicians (able to calculate CO2 reduction impact), financial experts
- It's not something that can be done alone by the financial department
- Form internal team:
 - Head of department
 - Office of the head of department
 - Financial management (debt management)
 - Legal department
 - Budget office
 - Accounting
- (Press / public relations – only at the end of the process)

Examples from peers

Examples of projects financed by green bonds by **City of Gothenburg**:

- **Sweden's first fossil free pre-school Hoppet (83 million SEK disbursed):**
 - 70 % reduction climate impact for main building components compared with newly build, selecting sustainable materials such as wood materials and lightweight foam glass consisting of 60 – 70% recycled glass
 - City's updated Green Bond Framework not only includes projects that meet strict criteria for energy efficiency but also construction and renovation projects leading to a **reduced climate impact of 50 %**
- **Construction of wetland to cover contamination (47 million SEK disbursed)**
 - Contaminated dredged material had been laid in Torviken since seventies, permission expired in 2009, since then restoration, the site covered with clean material and protective barriers, using reused clay from the construction of new Marieholm tunnel
 - In 2021 the area completed, basin filled with water from Torslandaviken, the new wetland adjacent to the protected bird area and walking path around the entire area
- **Charging stations for electric cars (19 million SEK disbursed)**
 - By 2030, the City will reduce GHG emissions from transportation in Gothenburg by 90 % compared to 2010. This will require the City to facilitate clean transport and mobility solutions and strengthening the infrastructure for electric vehicles
 - Investment in public charging stations for electric cars comprise 500 new charging stations located in public parking spaces, primarily in central parts of Gothenburg where there is high demand
- **New biofuel-boiler for district heating**

- The City's SEK 500m investment in a new bio-fuel boiler at Rya Hot Water Center is an important step towards Göteborg Energi's goal of achieving 100 % recycled and renewable sources in district heating by 2025
- The new modern boiler, designed for using pellets, will increase the installed capacity of the plant from 100 MW to 130 MW and will deliver improved combustion, higher efficiency and generate more heat
- Pellets used in Göteborg Energi's district heating production are made from waste-based materials from the forestry industry. All purchases need to comply with the EU Renewable Energy Directive II to ensure sustainable sourcing of the biomass.

Examples from State of Hesse:

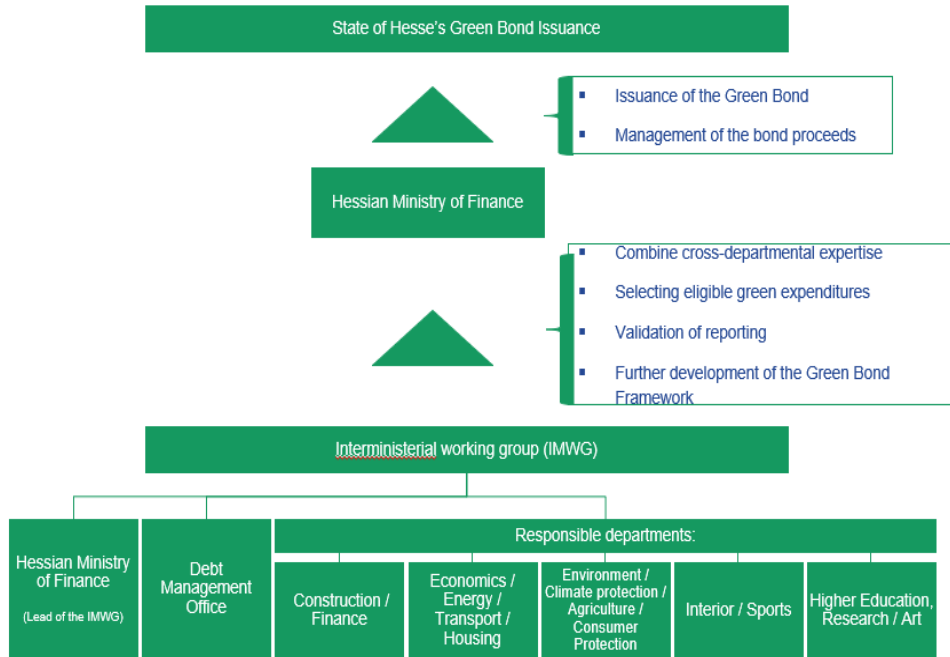
The Hessian green bond covers several ecologically sustainable fields of action. These include, for example:

- measures for the forest
- environmentally friendly public transport
- ecological agriculture and nature conservation
- the carbon-neutral state administration
- sustainable water management
- climate protection measures

Examples from Malmö

- Clean Transportation
- Climate Change Adaption
- Energy Efficiency
- Environmentally sustainable management of living natural resources
- Green and Energy Efficient buildings
- Pollution Prevention and Control
- Renewable Energy
- Sustainable Water and Wastewater Management

Governance for the first Green Bond issuance (Example of the State of Hesse)



Gothenburg Green Bond Process



Process steps for the issuance of the GB

Selecting 2 banks as structural advisors

- Selection process and working structure

Framework

- Selecting projects and subordinate to main topics
- Governance structure
- Refinancing process
- Allocation and Impact Reporting
- Drafting of the Framework

Second Party Opinion

- Selection process
- Comprehensive questionnaire with questions in details

Investor relations

- Preparing investor presentation
- Explaining the sustainable strategy of the state
- Net roadshow and individual investor calls
- Preparation of comprehensive Q & A
- Example of projects

Press relation

- Prepare press conference and press statements

Legal wording of the conditions of the state bond

- Normal legal documentation
- Added for green purposes: Green vs guarantee for the impact

Selecting market window

- Normal issuance process
- But with marketing of Framework, presentation, investor calls

Transaction review

MSCI Green Bond Index

- Comprehensive follow up to explain projects in detail

In a nutshell: A lot more work than all other state treasury bonds of the year, but greenium pays it out

Preparation of GB framework

Milestone 1: Framework and project list with expenditures and impacts must be ready before second party opinion

Milestone 2: Investor presentation must be ready before investor calls

Milestone 3: Legal documentation must be ready before issuance

Milestone 4: Impact report should be ready before issuance

- to avoid discussions about impact indicators later
- to have all data for discussions with SPO and Green Bond Index Provider

Examples from peers in a nutshell

Malmö	Gothenburg	State of Hesse	Munich
<ul style="list-style-type: none"> • In November 2017, the first green bond issued • Framework in 2017 based on ICMA's Green Bond Principles • Green bonds account for 1/3 of their portfolio (worth SEK 5 billion) • Process from start to issuance some 1,5 - 2 years • Second party opinion: Sustainalytics • The net proceeds are credited to an earmarked account (the "Green Account"). ▪ A transfer from the Green Account is allowed in an amount corresponding to the financing or refinancing of Eligible Projects and Assets that have met the Green Terms, or to repay a Green Bond. 	<ul style="list-style-type: none"> • Green municipal bonds have been issued for 9 years • Green bonds are an important tool to mobilize capital towards reaching the City's climate and environmental goals • Second party opinion: Cicero • Green Bond Framework updated 2013, 2015, 2019, 2022, next 2025 • The updated GB Framework is aligned with the City's new ambitious climate and environmental programme • Governance related to the Framework is backed by the City's robust policies and decision-making processes where the management of environmental risks is a core component • Green bond special account holding proceeds from green bonds 	<ul style="list-style-type: none"> • First Green Bond of the State of Hesse in 2021, volume EUR 500-600m • It is the first green benchmark bond ever issued by a German federal state. • The green bond has a volume of 600 million euros, a term of 10 years and a coupon of 0.01%. • The greenium was 2bps = 1,2 million euro • Costs second party opinion: approx. 20.000 € • Timeline: project starts 1,5 years before issuance 	<ul style="list-style-type: none"> • The bond, with a long duration and issue volume of 100 - 120 Mio. EUR, was announced in January 2020. • Duration between 12 to 15 years. • After 90 minutes, orders had already summed to 450 Mio. EUR – another 30 minutes later, the book was closed with a total volume of more than 600 Mio. EUR. • Despite a very volatile market environment, the City Of Munich was able to successfully place the city bond in the market

Implications for Prague

The City of Prague has similar areas in the Climate Plan as shown in the examples from peers above, so the green bonds might be suitable for their financing. Prague has 69 measures in the Climate Plan with potential of reducing carbon dioxide, but for GB issuance a more-detailed analysis is necessary to ensure the compliance with green bond standards (or EU Taxonomy).

Such a decision about whether to start green bonds scheme preparation must come from political representatives. Right now (beginning of December), almost 3 months after election, it is still not clear who will form the city council. It remains to be seen how the policy is formed under new city representatives, or if there are some changes in key strategic documents as the Climate plan

First step might be to analyse priority projects and differ if they might be financed by the city's budget, grants, loans or if there is a potential to finance them by bonds. If there is a financial gap to cover investments in sustainable projects, it should be decided if green bonds are more favourable than normal bonds. Green bonds could bring "halo effect", improve the reputation of the city, attract investors, increasing the possibility of obtaining a financial premium for the issuer upon subscription, the so-called greenium. As we saw during peer review, greenium could be 2 – 5 bps, depending on market conditions and rising with further issuances. Currently, the market conditions are not very favourable for GB issuance in the Czech Republic (record inflation and the recent deterioration of the Czech Republic's rating outlook). Moreover, a change in the trend cannot be expected in the short term due to unforeseen circumstances (energy crisis, war in Ukraine, another wave of the COVID-19 pandemic).

Also, a bigger effort for preparation (in comparison to normal bonds scheme) must be considered in setting up the framework for green bonds, ensuring compliance with ICMA, (or EU GB standard which is currently developed), EU Taxonomy should be followed. Finally, evaluation of the financial and debt aspects is a matter of priority. In particular, the city's new liabilities (EIB loan for financing metro D line: 23 billion CZK and more might be concluded for next phases of metro D) must be considered. Prague has long been approaching both the management of its funds and debt conservatively, since the city is a public corporation that has its own assets, has its own revenues, and manages its own budget.

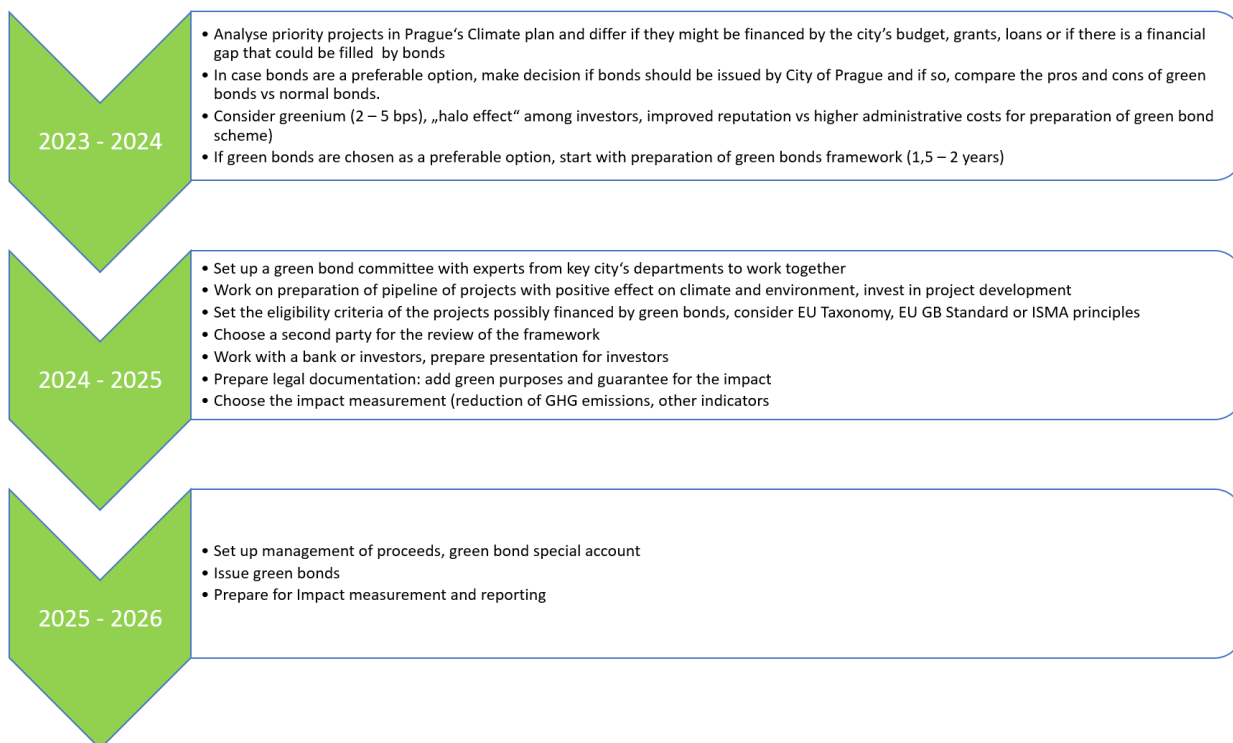
If market conditions are favourable, there is a pipeline of high-quality investment-ready projects to absorb the available funds, debt service will allow to take more liabilities and political decision is taken to start with GB preparation, then a GB committee should be created, consisting of decision-makers, experts within city's departments and possibly also experts from outside the city structure.

During the peer review we saw very many examples of how green bonds work well in Germany and Sweden and gained loads of new knowledge and good practice where we can look in case GB preparation is approved by political representatives in Prague. However, there are many uncertainties (political priorities of the new city council, not favorable market conditions, non-existent internal structure for preparation of GB framework, increasing debt service connected with EIB loan etc.) that it cannot be anticipated that GB are prepared in 2-year horizon. First step might be to start with the evaluation of the Climate plan strategy progress on a regular basis, see if city's own budget and grants, loans and other sources are sufficient to reach the milestones, or if there is a financing gap for the measures envisaged in the Climate plan. If so, we have many good examples from the City of Gothenburg, Malmö, Munich and the state of Hesse, with their kind invitation to draw inspiration from their GB schemes that their good practices can be transferred to the City of Prague.

Summary

High demand for green bonds from institutional investors	State of play of issuance of green bonds of public entities abroad	Example of issuing green bonds abroad (municipal and regional)
<ul style="list-style-type: none"> • Demand for green bonds exceeds supply, which implies the possibility of obtaining a financial premium for the issuer upon subscription, the so-called greenium • Regulatory pressure on funds and financial institutions urges ESG investment factors to be taken into account • Demand also reflects the non-economic factors associated with investing in sustainable solutions 	<ul style="list-style-type: none"> • Greenium green bonds of public entities are slowly growing: currently in Europe an average of about 2-5 bps • The preparation of the program (framework) for the first issue takes approximately 1 – 1.5 years • The most important step in issuing a green bond is to set up a program, the individual issues then do not differ much from the standard procedure • The most important step in issuing a green bond is to set up a framework, the individual issues then do not differ much from the standard procedure • A separate chapter is reporting and preparation for it – at the beginning it is necessary to identify suitable assets for green bonds, or consider an alternative in the form of sustainability-linked financing 	<ul style="list-style-type: none"> • Gothenburg: green municipal bonds have been issued for 9 years • Malmö: over the last 5 years, green bonds make up a third of their portfolio (worth SEK 5 billion) • Hesse: 2021 first issue of EUR 600m, 2bps saving, now planning second • Munich: currently preparing the first issue of green bonds, 2020 issued a social bond, 20 % could be bought by residents in the form of participatory bonds

Possible calendar of implementation



Conclusions

The peer review was excellently organised and filled with so many interesting facts that Prague could draw much inspiration from good practices from Swedish and German peers. If there is a financial gap identified in projects envisaged in the Prague's Climate Plan, political decision is taken and green bonds are supported by the city's new political representatives, the examples of GB issuances could be very well transferred and adjusted to local conditions. We would like to thank to all peers for their kind willingness to share their good practises and to Interreg Europe Policy Learning Platform for organising such a great event with so many recommendations that it highly exceeded our expectations.

Prague, December 5th, 2022