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The role of private market capital in financing sustainable cities: investor and municipal views in a Swedish context

Nina Waltré, Misum, Stockholm School of Economics

Emma Sjöström, Misum, Stockholm School of Economics

Magnus Agerström, Cleantech Scandinavia

Fedra Vanhuyse, Stockholm Environment Institute

Alicia Requena Carrion, Cleantech Scandinavia

SEI Stockholm Environment Institute

Stockholm School of Economics MISUM

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Executive summary

Much of the burden of the transition to a sustainable society will fall to the municipalities and significant investments will be needed to ensure this transition. In this context, this report aims to provide the financial sector, and local and regional governments with a research-based understanding of the role of external financing in helping municipalities to reach sustainability, climate neutrality and the goals of Agenda 2030 from a Swedish perspective. This report builds on academic research from the three-year project Accelerate sustainable financing: sustainable bonds for sustainable cities.[i]

Swedish municipalities are not on track to achieve the goals of Agenda 2030 or climate neutrality. In the absence of encompassing national guidelines, recommendations and coordination, Swedish municipalities all have different methods of and ambitions for approaching sustainability.

Our study shows that common barriers to achieving sustainability goals are conflicting aims, low levels of internal collaboration, low levels of collaboration between municipalities, low levels of national coordination or support for sustainability, and recurrent changes in political leadership.

Generally speaking, neither municipalities nor investors perceive that Swedish municipalities are adversely affected by a lack of access to capital, although both actor groups foresee an increasing need for external financing of the sustainability transition and some believe municipal borrowing will increase.

At the same time, investors are queuing up to invest in sustainable options and see Swedish municipalities as attractive investment opportunities. Our study identifies the most common barriers to the use of external capital to finance the sustainability transition in municipalities as:

- the limited size of the asset base.
- a disconnect between sustainability-based projects and finance departments.
- an unmet need for risk capital and co-financing for the sustainable transition, for example for innovation and new technology, where municipalities currently have few options.
- that most of the increased costs are for operational expenditure but municipalities cannot borrow to fund such expenditure.

For the financial sector to play a more active role in supporting Swedish municipalities in the sustainability transition, a number of areas will need to be addressed.

We suggest

- that all levels of Swedish public administration conduct a comprehensive review of the financing needs that stem from the sustainability transition to ensure that Sweden is not investing insufficiently for future generations, and to better assess how the private sector can support municipalities' sustainability ambitions.
- that the Swedish government develop a shared national view on how Agenda 2030 translates to fit Swedish municipal circumstances, and that national coordination on sustainability and climate neutrality is improved.
- that municipalities strive for better internal coordination, and enhanced communications and skill-sharing between sustainability and finance departments, to enable a more informed conversation about funding needs and how private sector financial actors can best be involved.
- that municipalities, investors and other relevant stakeholders engage in a dialogue about how municipal investment needs can be made investable, including how investments can be de-risked, scaled-up and better defined.

i Accelerera hållbar finansiering: hållbara obligationer för hållbara städer, 2019-11-22 – 2022-10-31. Viable Cities' project (grant number: 2019-019865)

1. Introduction: The role of cities in sustainable development

Cities will play a central role in tackling the transition to a sustainable society. A substantial part of the world's population now lives in cities and urbanization is a growing global trend. In Sweden, 59% of the population lives in cities and 87% lives in urban areas.[1, 2] Much of the transition effort will fall to the municipalities: the administrative divisions that might be cities or towns, or urban areas or districts. Municipalities are responsible for providing public services to their inhabitants, such as education, social care, waste and water treatment, housing and public transport, and are often the owners of the major infrastructure in cities, such as public transport networks, energy supply infrastructure and major buildings. It is estimated that at least 105 of the 169 targets underlying the 17 Sustainable Development Goals (SDGs) of Agenda 2030 cannot be reached without the participation of local and regional government.[3]

The Swedish government's strategy for sustainable cities envisages significant investments by municipalities to ensure sustainable development.[4] The Swedish Climate Policy Council also reports that extensive investment will be needed in areas such as fossil-free energy systems, transport and infrastructure if the climate goals are to be achieved.[5] There is, however, a considerable gap between municipalities' investment needs for sustainable development and climate neutrality, and the volume of investments either made or planned.[6] At the same time, the interest of institutional investors in sustainable investment options is surging, which could help to bridge this gap.[7]

A combination of the importance of cities to the transition to sustainability, the financing gap and the availability of private sector capital makes it important to explore the role that financial market actors could play in this equation. This report seeks to provide the financial sector, and local and regional governments with a research-based understanding of the role of and potential for external financing in helping cities to transition to sustainability and achieve the SDGs, and to add to the debate on how the financial sector can better support the transition to a sustainable society. We approach the city perspective from a local government angle in the Swedish context. The report builds on interviews conducted with municipalities, investors and other key stakeholders important for gaining an understanding of sustainable financing for municipalities.

Section 2 provides brief background and context. Section 3 presents the methodology, including for the data collection and analysis. The findings, based on the interview responses, are presented in section 4, divided into two sub-themes:

(a) The ambition for and approach to sustainability in Swedish municipalities and investor perspectives.
(b) The role of external capital in Swedish cities' transition to sustainability.

Section 5 discusses the findings and makes recommendations.

This report is based on the findings from the three-year academic research project Accelerate sustainable financing: sustainable bonds for sustainable cities, which was funded by the strategic innovation programme Viable Cities. The purpose of this project was to: (a) understand what Sweden's plans for sustainable cities entail—their focus, how goals are defined and the metrics used—and whether they are likely to achieve the goals of Agenda 2030 and Sweden's goals on climate neutrality by 2045; (b) how the plans are budgeted for, how this matches available resources and whether there is a funding gap; and (c) the extent to which external capital plays or could play a role in achieving sustainability.

2. Context: The Swedish municipal sector and financing mechanisms

The Swedish public sector is a three-tier system with a national level, a regional or county council level, and a municipal level. Sweden is divided into 290 municipalities and 21 regions, which together constitute local and regional governments (LRG). These entities provide two-thirds of the nation's public services.[8] A LRG is responsible for providing its residents with services such as education and childcare, social care, waste and water treatment, housing, healthcare and public transport. The municipalities vary considerably in size, from around 2,300 in the smallest municipality, Bjurholm, to almost 2,400,000 in the municipality of Stockholm.[9] Municipalities often own the major infrastructure for public transport and energy supply, as well as the larger buildings in their areas. They can also provide other services on a voluntary basis, as decided by local politicians. Regions, on the other hand, are responsible for providing services that are common over a large geographical area, which often demand large economic resources, such as healthcare, public transport and regional development. Both municipalities and regions are governed by politicians directly elected by local residents.

Sweden does not have extensive national guidelines, frameworks or coordination on how municipalities should work to achieve sustainability and Agenda 2030. However, a 2019 proposal by the Government Delegation on Agenda 2030[i] advises that the Swedish Association of Local Authorities and Regions should be made responsible for the continuing implementation of Agenda 2030 at the local and regional levels.[10] Several networks exist to assist municipalities with issues around sustainability and climate neutrality, such as Glokala Sverige and Klimatkommunerna.

Sweden and its municipalities do not appear to be on track to achieve the SDGs. For example, one of the government's milestone areas for the *Generation goal*[ii] targets sustainable cities, with goals on sustainable personal transport, stormwater management and the integration of urban greenery and ecosystem services. The most recent review, from 2019, forecasts that three of these goals will not be reached "unless new, yet to be decided, policy instruments are added".[11]

2.1 Financing Swedish municipalities: mechanisms and actors

Swedish municipalities are mainly financed by a municipal income tax, which accounts for 65% of their revenues.[12] (For an overview of the municipal financing system, see *Fact Sheet Municipal Finance in Sweden.*[13])

Only a very small proportion of revenues (c. 3%) for municipalities in Sweden comes from private capital, but it is important to enable the financing of specific projects or to ensure liquidity. Municipalities can access private market funding through short-term or long-term loans or bonds, or private equity investments via municipally owned companies. A key player in municipal debt financing is Kommuninvest, a credit market organization for Swedish municipalities that offers its members attractive financing and financial advice. It is owned by its members and 96% (293 of 310) of the municipalities and regions are currently members. The municipal sector's debt was SEK 656 billion in 2018, of which 54% was financed through Kommuninvest. Most municipalities finance all their external debt through Kommuninvest. Larger municipalities that are not members of Kommuninvest raise two-thirds of their external financing direct from the capital markets and the rest through the European Investment Bank or the Nordic Investment Bank.[14]

i Swe: Agenda 2030-delegationen

ii The overall purpose of Swedish environmental politics is to hand over a society to the next generation in which the major environmental problems have been resolved, without causing increased environmental and health problems beyond Sweden's borders

Another important part of financing for municipalities are grants and EU funds. The Regional Fund is an important actor in sustainable development in Sweden. It finances development partly through grants but also by offering financial instruments that complement the financial market's offers. The government has commissioned the Swedish Agency for Economic and Regional Growth to carry out a preliminary assessment of financing instruments for the Regional Fund's upcoming programme period, 2021–2027.[15]

2.2 Budget and expenditures in Swedish cities

Swedish municipalities develop budgets that reflect the roles and responsibilities allocated to them by the Swedish Local Government Act. If the Swedish central government allocates additional responsibilities to the local and regional governments, central government must provide funding. For a municipality, there are three types of expenditure:[16]

- Operational expenditure, or Opex, is the costs related to the activities of the municipality or region and the projects they implement, such as salaries for teachers and social workers, school meals, maintenance costs and electricity, water and gas supply. Operational expenditure cannot be funded by debt.
- Capital Expenditure, or Capex, is the costs linked to an asset, such as a building (schools, housing and government offices), infrastructure (metro lines, bike lanes) and machinery and equipment (e.g., cars and office equipment). Capex can be funded by debt, such as long-term and short-term loans or bonds.
- Other expenditure, such as financial expenditure (interest rates). This category of expenditure is generally quite small.

Fact box: Financial instruments for sustainable cities

- **Loans** are debt instruments in which the lender advances a sum of money to the municipality. In return, the municipality agrees to a certain set of terms on finance charges, interest rates, repayment dates and other conditions. Figures from Statistics Sweden show that municipal administrations' total debt has doubled in the past seven years, and that issued securities and loans amounted to SEK 543 billion 2018.

- **Bonds** are a loan in the form of a fixed income instrument made by an investor to the municipality and used to finance projects and capital expenditure. The bond details include the end date when the principal of the loan is due to be paid to the bond owner and usually the terms of variable or fixed interest payments made by the borrower.[iv] For sustainable development purposes, green bonds have become an increasingly important instrument as they are designed to specifically support climate-related or environmental projects, Social bonds and sustainable bonds are similar instruments to green bonds, with set frameworks, but have not yet attained the same importance as green bonds. Sustainability-linked bonds are a new form of bond in which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability-related objectives.

- **Social impact bonds** are an outcome-based contract rather than an actual bond through which private actors can invest in and support social projects in the public sector. Thus far, only two Swedish municipalities (Norrköping and Botkyrka) have issued social impact bonds.

- **Public-Private Partnerships** (PPPs) are formal arrangements between public and private counterparts to share risks rewards in the delivery of public services and infrastructure. PPPs have gained a large market in Europe but have a bad reputation in Sweden following two major failures (the railway line Arlandabanan and University Hospital Nya Karolinska). PPPs have the potential to leverage private capital for the construction and operation of public infrastructure, while at the same time obtaining social benefits and freeing up public resources. Since the private sector is often more willing to innovate than its public counterpart, PPPs can help to achieve cost-efficiency and spark innovation. They also allow for knowledge sharing between sectors.[19]

- **Blended finance** is the use of private or philanthropic capital to mobilize investment.[v] It is a structured approach that offers the opportunity to scale-up and channel commercial financing to investments with development impact, primarily in emerging markets.

- **Crowdfunding** is the practice of funding a project or venture by raising money from a large number of people who each contribute a relatively small amount, typically via the internet.[vi] It could be an interesting approach to combining citizen engagement with funding for specific sustainable development projects.

- **Private Equity** is investment directly in companies that are not listed on a public stock exchange. Private equity managers use the money of investors to fund acquisitions. Examples of investors are hedge funds, pension funds, university endowments or wealthy individuals. For cities, private equity funds that specialize in infrastructure or other city-related ventures are especially relevant.

- **Grants** are a sum of money given by a government or other organization for a particular purpose.[vii] One important fund for sustainable city development in Europe is the European Regional Development Fund.

[iv] Definition from Investopedia www.investopedia.com/terms/b/bond.asp
[v] Definition from Convergence www.convergence.finance/blended-finance
[vi] Definition from Oxford Languages
[vii] Definition from Oxford Languages

3. Method

The aim of this study is to explore the role of external capital in the transition to sustainability in cities. More specifically, it seeks to understand how Swedish cities and investors approach sustainability, cities' need for external capital and what attracts investors to cities, and to provide insights on potential barriers and solutions to enabling better collaboration between cities and the financial sector, which could facilitate the transition to sustainability. The study is delimited to a Swedish perspective, which means Swedish cities and investors active in the Swedish market.

To address our research questions, we conducted 23 in-depth interviews with senior city and finance professionals. The interview programme was divided in two: interviews with cities to understand their sustainability plans and need for external financing; and interviews with investors to understand their interest in and ability to finance the sustainability transition in cities.

We chose to approach the city perspective from a municipal angle as municipalities are responsible for providing major services to their inhabitants, and are often the owners of the most important infrastructure in cities. We selected the nine municipalities in Sweden that have issued a green bond at the launch of the research project, based on the assumption that issuers of green bonds might be more likely to seek external and sustainability-labelled financing. We also held two in-depth interviews with people responsible for setting a municipal budget in order to better understand the budgeting mechanisms. The municipalities in our study together represent 17% of the Swedish population.

The selection of investors was based on including the different types of investors that are likely to have an interest in sustainability and in providing financing for municipalities in Sweden. We interviewed nine Swedish investors from private equity firms (infrastructure funds), asset owners (e.g., pension funds), asset managers and intermediaries (banks). We also interviewed an expert on urban development at the European Investment Bank; two senior representatives from Kommuninvest, the largest lender to municipalities in Sweden; and a representative from ICMA, which has provided many of the standards and frameworks on labelled bonds used for investments in sustainability.

We developed two interview protocols: one for cities and one for investors, which were structured to provide answers to our research questions. The interviews followed a semi-structured approach to allow for the different roles of the interviewees. We allowed one hour for each interview. The interview protocols for the two groups were similar but modified to reflect the differing perspectives of cities and investors, and further adapted to the specific roles of the interviewees. The interview protocols comprised two main sections. First, there was a section on sustainability with general questions on: the importance of sustainability and Agenda 2030; how the interviewees work with sustainability in their organizations; tools and frameworks; the importance of impact and additionality; and perceived barriers to sustainability.

Second, there was a section on sustainable financing with questions on: the financial capacity for cities to achieve their sustainability goals; the financing gap; the role of external capital; reasons for issuing green bonds in cities; other labelled bonds and financial instruments that can be used to scale-up the sustainability transition in cities and sustainable finance more generally; and financial barriers and solutions.

Table 1: Municipality interviews

Municipality	No. of citizens 2021	Interviewee(s)
Gothenburg	593,636	Portfolio manager
Linköping	164,891	CFO
Lund	136,016*	CFO
Malmö	350,126	Sustainability director CFO Responsible for budgeting
Nacka	107,667	Environmental director CFO
Örebro	157,496*	Sustainability strategist Financial manager
Östersund	65,065	Climate strategist Head of Finance
Västerås	158,074	Director strategic development
Vellinge	37,363	Energy and climate strategist Finance director
Total: 9 (11 interviews)		

* Estimate based on 2019 citizen data

Table 2: Investor interviews		
Type	**Investor**	**Interviewee(s)**
Asset owners	AP2	Sustainability strategist Responsible for real assets (real estate)
	KPA Pension	Head of sustainability Responsible for business development and sustainable investments
	Church of Sweden	Head of sustainable investments
	European Investment Bank (EIB)	Head of Division, Regional and Urban Development
	SEB	Head of Climate and Sustainable Finance Deputy head of sustainable banking
	Polhem Infra	Investment manager
Asset managers	Handelsbanken	Sustainability analyst Portfolio manager, asset management
	SPP/Storebrand	Portfolio manager, asset management
	Infranode	Director
	Capman	Partner, Responsible for infrastructure investments
Service providers and intermediaries	ICMA	Sustainable finance associate
	Kommuninvest	Head of sustainability Responsible for lending
Total: 12		

All the interviews were recorded with the permission of the interviewees and transcribed into digital form. All the interviewees were given an opportunity to confirm individual statements. The transcriptions were coded in nVIVO based on the interview protocols, and coded for major recurrent themes of relevance to the study.

4. Findings

The first section of this chapter addresses how municipalities and investors approach sustainability. This forms a backdrop to the second section, which focuses on the role of private capital in the municipal sustainability transition, including the various financial instruments that might be relevant in this context.

4. 1 How Swedish municipalities and investors approach sustainability

In this section, we address first the municipalities' and then the investors' approaches to sustainability.

4.1.1 Municipal sustainability ambitions and approaches to Agenda 2030

Swedish municipalities have different methods of approaching sustainability issues. Many see sustainable development as an underlying and integrated part of their everyday activities. The municipalities we spoke to all have sustainability agendas integrated into their budgets and plans, but the level of ambition differs. Some municipalities have broad visions rather than explicit goals; some describe a general focus on social, green and economic sustainability. Some have high-level goals to allow specific administrations to set their own indicators, while others describe fully integrated sustainability programmes with targets and indicators for 2030 and in some cases even 2050.

The sustainability issues most focused on vary between the municipalities, depending on the most pressing issues in the local community. On a general level, however, climate issues are the predominant concern for most municipalities in our study, often with a focus on transport. Climate is typically followed by social issues such as housing, education and community safety. One municipal representative noted that although it has a large focus on climate, the core business of the municipality is always social sustainability.

> **"Climate issues are increasingly in focus, and they will therefore be one of the most difficult, and at the same time most important areas that we work with."**
>
> \- Nacka

All the municipalities in our study stated that they work with Agenda 2030, but they often view it as a mapping exercise rather than a strategic tool. One municipality described how their method of mapping their ordinary goals alongside Agenda 2030 is common to most Swedish municipalities, but that Agenda 2030 does not govern anything in practice with this method. Many municipalities are aiming to better integrate Agenda 2030 into their ordinary plans and budgets, but several mentioned that there are too many goals and indicators, and that it is not possible to work with all of them. One municipality recently wrote a report for their politicians listing specific challenges based on Agenda 2030. Another has worked for several years to define the city council's goals in relation to Agenda 2030 rather than the other way around.

> **"We developed our sustainability goals through a long process of over a number of years, in which we actively involved politicians, the general public, officials and organizations. The basis in Agends 2030 and the specific challenges in our municiplaity, and from this we have destilled what we believe is most important."**
>
> \- Örebro

The municipalities in our study all follow-up on their sustainability goals, but their approaches differ. While some follow-up sustainability indicators annually or even quarterly, others follow-up only on certain sustainability-related areas. One municipality mentioned that it uses indicators rather than goals as the latter are subject to audit, and if they were to fail to reach a goal it would result in a negative assessment from the auditor. Another municipality intentionally sets its goals low and increases them incrementally once they have been reached.

When probed about the main barriers to achieving municipal sustainability goals, several respondents highlighted organizational issues, such as conflicting aims, too little collaboration internally between departments, and low levels of collaboration between municipalities. One municipality recently looked into the conflicting aims of their different departments and installed a support office to help departments collaborate better. Many municipalities would also welcome better national support on how to work on Agenda 2030.

Another barrier to achieving sustainability goals mentioned by both municipalities and investors is the regular changes in political administration, which mean that goals and focus areas can change between different terms of office. Although most of the municipalities described how their political parties have a coherent view on the importance of working on sustainability, different administrations have different priorities. One municipality had 20 sustainability-related goals abolished when a new administration took over. Some of its employees continued to work towards those targets, but only unofficially. Another municipality mentioned that it currently focuses on social issues, but this might change with a change of administration. A couple of municipalities mentioned that when developing a sustainability programme, they made sure to involve politicians from both the governing administration and the opposition in order to achieve consensus on long-term goals and strategies.

> **"It is not uncommon for municipalities to face problems such as clashes over politics, but we have integrated politics very clearly into our work, so now it really feels like everyone is on board and pulling in the same direction."**
>
> \- Vellinge

The respondents suggested that solutions to enable municipalities to better achieve their sustainability goals would be increased cooperation between municipalities, greater knowledge of and competence in sustainability issues in municipalities, and better national support and guidance. One investor mentioned that there are great ambitions in the municipalities but these could be even higher with greater competence on how to build a sustainable city, and that the municipalities would benefit from cooperating more and learning from each other instead of everyone trying to reinvent the wheel.

> **"It is very challenging to pursue sustainability issues because you are challenging lifestyle factors, such as the car. Governance from the state is very important, but also that we do this together, that we help each other in different municipalities and exchange experiences about what works and what doesn't."**
>
> \- Östersund

> **"I believe that municipalities sometimes feel quite lonely. They have very high demands, but instead of getting help and using a common structure, they invent the wheel 290 times."**
>
> \- SPP

Key points: municipalities' sustainability ambitions

- Municipal sustainability ambitions differ from high-level visions to fully integrated sustainability programmes with targets and indicators.
- The main focus areas for sustainable development are climate and social issues.
- All the respondents work on Agenda 2030, although often as a mapping exercise rather than a strategic tool.
- Many aim to better integrate Agenda 2030 into ordinary plans and budgets, and several would welcome better national support on how to work with Agenda 2030.
- All the respondents follow-up on their sustainability goals, but approaches differ.
- Commonly mentioned barriers are: conflicting aims, low levels of internal collaboration and little collaboration between municipalities, low levels of national coordination and support for sustainability, and regular changes in political administration.
- Solutions could be better national support, coordination and guidance for municipalities on how to work on sustainability and Agenda 2030.

4.1.2 Investor perspectives on sustainability and sustainable cities

The investors we spoke to see Swedish municipalities as attractive investment opportunities, as they are financially stable, cannot go bankrupt and generally have high credit ratings. The respondents described a strong interest from the investing community in financing sustainability in municipalities. One financial actor noted that studies show higher investor demand for sustainable bonds than for their non-sustainable peers.

All the investors in our study focus on sustainability in their investments and including sustainability aspects is generally perceived as a requirement for future profitability. Apart from the financial aspects, common reasons for including sustainability aspects are increased political interest, new regulations such as the Sustainable Finance Disclosure Regulation (SFDR) and the risk of not being part of a changing market.

There are several ongoing initiatives to help investors to define green investments. In addition to the EU's framework for green bonds, the EU Taxonomy – a classification system for environmentally sustainable economic activity – is likely to prove an increasingly important guide for investors in their green investments. The investors in our study believed that the EU Taxonomy will become increasingly important in the years to come.

Many also spoke of societal responsibility and a willingness to be part of the transition. Many investors in our study use themes such as energy efficiency. Although sustainable cities is not currently a theme, it is seen as an interesting sector for SDG-related investments. The main sustainability focus for the investors in our study is climate neutrality, as it is fairly straightforward to measure and follow-up compared to other sustainability issues such as social aspects of biodiversity. One investor was particularly interested in investing in social infrastructure, such as buildings for societal services such as schools or elderly care.

> **"We believe that sustainability is important as it is the only way to be profitable in the long term, but also because we have a societal responsibility. Purely financially speaking, with the coming EU Taxonomy and stricter requirements, fund structures will not be able to access capital in the long run if they cannot show that they are working sustainably."**
>
> \- Capman

Just like on the municipal side, all the investors in our study are working on Agenda 2030 to some extent. Several have established their own Paris Agreement-aligned criteria. However, while some investors use the SDGs as a baseline mapping exercise and apply them on a day-to-day basis, there is a consensus that they are difficult to use as actual criteria and key performance indicators, and that they are not adapted to the financial sector, budgeting work or how municipalities work. They are therefore often used in a very broad and general way. Often, only thematic funds (sustainable, climate) are mapped against the SDGs.

> **"The SDGs are a rather imprecise tool; they are global, with many associated targets, and are not adapted to Swedish conditions. It is a way to illustrate several areas that you need to work with, but it is not adapted to investor needs or translatable to municipalities' budget work. So I do not know if it makes sense to spend extensive resources on trying to map every single activity to the SDGs."**
>
> \- Church of Sweden

Key points: investor perspectives on sustainable cities

- Investors see Swedish municipalities as attractive investment opportunities and investor demand for sustainable bonds is often higher than for their non-sustainable peers.
- All the investors in our study integrate sustainability aspects into their investments to some extent. The focus is generally on climate neutrality but increasingly also on social issues.
- Sustainable cities is seen as an interesting investment area, especially for SDG investments, but is not used as a specific theme by the respondents.
- All the investors in our study incorporate Agenda 2030 to some extent, generally as a baseline mapping exercise for sustainability-themed funds. Agenda 2030 criteria are perceived difficult to use.

4.2 The role of external capital for transition Swedish cities to sustainability

In this section, we address municipalities' need for external capital, barriers and enablers of financing for sustainability in municipalities, and the role of financial instruments as enablers of sustainable cities.

4.2.1 Municipalities' need for external capital

Neither the municipalities nor the investors in our study believe that Swedish municipalities lack access to capital. Generally, the municipalities testify to solid finances and perceive it to be easy to borrow money when needed.

The need for external capital varies and while a few municipalities require almost no external financing, others actively seek external capital. Swedish municipalities have a limit on external investments as a share of tax income, and several municipalities mentioned that it is the municipality's own financing capacity that delimits setting sustainability goals and pursuing projects. Whether to use external capital is sometimes a political decision. A few municipalities described their politicians as unwilling to take on external capital.

“The social bond was voted down as some politicians do not want the financial markets to decide what investments we make. We lock ourselves in when we borrow money for a specific purpose. It means that the financial markets place conditions on our activities, which in the end undermines democracy.”

- Gothenburg

“We work hard to minimize the need for external investments as we want growth to be organic and an integrated part of the organization. We have objectives on borrowing and we have debt limitations. We also have a new process in which we examine proposed investment in greater detail. The municipal board is very active in these issues.”

- Lund

Many municipalities mentioned that it is the fact that they cannot borrow for operational expenditure that explains why they do not need external capital. For example, even if they can borrow the funds to build a school building, they may not have the finances to pay the teachers. Some also mentioned that it can be difficult to pursue projects outside of municipalities’ main mandate.

“More money would not resolve the challenges we face. It is a societal transition that takes time and resources. Everyone can borrow money today and it’s almost free, but we cannot borrow for operational expenditures. What we have too little of is tax revenue. With more people in employment, we can increase tax revenue and reduce costs. We have many preschools, but we cannot staff them because we cannot afford the salaries.”

- Malmö

Some municipalities foresee an increased need for external financing. This view is shared by the investors we spoke to. A few investors mentioned an expectation that municipalities’ need to borrow will increase. Some investors explained that a lot of municipal infrastructure is out-of-date and will require extensive investments in the years to come. One investor argued that much capital is tied up in municipally owned utilities, which will require large investments to both maintain and adjust for sustainability. Another investor anticipates that the replacement of municipal infrastructure to meet the Paris Agreement will cost trillions of euros.

“The availability of capital and loans is actually not a problem: it is the degree of execution. But if we are serious about changing society as quickly as we need to, the requirement for external capital will most likely increase.”

-Östersund

“We have very outdated infrastructure in many parts of Sweden. A clear example is all the public baths that were built in the 1950s.”

- Capman

"Everything indicates that municipal borrowing will increase."

- KPA Pension

One investor argued that the biggest hurdle to financing sustainability in municipalities is to find capital for the sustainable transition outside of the loan financing system, for example, for innovations that require higher risk, where municipalities currently have few available options. The respondent explained that Swedish municipalities do not have the same ability to use money from venture capital as private companies, and some investors describe how they cannot take the increased risk attached to new sustainability-related technology. One respondent said that capital investment with higher risks attached, such as on sustainability-related technology, is often funded by grants, for example, from the EU.

"There are other financing needs linked to the sustainable transition and innovation that we do not come into contact with in the same way, e.g., financing through grants. There, I believe that there are more thresholds and obstacles. It is for example difficult to get an overview of what funding is available from which actor; it is difficult to apply, and so on."

- Kommuninvest

"One missing part in this transformation is ownership but not venture capital—especially in public organizations that would in the traditional sense turn to venture capital but for various reasons cannot. Then they turn to us, but infrastructure investors like us cannot handle that transformation or absorb that risk."

- Polhem Infra

Key points: municipalities' need for external capital

- There is no perceived lack of capital for municipalities; municipalities testify to solid finances and perceive it as easy to borrow capital when they need it.
- Many municipalities cited the fact that they cannot borrow for operational expenditures as a reason why they do not need external capital.
- A municipality's own financing capacity is often a limiting factor when pursuing sustainability projects. Whether to use external capital is sometimes a political decision.
- Both municipalities and investors foresee an increased need for external financing of municipalities and some investors expect that municipalities' need to borrow will increase.
- A larger obstacle to financing sustainability in municipalities may be finding capital for the sustainability transition, e.g., for innovations that require higher risk.

4.2.2 Barriers to and enablers of financing for sustainability in municipalities

In addition to the challenges linked to sustainability goals, such as changing political priorities and a lack of collaboration across the LRG (as noted in section 4.1.1), there are barriers related to the size of the asset base, the disconnect between sustainability-based projects and finance departments, the need for co-financing, increased future operational costs and the risk capital required for the sustainable transition; for example, for innovation and new technology.

One financial actor argued that the main impediment to further growth in the sustainable finance market is that the asset base for sustainability projects is too small, meaning that there is a lack of investable green projects, and that a better incentive is needed for fiscal authorities to set the rules and stimulate investment. Sometimes, however, municipalities do have green assets but have not communicated this to investors. The barrier is then largely about whether or how it is presented.

> **"I believe that there is huge interest from investors in investing in municipalities, especially in green bonds. Much of what municipalities do can be seen as sustainable and they sometimes need a little help with packaging and communication."**
>
> - Church of Sweden

When the municipalities were asked to describe the challenges to achieving sustainability, none of them mentioned external financing. Instead, as described in section 4.1.1, some mentioned the risk of changes in political leadership, and that a changing sustainability agenda might be harder to match with long-term funding. Some respondents identified a disconnect between sustainability-based projects and their finance departments. In some municipalities, groups working on implementing specific technologies or projects have little or no contact with the finance department, which could potentially provide funding for them. One investor highlighted how municipal investments could be facilitated by national coordination and skill sharing. The respondent used the example of water infrastructure.

> **"The water infrastructure is hugely behind in Sweden. Quite a few billion SEK would be needed. Rather than every municipality wrestling with this on their own there could be a national plan or at least some level of coordination. These investments require a lot of technical expertise that is not found in one place. Perhaps even a team that tours different municipalities to help them make an investment plan."**
>
> - Church of Sweden

> **"I think one barrier to achieving the goals of Agenda 2030 is the lack of coordination across different city departments, and that sustainability ambitions are sometimes not linked with budget preparation and investment planning. So there are sometimes great ambitions, but when you look at what happens in reality it is not really being delivered."**
>
> - EIB

Some municipalities mentioned the need for co-financing solutions to facilitate for their politicians to venture into capital-intensive investments, especially where solutions are more expensive because they involve sustainability aspects to a greater extent. Several municipalities mentioned that politicians are very cautious around financial innovation.

> **"In order to venture into infrastructure investments and motivate solutions that are perhaps more cost-driving than ordinary solutions [due to their sustainability aspects], we need incentives or support in terms of co-financing. If we have a co-financing solution when we come to a decision point, we make it easier for our politicians [to make decisions in favour of sustainability] given the competition [for how to allocate funds] in the investment budget."**
>
> - Västerås

Several municipalities and investors mentioned that increased operational costs might be a future challenge. One municipality mentioned that they would need more support from the national level and from the EU, in terms not only of financial support but also of stronger leadership, not least as lifestyle factors are challenged which could cause citizens to oppose municipal sustainability ambitions. Stronger leadership on sustainability issues could bode well for a more predictable investment environment and facilitate financial actors to venture into sustainability-related investments on innovation and new technologies.

Some investors appreciate the new sustainability regulations, such as the EU Taxonomy for sustainable activities, that define thresholds and set standards, but mentioned that there is a risk that they might become counterproductive if they are too exhaustive by impeding market innovation and the development of new products. A couple of investors explained that it is the direction that is important at this stage, and that there is a risk of becoming too obsessed with showing quantifiable numbers rather than implementing structural change that enables systematic transition.

A few investors argued that a lot of capital is tied up in the municipally owned utilities, which will require large investments to maintain and adjust for sustainability. As described in section 4.2.1, accessing risk capital for the sustainable transition, e.g., for innovations where municipalities currently have few available options, may also be a problem. For this reason, some respondents noted that certain municipalities might benefit from selling parts of their utilities to private sector actors in order to free up capital for other investments and to allow investors with a different risk appetite and more capital to implement the required transitions. At the same time, however, it is worth noting that the privatization of municipal assets is unpopular with some political groups.

Key points: barriers and enablers of financing for sustainability in municipalities

- A lack of investable green projects was mentioned as an impediment to further growth.
- Municipalities often have green assets that they fail to package and communicate as such to investors.
- Some municipalities mentioned the need for co-financing to facilitate their politicians venturing into capital-intensive sustainable investments. Several mentioned that politicians are cautious about financial innovation.
- Many mentioned that the increased operational costs attached to the required transformation are a barrier.
- Municipalities have few available options for raising the risk capital needed for the sustainable transition.

4.2.3 The role of green bonds as an enabler of sustainable cities

Investment in green bonds is growing rapidly. (For an overview of the various financial instruments, see the Fact Box in section 2.) This instrument for sustainable investments is also increasingly being used by Swedish municipalities. The City of Gothenburg launched the first ever municipal green bond in 2013, using its proceeds to finance low carbon and climate-resilient transition projects. Since then, other Swedish municipalities and regions have launched over 40 green bonds worth US$ 4 billion.[20]

There is a big focus on buildings in green bonds; the investors in our study described how the main use of proceeds for green bonds is generally buildings, and that this is also the case for green bonds issued by municipalities. Buildings is the largest category in the green bond framework from Kommuninvest, and seemingly the category that has the most developed sustainability criteria. Several investors in our study expressed an explicit aspiration for the focus of green bonds to be extended to other areas, such as biodiversity and water infrastructure.

> **"There has been an enormous focus on green buildings on the Swedish credit market and you would become very narrow if you only invested in a fund with green bonds in Sweden."**
>
> \- Handelsbanken

> **"We hope that green bonds will extend to more sectors from being so linked to real estate."**
>
> \- KPA Pension

From the municipal side, one reason for issuing a green bond seems to be political. It is seen as an opportunity to profile the municipality in terms of sustainability and to market the municipality's green projects. Some municipalities spoke of an increased administrative burden as a result of greater reporting requirements. One interviewee explained that part of the motive was to contribute to greening the financial market so that investors would have enhanced green investment opportunities. Another interviewee explained the reason as to "please the investors", meaning that the bond could have been issued as an ordinary bond but due to high investor demand for green labelling, the bond was issued as a green bond.

> **“It was a political decision for us to issue the green bond. Green bonds do not revolutionize our environmental work, but they do make it more visible.”**
>
> - Malmö

Although green bonds often offer a green premium, or a “greenium” rate a few basis points lower than conventional bonds, making it cheaper for the municipality to borrow money, it was rarely the financial case that underpinned the decision. It appears that the municipalities could have funded their projects without a green bond by issuing an ordinary bond. This view is shared by the investors in our study, but some argued that it was easier for the municipalities to market themselves if they issued the bond as a green bond.

There is an increased focus in the investor community on impact assessments, driven by new regulations such as the SFDR, but our interviewees see impact as too complex to measure, and generally carry out assessments on a case-by-case basis. One investor mentioned that there is no global impact reporting tool and every municipality uses different parameters. Another investor described a recently launched project to develop a framework around impact. A couple of investors mentioned that they greatly appreciate the impact reports on green bonds from the municipalities. Kommuninvest has been driving a project to standardize impact assessments in municipalities, although at this stage it is only targeting carbon emissions.

> **“We do not have a regulatory requirement to report impact, but we want to be transparent with our customers, so for some funds we try to include some cases in the fund’s reporting. We have the threshold value as an input, but it is difficult as an asset manager to assess the reasonableness of everything.”**
>
> - Handelsbanken

> **“We would like to include many more impact assessments, but it is difficult to collect data, difficult to present and difficult to compare. So I think ambitions are quite high, but that we are not quite there yet.”**
>
> - SPP

A concept often mentioned in the context of green bonds is *additionality.* This refers to the sustainability or climate impact claimed by a financier being additional to that which would have occurred without its financial activity. Our respondents found that additionality is often hard to ensure: it would strictly only apply if the specific investment were the only way to enable a project, which is rarely the case. Most, if not all, sustainability-related projects could have been financed with an ordinary bond rather than a labelled bond. The added value, according to our respondents, is rather the increased transparency that they generate. However, the green bonds seem to have opened up space for better collaboration on sustainability matters in the municipalities. Several municipalities noted that the issuance of the green bond has increased collaboration between finance and sustainability departments on sustainability-related aspects, and has enabled better internal organization around sustainability-related aspects. Some also mentioned that the finance department, through increased collaboration on sustainability, is now better at approaching the investor community looking for green projects. One municipality also highlighted better collaboration between the municipality and municipally owned companies as an effect of the issuance of a green bond.

"I'm not so sure that you can identify the additionality in the municipalities' green bonds, but you get greater transparency. Five or ten years ago, no one issued green bonds and then we had no idea how the municipalities used our money. This higher transparency enables many investors, myself included, to have more meaningful and informed discussions with borrowers around how the financing relates to the municipality's sustainability plans, maintenance plans and strategies."

- SPP

"I think the more you talk about the environment, the more you do for the environment. I'm pretty convinced that we would have invested in these projects anyway, but I believe that the green bond has meant a focus on it in a completely different way and led to increased internal collaboration in terms of the finance department and environmental department having found each other."

- Nacka

"I think the fact that there are more green bonds brings environmentalists and financiers closer to each other in all types of organizations and I think that has a huge impact."

- AP2

As described in section 4.1.2, the EU Taxonomy could prove increasingly important in guiding investors. A couple of investors mentioned that although there is not yet a requirement for municipalities to disclose the alignment of their green bonds with the EU Taxonomy, there might be an indirect incentive on municipalities to disclose if the market moves in that direction. Some investors even claimed that it could become more difficult for issuers to receive funding if they cannot prove taxonomy alignment in the future.

Key points: green bonds as enablers of sustainable cities

- Investment in green bonds in municipalities is rapidly growing as a sustainable financial instrument.
- There is a large focus on buildings in green bonds. Several investors in our study expressed explicit interest in extending the focus of green bonds to other areas such as biodiversity and water infrastructure.
- The reason for issuing the green bond is often political, as a way to profile the municipality as sustainable.
- The EU Taxonomy is perceived as increasingly important and could result in municipalities having to prove the taxonomy alignment of their green bonds in the future.
- Impact assessments are becoming increasingly important but are still complex and generally carried out on a case-by-case basis.
- The concept of additionality is perceived as hard to guarantee in green bonds. Many investors are sceptical about being too strict around additionality and believe that an important gain would instead be increased transparency.

4.2.4 The potential of other financial instruments and solutions

Social bonds and sustainability bonds

There is increasing interest in social bonds. These bonds have proliferated during the pandemic as Covid-19 and pandemic bonds have been issued by cities and countries to fund healthcare, and the EU issued large volumes of social bonds to mitigate unemployment. Between 2020 and the first half of 2021, investments in social bonds by Swedish institutional investors doubled compared to the period 2018–2019 to a value of 24 billion SEK.[21]

Among the municipalities in our study, however, interest in extending external financing to other sustainability-labelled instruments than green bonds is quite low. A few municipalities described how they could include social aspects in their green bonds' framework, and therefore do not require a framework for social bonds. Some municipalities have looked into issuing social bonds but are reluctant as they do not want to act as pilots—or guinea pigs. Social bonds are considered too new and to lack standards. It is also thought to be more difficult to measure and follow-up the effects and impacts of socially oriented assets than green assets, and many projects are regarded as too small. The fact that municipalities are generally not in need of capital also makes them less of a priority. When they do need funds, it is often for social activities that tend to require operational rather than capital expenditure. Some municipalities, however, believe that the issuance of social bonds will increase over time.

> **"I think social bonds are quite vague and difficult thus far. Green bonds are more straightforward and measurable, and easier to understand."**
>
> - Östersund

> **"We are discussing social investments internally, but we are not ready yet to define these for our municipality. But I am convinced that it is something that will come."**
>
> - Linköping

Just as for the green bonds, social bonds are subject to political agendas. Malmö was the first Swedish municipality to plan to issue a social bond, primarily as a result of a political decision. Another municipality rejected the idea of issuing a social bond because officials argued that a labelled bond would allow the financial sector to place conditions on the municipality's investment decisions, which would undermine the democratic process.

> **"Part of the task we received from our politicians was to investigate social bonds. No municipality has yet created a social bond so we cannot follow anyone's lead. It has taken some time, but we are now on our way."**
>
> - Malmö

Although some investors in our study have invested in social bonds in Europe, linked to education, housing and healthcare, especially during the pandemic, none of the respondents in our study has invested in social bonds in Sweden. Social bonds are considered too complex, too difficult to measure and report on, and not adapted to the Swedish context. Kommuninvest recently set up a social bonds framework, "Loans for Social Sustainability", with three categories: Housing and living environments; Security and safety; and Health, education, sport and culture, which some respondents believe might increase social lending.

> **"We have invested in some social bonds but I think it is an extremely complex area. I think it will be very exciting to see what Kommuninvest has produced."**
>
> \- SPP

A few investors mentioned sustainability bonds, a combination of social and green bonds, as a potentially interesting financial product for municipalities. A couple of investors also highlighted sustainability-linked bonds, although not in the context of municipalities, in which the bond is linked to a sustainability goal of the issuer but without earmarking the capital to a specific project. In a sustainability-linked bond, the issuer commits to future improved sustainability outcomes within a predefined time frame. Unlike green, social and sustainability bonds, however, a sustainability-linked bond has no restrictions on how the proceeds can be used. Sustainability bonds and sustainability-linked bonds have frameworks set by ICMA. Neither has yet been issued by a Swedish municipality, but either could be of potential interest to municipalities and municipally-owned companies.

> **"Sustainability-linked bonds enable a goal that is indeed sustainability-related, but in which the money may be used for anything it takes to get there. We see more and more companies using this format, as it makes it possible for companies without a lot of fixed assets to finance their sustainability transition. So I think these kind of bonds will be issued much more."**
>
> \- Handelsbanken

Social impact bonds

Social impact bonds (SIBs) have gained interest in recent years and are becoming increasingly common abroad, with a few examples also in Sweden. To date, approximately 210 SIBs have been issued globally, channelling about US$ 460 million in financing. There have been two in Swedish municipalities: Norrköping and Botkyrka. These efforts have reached over 2 million people. Nearly two-thirds of the efforts have been directed at social welfare and employment measures, while the rest have been directed to themes such as healthcare, education and the reintegration of criminals.[22]

The municipalities in our study do not see SIBs as an attractive option. One municipality was unfamiliar with the concept; one described them as incredibly interesting but "too academic"; and other considered the level of funding too small and a SIB to be too complicated to set up. One municipality has a social resource fund for funding social projects, but no external money is involved.

> **"You would have to issue quite a few social impact bonds to create the money we need to refinance our loans. Social contracts are incredibly exciting but quite complex as you cannot just copy another municipality's model."**
>
> \- Malmö

Most of the investors in our study had not looked into investing in SIBs, and generally claimed that SIBs are too small and too complex. Only one investor mentioned that SIBs might be a potentially interesting financial innovation for socially related projects, but described them as "too difficult to measure and report on", as well as "generally too small and too risky to be commonly of interest to the financial community".

Public Private Partnerships

As noted above, Public Private Partnerships have a bad reputation in Sweden following two major failures, and many investors are very reluctant to take this approach. Although the municipalities we spoke to did not explicitly mention PPPs, some mentioned the need for co-financing for sustainable solutions, as described in section 4.2.2, to enable capital-intensive investments.

Several investors believe that PPPs might have a larger role to play in future, provided that municipalities maintain control to a greater extent. One investor argued that while PPPs have a role to play, they take too long to structure and would not be in place until 2030.

> **"I think there will be more solutions like PPPs to get to where we need to go. Especially in sustainability, where you need to unite and find better collaborations between the market, policymakers and companies."**
>
> - AP2

Blended finance, a variant of PPPs (see Fact box) is generally considered too complex to use and not applicable in a Swedish context, with its stable public administration and very low political risk. Some believe however that it could be an interesting solution to explore further in order to enable higher risk for investors and release more capital for cities.

Several investors argued that there are opportunities to create more collaboration between municipalities and the private capital markets, such as solutions in which investors own the underlying assets and provide the necessary services for the municipalities.

> **"We feel that there is very little knowledge about how to proceed to create smart solutions for collaborations with the municipalities. We have a company that helps municipalities find good partners for infrastructure so that the municipalities can buy it as a service. If a municipality needs electric buses, this company will find a good partner that manufactures these, buy the electric buses and rent them to the municipality, so they do not need to have them on their own balance sheet. So you make it possible for a municipality to get the solutions without it becoming too expensive for them."**
>
> - AP2

Green investment bank

Several respondents argued that the state has a larger role to play in helping municipalities to reach their sustainability goals. Some respondents highlighted that one solution might be a state-owned green investment bank to enable municipalities to raise capital through active ownership at higher risk. As described in section 4.2.1, Swedish municipalities lack the ability to raise private risk capital to enable the innovation that sustainable transition solutions would entail. A green investment bank might therefore fill this gap by contributing "clever money", in terms of equity ownership and lending that can also add competence, strength and direction over a certain period of time.

"I would like to highlight the Swedish Climate Policy Council's recommendation on a state-owned green investment bank, with both an equity side and a loan side that could help the publicly owned structure to change its capital stock. The financing gap in Sweden is extremely large, several hundreds or even thousands of billions, which needs to be translated into more risk."

- Polhem Infra

Other instruments: framework loans and crowdfunding

The European Investment Bank (EIB) mentions its framework loans as a potential solution, in which an investor finances part of a city's investment programme to enable several projects under the investment programme in areas related to sustainable development. The EIB has set eligibility criteria for such investments: they must be planning-led, fit into a well-defined urban strategy and be aligned with the EU taxonomy. Another similar instrument mentioned was the financing of urban regeneration schemes, where the investor finances on an area basis, to redevelop industrial sites in cities to other uses, with important circular economy benefits, or for public transport infrastructure. Other financial innovations, such as crowdfunding (see Fact box) were not seen by our interviewees as a viable alternative for financing municipalities, not least because the scale might not be large enough and, as noted above, municipalities are generally quite reluctant to embrace financial innovation.

Key points: the potential of other financial instruments and solutions

- Although there is increasing interest in social bonds, they are perceived as too complex, too new, too small, lacking standards, difficult to follow-up and not adapted to Swedish contexts. A few municipalities described how they can include social aspects in their green bonds framework, and therefore do not require social bonds.
- The new social bonds framework from Kommuninvest might increase social lending.
- Sustainability bonds were mentioned as a potentially interesting financial product for municipalities.
- A few respondents highlighted sustainability-linked bonds as a potentially interesting product, in which the issuer commits to future improved sustainability outcomes within a predefined time frame, but without linking the bond to specific projects or assets.
- Social impact bonds were considered too small and too complex.
- Many were hesitant about PPPs, but some believed they might have potential in future. Blended finance was considered too complex and not applicable to Sweden.
- Several respondents argued that the state has a larger role to play in helping municipalities reach their sustainability goals. One solution might be a state-owned green investment bank that can leverage risk capital and enable active ownership.

4.2.5 Interest in a sustainable city bond framework

Since municipalities need to take a holistic approach to sustainability, we probed the interviewees on their interest in a sustainable city bond framework, that is, a framework that would cover green and social aspects as well as all aspects that might help a city transition to sustainability and achieve its sustainability goals. The municipalities we spoke to had mixed feelings about such a framework. Most of the interviewees believe this is already covered by the existing green and social bonds frameworks. Several municipalities had yet to take the step from green to social bonds, and are not ready for the even larger step that a sustainability city bond would entail. Many believed that a social bond is enough to appeal to investors who look at sustainability from other perspectives than just green. However, many municipalities were open to the idea if it has the potential to offer cheaper or more easily accessible financing. Many mentioned that they would be interested in following any new developments in order to stay on top of things in case of changes in regulations or a financial crisis. One respondent believed that such a framework could be valuable to clarify the role of the municipality and its investments. One municipality said it might be a way for municipalities to define sustainability.

> **"The framework we have already contains a lot, but we can always find inspiration to develop it further if there is a framework for sustainable bonds available. We are happy to be inspired if there is something we have missed."**
>
> \- Vellinge

> **"I have a hard time seeing how a sustainable city bond framework would add much at this stage, more than politically possibly, but it may look different in a while, for example if access to capital were to change or it became much cheaper to finance through that type of bond. But it is interesting to take part in such a discussion."**
>
> \- Lund

The investors we have spoken to are generally positive about the idea of a sustainable city bond framework. Only one respondent was against, reasoning that definitions of green and social bonds exist already, and adding that a combination of green and social would not add anything new. One investor believed that although there might be potential interest in the longer term, the currently degree of complexity is too high and strong development would be needed around what was already under way, such as the taxonomy and social bonds.

> **"I think it could be interesting if it could be a guide or a tool for municipalities to orientate themselves. But it must not become another burden that takes a lot of administrative energy."**
>
> \- Church of Sweden

Key points: interest in a sustainable city bond framework

- Most municipalities believe that the concept of the sustainable city is already covered by green and social frameworks but are open to the idea if it could offer cheaper or more easily accessible financing.
- Investors are generally positive about the idea of a sustainable city bond framework as a guide and support for municipalities.

5. Discussion and recommendations

Our study shows that while the financial community is lining up to invest in green bonds and other sustainable options, this strong demand is not being met by available, investable projects and assets, and municipalities see no immediate need for external capital. This asymmetry between investors and municipalities must be understood in the light of the mismatch between Swedish municipalities' high ambitions on sustainability and the insufficient pace and level of plans in place to enable them to reach the goals of Agenda 2030, Sweden's environmental goals and the goal of carbon neutrality. For the financial sector to play a more active role in supporting Swedish municipalities with the sustainability transition, a number of areas must be addressed.

1. Estimate financing gap and improve national coordination

While the Swedish municipalities in our study perceive that access to capital, including on the private capital markets, does not stand in the way of achieving their sustainability goals, it is still the fact that none of the municipalities we spoke to has estimated in a structured way how much funding will be required. Indeed, almost none of the municipalities in the study had thoroughly researched the efforts needed to reach their sustainability goals, which makes estimating costs all the harder. Consequently, it is difficult for municipalities and investors alike to take a systematic approach to filling any financing gaps, and investors might largely be investing on an ad hoc basis rather than as part of a municipal sustainability agenda with clear goals and a pathway for reaching them.

This conclusion needs to be understood in the light of the fact that many of our interviewees expect increased investment needs over time, for both opex and capex. Some municipalities predict an increased need for investments, for example, in infrastructure, public transport, schools and elderly care. Several investors described outdated infrastructure in many municipalities that will require substantial investments in the years to come, not just to be in line with sustainability aspirations, but to allow continued use. The investors in our study generally agree that considerable amounts of external capital will be required for the sustainability transition, and that municipal demand for lending will increase.

Linked to this is our observation that there doesn't seem to be enough – or encompassning enough – national guidelines, frameworks or coordination on how Swedish municipalities should work to achieve sustainability, Agenda 2030 or climate neutrality. Swedish municipalities often draft frameworks and indicators for themselves. This can make for a more unpredictable investment environment, as it may be more difficult to predict the direction and pace of municipalities' future sustainability efforts.

- We suggest that all levels of Sweden's public administration conduct a comprehensive review of the financing needs that stem from the sustainability transition to ensure that Sweden is not investing insufficiently for future generations, and to better assess how the private capital market can support municipalities' sustainability ambitions.
- We suggest that the Swedish government develop a shared national view on how Agenda 2030 translates to Swedish municipal circumstances, and that national coordination on sustainability and climate neutrality is improved.

2. Improve coordination between sustainability and finance departments

It is clear that the required transition involves not only new capital, but also organizational support. The interviewees identified a disconnect between some of the sustainability-based projects and finance departments. In some municipalities, groups working on implementing specific technologies or projects have little or no contact with the finance department, which could secure funding for them. This silo effect was also highlighted by investors. It is a potential bottleneck not only to achieving more ambitious sustainability-related goals, but also to having relevant conversations with external investors.

- We suggest that municipalities strive for more internal coordination, communication and skill-sharing between sustainability and finance departments, to enable an informed conversation about funding needs and how private sector financial actors can best be involved.

3. Make municipal sustainability investable

As described above, the significant investment requirements for the sustainability transition are likely to increase municipalities' demand for external capital. There are also many willing investors. At the same time, however, our study has highlighted a number of challenges in matching investment supply and demand that are all interlinked.

First, a major barrier to more external capital being directed to municipalities is the lack of investable projects and assets. Sometimes, the issue may be that the municipality has not sought to identify existing assets as green or sustainable, or perhaps not aimed to innovate or develop new assets with sustainability in mind. Sometimes, the issue is rather that the projects are too small to be bankable for investors. This is often the case with social impact bonds, which might benefit from being bundled together—if more of them were available.

Second, municipalities do not seem ready for financial innovation. It is clear from our interviews that, even if they have issued green bonds, most do not feel ready to embrace social or sustainability bonds, and even less so social impact bonds, which were described by many as too complicated or even too academic. The municipalities in our study were generally hesitant about our proposal for a novel instrument, a sustainable city bond framework, while investors were more positive.

Third, risk is an important element in this context. Our study highlights the need for capital with a higher risk-appetite, or to find ways to de-risk projects to make them fit the risk profile of pension funds and other institutional investors. A report by the Swedish Climate Policy Council adds that there are "compelling reasons why the state sometimes needs to be involved in (co-)financing climate initiatives, which is most evident when it comes to public infrastructure".[23]

As noted above, there is a range of options, from a green investment bank to PPPs or service solutions. These are not new ideas, but they clearly need to be explored further.

- We suggest that municipalities, investors and other relevant stakeholders engage in a dialogue about how municipal investment needs can be made investable, including how investments can be de-risked, scaled-up and better defined.

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23 Swedish Climate Policy Council (see note 5)

Stockholm Environment Institute (SEI) is an independent international research institute founded in 1989. Its mission is to support decision-making and induce change towards sustainable development around the world by providing integrative knowledge that bridges science and policy in the fields of environment and development.

Mistra Center for Sustainable Markets (Misum) is an interdisciplinary research center at the Stockholm School of Economics focused on sustainability with competences in economics, finance, sustainable development, business leadership and innovation. Its aim is to develop rigorous knowledge around how markets may best be advanced to support the transition towards sustainable development.

Cleantech Scandinavia is a Sweden-based firm that promotes Nordic and Baltic cleantech innovations. In addition to providing cleantech-related investment opportunities and business intelligence to an international member network of investors, industrials, and cities, Cleantech Scandinavia has a research and consultancy arm with a focus on impact assessments and calculations of avoided emissions.