The Urban Lab of Europe!

THEORICAL BACKGROUND

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Final report - Innovative financing schemes in European cities

See on UIA website

Financial schemes have long been a cornerstone of the private sector, driving innovation, growth, and sustainability. As cities face resource constraints and traditional funding sources become insufficient, urban policymakers, practitioners and stakeholders are increasingly seeking to adapt and implement financial schemes within the public sector to do more with less in tackling urban development challenges. Recognising the growing need for financing bold and innovative solutions in cities to tackle multi-faceted and complex challenges, and the increasing importance of innovative funding solution in this process, the objective of this report is to shed light on the need for innovation in finance to address new urban challenges; to further understand the concept of innovation in public finance and their application at local level; to better grasp the opportunities and challenges associated with their use; and to determine the factors that may contribute to their success in different sectors of sustainable urban development. This inception report, developed on the basis of a literature review, is part of a comprehensive study examining innovative financing schemes (hereafter referred as IFSs) used by projects funded through the Urban Innovation Action (UIA) initiative. The goal of this study is to identify and analyse key IFSs that are easily accessible and effective in promoting urban resilience, sustainable development, and social cohesion. By focusing on the most significant and practical IFSs, the study seeks to offer valuable insights into financial mechanisms that can shape more robust, environmentally conscious, and equitable urban environments. In line with the need for innovation in financing EU projects, the study aims to collect, learn from and share the experiences of UIA cities which have successfully developed and used IFSs, in order to inspire urban authorities of EU to seek alternative avenues of funding for their urban challenges.

This inception report and study target urban practitioners, including professionals in urban planning, and related fields working for local administrations and local authority stakeholders involved in urban development policymaking. By examining the IFSs employed in UIA projects, this study aims to provide practical insights, making these innovative financing approaches more tangible for urban practitioners across Europe. As such, the study seeks to indicate how IFS can be adapted in cities of various sizes and to contribute to sustainable urban development strategies by informing future initiatives within the EU regional and cohesion policy framework.

Introduction

Growing need for alternative forms of financing

In recent years, European cities have faced mounting challenges in financing their urban development initiatives through traditional funding mechanisms. The aftermath of the 2008 global financial crisis has significantly constrained public funding sources, making it increasingly difficult for cities to rely solely on conventional funding sources and measures, such as bank loans, mortgages, or grants and subsidies from national governments and the EU (Ulpiani et al., 2023; UN, 2009). This financial constraint comes at a time when EU cities are confronting complex socioeconomic challenges that require substantial investments.

These challenges include (JRC, 2019):

- Lack of affordable housing
- Transportation systems dominated by privately-owned fossil fuel vehicles
- Need for inclusive and accessible social services (education, health, and employment)
- Demographic shifts marked by an aging population, leading to population declines in over half of EU cities
- Threat to social cohesion
- Environmental degradation and urgent need for climate action

To address these complex challenges and build urban resilience, cities are increasingly looking toward Innovative Financing Schemes (IFS). Unlike conventional funding schemes, IFS offer the flexibility and resourcefulness needed to navigate the multifaceted demands of modern urban development and sustainability goals.

IFS adaptation in the European urban context

The adaptation of IFS in the European urban context gained significant momentum through the framework of EU Cohesion policy in the 2000-2006 programming period when Financial Instruments (FIs)[1] were first introduced. These instruments represent a form of support delivered via structures through which financial products are provided to final recipients (European Union law, 2021). FIs are considered an effective use of public funds because they can amplify their impact on the economy by leveraging additional private resources, enabling managing authorities to achieve more with fewer resources (EIB, 2022).

A milestone in the evolution of innovative financing for urban development was the launch of the JESSICA (Joint European Support for Sustainable Investment in City Areas) initiative in 2007. Developed by the European Commission and the European Investment Bank (EIB), and in collaboration with the Council of Europe Development Bank (CEB), JESSICA allowed managing authorities to use some of their Structural Fund allocations to invest in revolving funds, rather than only providing grants (EIB, 2008). This initiative specifically targeted sustainable urban development projects, enabling cities to access a more diverse range of financial tools to support their urban renewal strategies.

The EU's focus on urban areas through its Cohesion Policy and initiatives like JESSICA reflects the growing importance of cities in driving change. With approximately 75% of the EU's population residing in urban areas, cities are epicentres of innovation, particularly in the context of just and green transitions. The concentration of people and industry on a smaller and more manageable scale makes cities particularly compelling as testing grounds for IFS. This environment not only provides a diverse and dynamic setting for implementing IFS in a multi-sectoral approach, but also facilitates the adoption of innovative sustainable urban projects that can be scaled up and applied in other cities (UIA, 2017; ICLEI 2016).

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[1] These financial instruments (FI) include loans, guarantees, equity, and quasi equity.

Definitions

While IFS have become increasingly prominent in funding sustainable urban development, the concept lacks a universally accepted and precise definition. However, despite varying definitions, IFS share the following key characteristics that mark their innovativeness (EIB, 2016; The Global Fund, 2018):

1. Revolving nature: Repaid funds can be reused, fostering a cycle of reinvestment
2. Financial viability: Suitable for projects that generate income or savings, enabling repayment of support
3. Co-investment: Designed to attract co-investment, including from private sources
4. Market development: Can contribute to market development by supporting supply-side initiatives
5. Scalability and replicability: Enable leveraging more funds than traditional schemes and are easily replicable across different EU contexts

6. Complementarity: Can be used alongside or integrated with other EU funding sources or programmes
7. Additionality: Used to fill gaps in traditional EU funding schemes. While complementarity emphasises integration, additionality highlights the role of IFS in providing support where conventional funding falls short
8. Sustainability: Finance projects with the intention of achieving long-term operation and financial sustainability

Based on these principles and attributes, for the purposes of this study, IFS can be defined as:

Creative or novel approaches used by cities and urban practitioners to mobilise, distribute and/or govern the use of funds for implementing sustainable urban development projects. These innovative financing schemes are characterised by their integration of diverse financial sources both public and private and with capacity to leverage private funding. Their emphasis is on collaboration and partnerships among urban development partners, increasing efficiency and long-term economic sustainability of projects.

- Creative and novel approaches refer to original ideas or methods that deviate from traditional practices in the context of urban development, leveraging technologies or Financial Instruments. These approaches may be used in other sectors already and build on traditional financing schemes but are considered innovative if they are not widely implemented by cities yet, are new to a given sector or have added features to enable the funding of sustainable urban projects.
- Cities refer to municipal governments and local administrations that are directly responsible for initiating, planning, and implementing urban development projects.
- Mobilisation of the funds relates to identifying funding sources, attracting investments, fundraising and financing. Distribution of the funds refer to budgeting and funds allocation methods. Governance of the use of the funds relates to legal, regulatory and managerial structures and methods supporting the distribution of funds.
- Urban development partners refer to stakeholders who collaborate with cities in the design, implementation, and financing of urban development initiatives, often through innovative financial schemes that emphasise partnership and the integration of diverse financial sources. These partners may include private sector entities, non-governmental organisations, research institutions, and community groups. They bring valuable expertise, resources, and perspectives to urban development projects, complementing the central role played by cities.

The landscape of IFS encompasses various financial instruments and mechanisms, each serving different purposes in urban development. In the EU context, these can be broadly categorised into two categories: Financial Instruments and additional IFS (see Annex). While already used in the previous programming period 2014-2020, FIs are still considered innovative due to their continued development in generating positive social impact, their ability to attract private investors and new capital while creating multiplier effects and their innovative approach to balancing social impact goals with sustainable returns and risk management.

Each of these mechanisms can be used independently or in combination with others, depending on the specific needs and context of urban development projects. Their success often depends on the careful consideration of local conditions, project requirements, and the capacity of implementing organisations. Moreover, many of these instruments can be combined with traditional funding sources to create more robust and sustainable financing solutions for urban development projects.

This diverse toolkit of IFS enables cities to tailor their financing approaches to specific project needs while promoting sustainability, efficiency, and innovation in urban development. The selection of appropriate IFS depends on various factors, including project scale, risk profile, expected returns, and local capacity for implementation.

Objective

The Urban Innovation Actions (UIA) - an initiative of the EU, launched in 2015, aimed to provide urban areas within the EU with resources to test bold and innovative ideas and solutions to address challenges they face. In practice, the UIA enabled beneficiary urban authorities to develop and implement novel and unproven processes, products and services in real urban settings in close collaboration with key local partners and stakeholders. UIA consisted of 5 calls for proposals, issued between 2015 and 2019, which covered 3-4 topics of the Urban Agenda for the EU. Each selected project was eligible to receive up to a maximum of 5 million EUR of ERDF through co-financing (80% of total project budget). In total 86 projects were selected.

Known as the “Urban lab of Europe”, UIA has been a valuable testing ground for various approaches to addressing urban challenges, including the implementation and testing of IFS. This report presents the findings from a study which sought to capture, analyse and share the knowledge about the potential of IFS to drive urban development.

The study is based on data collected from a survey of 19 cities that implemented IFS under the UIA framework. The survey captured a wide range of quantitative and qualitative data, including the types of IFS employed, their characteristics, objectives, and implementation challenges. To complement the survey, the study conducted in-depth case studies of 11 selected projects. The case studies provided deeper insights into the unique and shared features of the IFS, the factors influencing their success, and the barriers encountered during implementation. They also explored the governance models, stakeholder engagement strategies, and resource allocation

practices that supported these schemes.

The report is structured around a number of predefined research questions (for an overview of the questions and the employed methodology, please refer to Appendix 1) and covers the following topics:

- Types of IFS used in UIA projects and their main features
- Effectiveness of the IFS in driving innovation and addressing urban challenges
- Key factors influencing the design and successful implementation of IFS
- Overview of the resources required and available for urban authorities to design and implement IFS.

IFS used in UIA cities and their main features

What have been the different forms of IFS used by UIA cities?

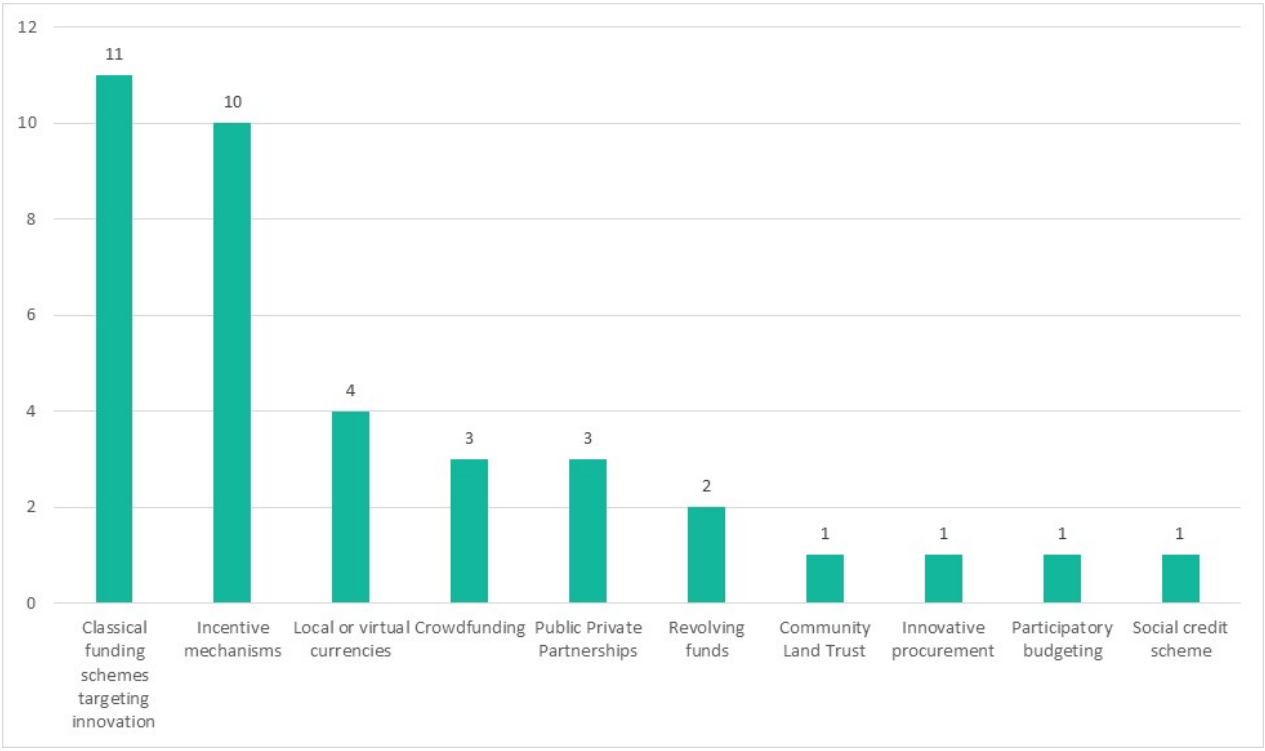
Overview of the IFS used in UIA projects

A screening of all 86 UIA projects revealed that at least 37 IFS have been used by UIA projects (see Figure 1). Classical funding schemes targeting innovation and incentive mechanism were the most popular, followed by local or virtual currencies (please see Appendix 2 for descriptions of the various IFS). A number of projects designed and implemented more than one IFS.

The largest number of IFS were employed in UIA projects in Italy (6), Belgium (5), The Netherlands (5), and Spain (4) (see Figure 2). This could largely be explained by the fact that these countries also boast with the highest number of UIA projects.

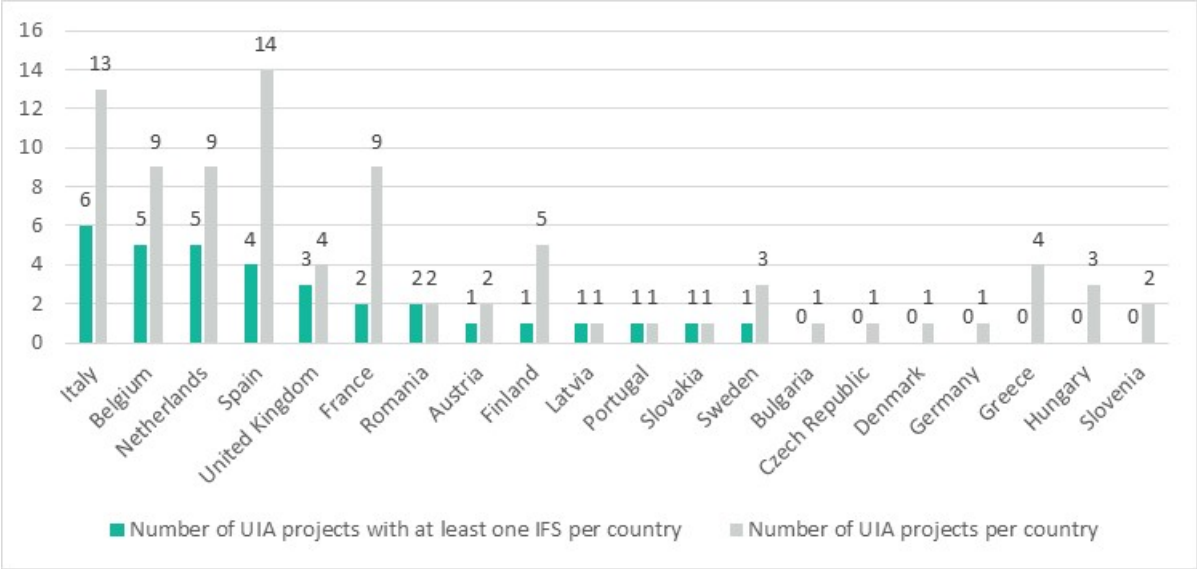
Jobs and skills in the local economy (6), digital transition (5) and air quality (5) were the areas in which the UIA beneficiaries designed and implemented the largest number of IFS (see Figure 3). This could partially be explained by large number of UIA projects in these areas, though projects in popular areas, such as urban poverty and circular economy did not use many IFS. Generally, all UIA topics but one (Demographic change, which had only one 1 UIA projects in this area) were covered by at least one IFS, pointing to their versatility in being applied across different policies.

Figure 1. Number of IFS in UIA projects per IFS type



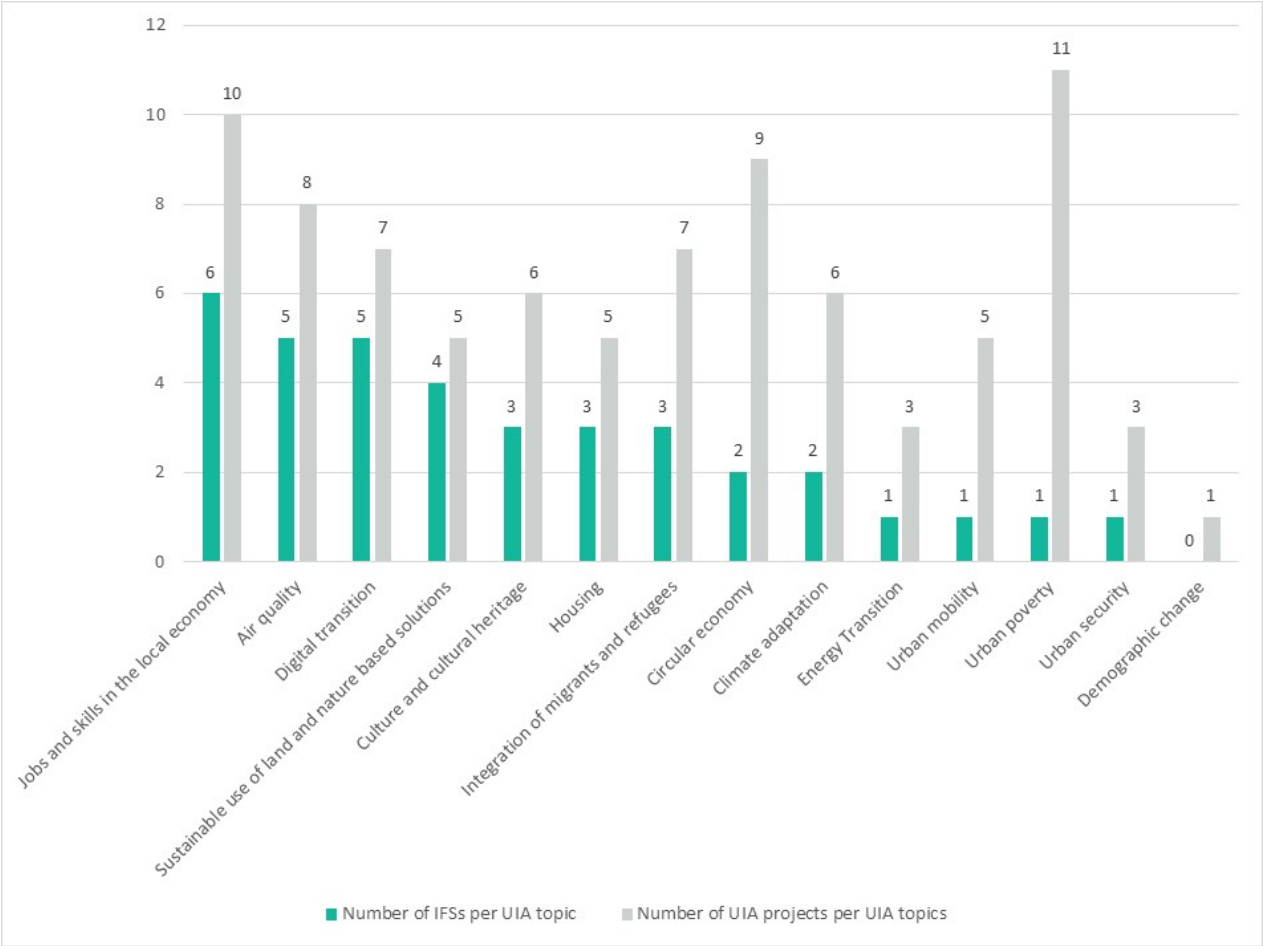
Note: Some UIA projects contained more than one IFS.

Figure 2. Number of UIA projects with at least one IFS per country vs. Number of UIA projects per country



Note: Some UIA projects contained more than one IFS.

Figure 3. Number of IFS per UIA topic vs. Number of UIA projects per UIA topic



To gain a deeper understanding of the use of IFS in UIA projects, the study conducted 11 case studies (for more information about how they were selected, please refer to Appendix 1). The figure overleaf presents them, along with their location, UIA topic and IFS designed and implemented. It is followed by Table 1, which presents the context, challenges they were introduced to address, and their purposes.

Figure 4. Case studies - map

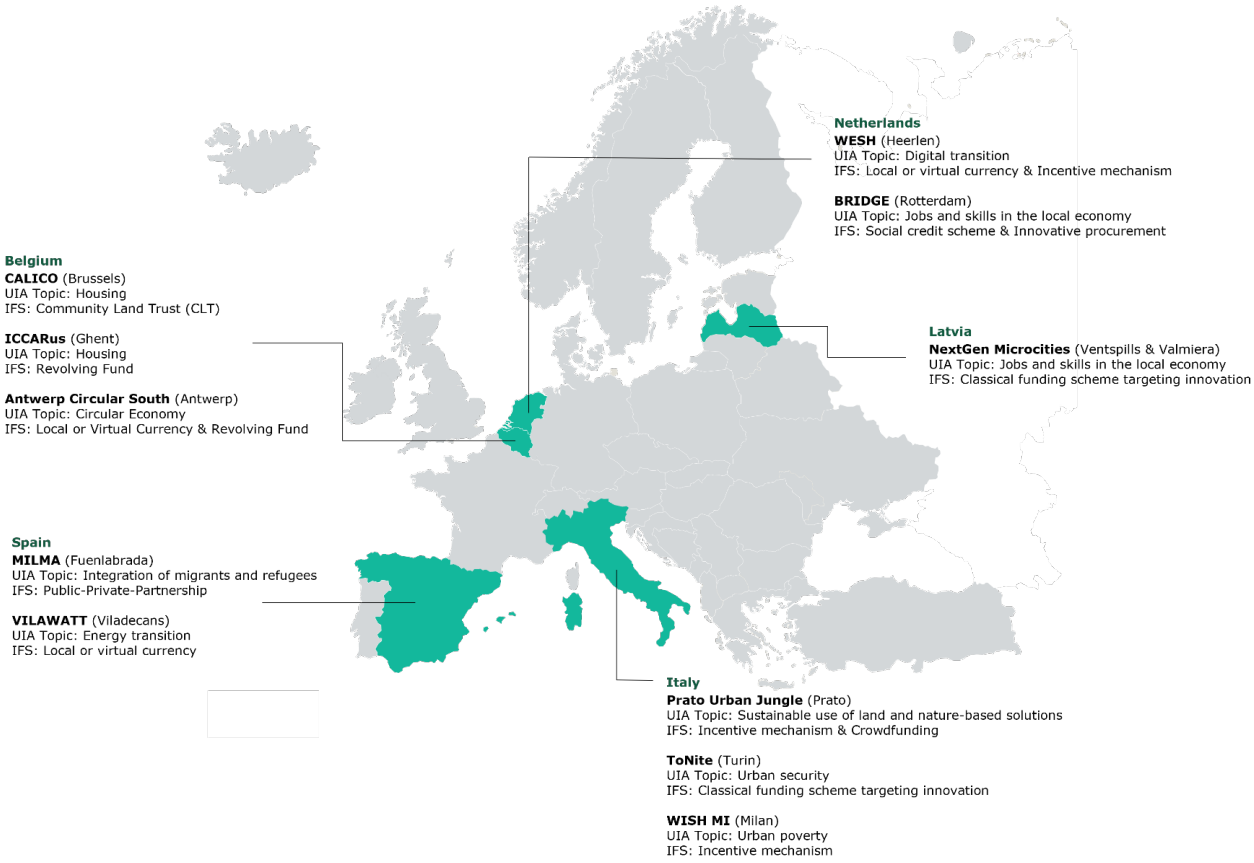


Table 1. Overview of the context, challenges the IFS were designed to address and their purpose

IFS case study	Context & challenges the IFS were designed to address	Purpose of the IFS
NextGen Microcities Classical funding scheme target	The cities of Ventspils and Valmiera in Latvia face significant labour shortages, which are limiting their economic prosperity and growth potential. This has resulted in a skills gap, particularly in ICT and other technical sectors. Innovation is staling, business expansion is hindered, and attracting new investments is becoming increasingly difficult. Additionally, there is a lack of comprehensive career development support for students and adults alike. Few young people pursue careers in STEM fields, and adults require retraining to develop digital skills.	The ZILE Programme serves as a targeted local grant scheme specifically designed to stimulate innovation. Its purpose is to support local businesses, start-ups, and entrepreneurs by providing funding, educational resources, and expert guidance. By doing so, the programme aims to not only drive innovation but also create new job opportunities and facilitate the digital transformation of the local economy.

ing innovations	Case study	Context & challenges the IFS were designed to address	Purpose of the IFS
	To-nite	The city of Turin aims to tackle the challenge of improving urban safety perception, particularly during nighttime. Traditional urban services and public spaces are primarily designed for daytime use, but recent lifestyle trends have resulted in increased number of cultural, economic, and civic activities during nighttime. This shift has created new security challenges that conventional urban safety policies struggle to address effectively.	The To-nite project established an innovative grant-based funding mechanism through a call for proposals combining traditional funding with 20% community co-financing, capacity-building support, and data-driven tools to help NGOs and small non-profits improve nighttime urban safety and liveability, transforming a classical funding mechanism into an effective instrument for sustainable urban innovation.
Community Land Trust (CLT)	CALICO	The Brussels-Capital Region faces a significant and ongoing housing crisis, largely driven by a shortage of social housing. This is made worse by the sharp rise in real estate prices and rents over the past decade, making housing increasingly unaffordable for many. Several vulnerable groups are disproportionately impacted by the housing situation, including the elderly, women, migrants, and low-income families. The housing crisis is further exacerbated by the issue of low-quality housing. These challenges highlight the need for urgent improvements in the existing housing stock.	The CALICO CLT introduced an innovative governance model for community managed housing, allowing future residents to participate in the decision-making process. The model also ensures financial accessibility by separating land ownership from building ownership, coupled with mechanisms like resale price restrictions to prevent speculative resale and ensure long-term housing affordability.
Crowdfunding	Prato Urban Jungle	The city of Prato struggles with several issues, including poor air quality, the heat island effect, social exclusion, and deteriorating urban environments. At the same time, Prato hosts a number of abandoned industrial sites throughout the city, which could be revitalised, tackling these issues.	Prato Forest Jungle introduced a new strategic crowdfunding approach though a specifically developed platform for urban planning. The platform enables active participation from citizens, local businesses associations, and local actors, empowering them to directly contribute to the reforestation and the maintenance of the city's green spaces. The platform provides information on how to collaborate with the Municipality, allowing individuals to support urban forestry interventions through donations or by proposing new forestry initiatives themselves.
	Prato Urban Jungle	See description under Crowdfunding.	PUJ partnered with greenApes, a digital platform designed to engage users and reward them for sustainable activities. The app aims to create incentive mechanisms, including economic rewards, to encourage citizens to adopt eco-friendly behaviours, supporting the city's transition to a low-carbon economy. The platform encourages such behaviours through gamification and offers real-life rewards from local producers, such as organic farmers, local stores, and sustainable brands.

IFS Incentive mechanism	Case study	Context & challenges the IFS were designed to address	Purpose of the IFS
	WESH	Located in a former coal-mining area of the Netherlands, Heerlen is experiencing a myriad of socio-economic issues typical for cities which were once heavily dependent on a single industry. Since the closure of the state mines in the 1960s and 1970s, Heerlen has seen high unemployment rates, resulting in a shrinking population. This has also resulted in an increased acreage under the responsibility of the urban authority's maintenance department due to the demolition of housing units. The municipality has thus struggled to keep up with the rising costs of maintaining public spaces as they have grown in size, while the available maintenance budget has shrunk.	To encourage civic engagement, improve the quality of local public spaces and stimulate the local economy of retail and hospitality, the municipality of Heerlen, together with its partners set out to develop a platform where citizens can pick and complete various maintenance tasks (e.g. painting benches) around the city in exchange for a reward - a virtual currency. This currency serves as an incentive mechanism and can be used solely in various local businesses.
	WISH MI	Milan faces several key challenges, including income inequality and unequal access to opportunities. Child poverty, coupled with social isolation and weakened community networks, further complicates access to education and well-being services. The fragmentation of resources and limited use of digital technologies hinder the effective delivery of services. Additionally, the city struggles with the integration of immigrant communities.	WISH MI introduced an incentive mechanism in the form of a digital voucher scheme to enable equitable access to services offered by profit and non-profit organisations. The scheme aimed to shift the public administration's role from being a direct service provider to facilitating a network that connects resources both inside and outside the municipality.
Innovative procurement	BRIDGE	The city of Rotterdam sought to address the challenge of skills gaps in a changing economy and labour market, with a focus on supporting disadvantaged youth to gain employment on completion of education. A key challenge was to successfully engage diverse target groups (young people, teachers, parents and employers) in a collaborative process, while also developing ways to fund related support activities into the future.	BRIDGE set up a framework to the use of fines arising from an innovative procurement scheme enabled by a legal obligation of the Netherlands. The legal obligation requires all municipal service providers with a contract value of €50,000 or more, to spend 5% of the total contract value on employing people in receipt of social welfare. Fines for non-compliance with this social return obligation were used to support disadvantaged youth to enter employment in BRIDGE
	Antwerp Circular South	The City of Antwerp is challenged by the way its energy is produced and consumed. Most of it is produced externally, making it highly dependent on fossil fuels, and most residents do not pace their energy (heat, electricity, and water) consumption – leading to significant energy waste.	Antwerp set out to transform consumption patterns by encouraging sustainable behaviour among residents by introducing a reward system (using a virtual currency) for reducing energy consumption, waste generation and water use. Participants who improved their performance, were rewarded with free access to various municipal facilities (e.g. swimming pool).

IFS	Case study	Context & challenges the IFS were designed to address	Purpose of the IFS
Local or virtual currency	Vilawatt	The city of Viladecans, Spain faces an urgent need to accelerate its energy transition. With most of the housing stock constructed before the 1970s, the city's homes operate well below modern energy efficiency standards, contributing to significant waste and higher emissions levels. Progress in housing retrofitting remains stalled, largely due to private sector reluctance over perceived financial risks. This issue is particularly pressing in low-income communities, where the need for intervention is greatest, as these areas often face higher rates of energy poverty.	The project introduced a local energy currency, the Vilawatt, to i) capitalise on energy savings from the building renovations; ii) promote sustainable behaviour by reducing energy consumption and CO2 emissions; iii) raise awareness among citizens about the importance of the energy transition; and iv) stimulate the local economy, as it could only be used there.
	WESH	See description under incentive mechanism.	See description under incentive mechanism.
Public Private Partnership (PPP)	MILMA	Fuenlabrada, a young working city in the southern metropolitan area of Madrid, has experienced rapid population growth due to significant national and international migration over the past four decades. The city faces high unemployment, particularly among lower-skilled young people. Fuenlabrada's key challenge is integrating those at risk of social exclusion, especially the unemployed.	The municipality developed an IFS - a public-private partnership designed to foster employment and integration for locals and migrants. The PPP brought together public entities and companies to test an experimental training process linking companies facing challenges in recruiting trained staff and people seeking employment. This approach aimed to generate job opportunities while promoting social integration.
	ICARus	Ghent experiences a significant shortage of affordable, quality housing for its low-income residents. Many of them are "captive residents" - residents stuck in unsafe, poorly maintained, and energy-inefficient homes. They often lack the financial means, or the social support needed to renovate their properties, leaving them in deteriorating conditions. This situation not only affects their living standards but also leads to social isolation and stigma.	The IFS set out to enable renovations of the houses of captive residents by providing a grant to those residents that needed financial support for renovations. Once the renovated house is alienated (i.e., house is sold, rented, or the owner dies), the money invested into the renovations comes back to a revolving fund that is used to renovate other houses. If the owner cannot repay immediately (e.g., the house is rented or inherited), the Public Centre for Social Welfare arranges a monthly repayment plan.

volving fund	Case study	Context & challenges the IFS were designed to address	Purpose of the IFS
	Antwerp Circular South	See description under Local and virtual currency.	Residents had the opportunity to enter into a neighbourhood energy cooperative. They could invest in the installation of solar panels and become part-owners by purchasing shares. Energy produced that is not used locally is sold. The income from this sale was intended to be used by the cooperative to re-invest in new, sustainable projects, such as charging stations for electric vehicles and bikes, electric share-cars and communal gardens.
Social credit scheme	BRIDGE	See description under Innovative procurement.	Rikx (Rotterdam Impact Keys) 'social coin' (as it is locally known) was conceived and developed as part of the BRIDGE project. Inspired by the system of carbon trading or the purchasing of carbon credits, Rikx is a virtual currency that converts the impact that social entrepreneurs make (supporting people to enter the workforce) into value. Anyone can invest in Rikx but it is particularly useful for companies with a social return obligation who do not have the capacity to directly employ people far from the labour market, since it provides them with an alternative way to fulfil this obligation by instead investing in one of the Rikx projects.

Key features of the IFS used in UIA projects

While IFS vary significantly from one another, the case studies revealed some common features among them. The most relevant ones are presented below:

- Virtually all IFS were designed and implemented by relatively large consortia made up of diverse stakeholders – e.g. municipalities, NGOs, academic organisations, private companies, national agencies, etc. This allowed municipalities to overcome barriers such as budget constraints and insufficient capacity while gaining new insights from their partners. This also led to a sense of shared responsibility, which could be associated with a perception of reduced risk and an increased willingness to experiment. Additionally, the IFS also necessitated regular interactions between departments within the municipalities, which do not typically work together. In general, the design and implementation of IFS required close and collaborative relationships between all stakeholders. This was echoed in interviews with key stakeholders in the EU urban context, which noted that IFS facilitate new forms of collaboration among various stakeholders in the city, promoting a less top-down approach and encouraging joint decision-making. These new collaborative frameworks allow diverse perspectives and new ideas to be incorporated into city-level discussions.
- Contrary to most traditional funding schemes, citizens were often engaged in the design and subsequent improvement of IFS. Interviews with local practitioners reinforced this point by adding that IFS empower other actors to participate actively in the city-making process, which can lead to the development of innovative ideas and solutions. This participation is particularly significant in projects related to urban commons—goods that are typically publicly owned but valued by the community. The involvement of citizens in the design and implementation of projects could also strengthen community engagement and ownership. As an example, CALICO of Brussels and WESH in Heerlen (the Netherlands) point to the fact that community engagement is crucial in ensuring the success of IFS:

Case study	IFS	Example
CALICO	CLT	Public support and community engagement were essential in ensuring that CALICO reflect local needs and priorities. Through direct involvement, residents and community members actively participated in shaping decisions related to housing, land use, and affordability, ensuring that these decisions align with the specific needs of the community.
WESH	Local /virtual currency	Citizens were consulted and ultimately shaped the tasks offered on the digital platform – i.e. through focus group discussions, it was determined that the initial set of tasks were not suitable for citizens who were unable and not skilled enough to perform the painting jobs. As a result,, some additional cleaning, caretaking and surveillance tasks were added.

- The case studies revealed that some IFS prompted municipalities to adopt new roles by collaborating with partners to deliver services, which would traditionally be considered within their jurisdiction. In this way, rather than tackling an issue on their own, they "outsourced" some of the steps and responsibilities to stakeholders, who possess the skills and expertise to deliver the services to citizens, leading to a shift in the role of public administration. This shift can offer several benefits, including more inclusive governance models that involve diverse actors in the decision-making and service delivery processes, potentially boosting the local economy. Moreover, leveraging external expertise can lead to more innovative and efficient solutions to urban challenges. However, the municipality must achieve the right balance between delegation and responsibility, making sure there is not excessive reliance on external actors. WISH MI in Milan, and To-nite in Turin provide examples of these changes taking place in the municipality:

Case study	IFS	Example
WISH MI	Incentive mechanism	The digital voucher scheme aimed to shift the public administration's role from being a direct service provider to facilitating a network of NGOs and other non-profit organisations to deliver services to minors from low-income households.
To-nite	Classical funding scheme targeting innovation	The city of Turin ran a call for proposal for NGOs and non-profit organisations to apply and if selected, deliver projects that offer innovative solutions for improving nighttime safety and liveability. This resulted in delegating the implementation of these urban safety projects to another party.

- As IFS often presented novel ideas, extensive and careful communication proved to be key. To be successful, they depended on reaching a critical mass of users, further underscoring the need to engage with potential users. Some IFS also targeted marginalised groups, who faced more barriers in using the IFS, and had specific concerns, further necessitating the design of a well-tailored communication strategy. As an example, Vilawatt in Viladecans and BRIDGE in Rotterdam used effective communication strategies to launch their IFS:

Case study	IFS	Example

Vilawatt	Local/virtual currency	The concept of a local energy currency was quite novel for residents, requiring extensive community engagement efforts to explain its basic mechanism, demonstrate its practical value, clarify its relationship to conventional money, illustrate the connection between energy efficiency and currency rewards, and build trust in the system's security and reliability.
BRIDGE	Social credit Scheme	Encouraging companies to invest in the social credit scheme Rikx was difficult initially, as it was challenging for them to grasp the concept of an intangible currency, which can be used to support social projects.

- Digital platforms: Several IFS used digital platforms and blockchain technology, which required the involvement of skilled technical experts and the employment of simple and intuitive designs. This highlights the need for capacity building within local authorities, enabling them to learn about and manage these new innovative technologies. In addition, it reinforces the need for partnerships, as the integration of such platforms often require expertise and resources that extend beyond the capacity of the municipality. By working with partners, local authorities can use the technical expertise to deliver its projects. WESH and WISH MI both used blockchain technology and digital platforms:

Case study	IFS	Example
WESH	Local/virtual currency	The IFS relied on a digital platform, which was created by applying Blockchain technology. It had 3 main features: a mobile app for citizens (to find tasks and commit to a task), a web application for local businesses (to receive payments) and a municipal dashboard to upload and control tasks.
WISH MI	Incentive mechanisms	The digital voucher scheme (i.e., the IFS) required to have a digital platform developed. This resulted in the development of the Milan 0.18 Catalogue - an online platform designed to consolidate public and private activities for children and teenagers in Milan. It includes offerings from both profit and non-profit organisations and it featured five categories: Art, Health, School+, Sport, and STEM.

As discussed later in section 3.3.1.1, diverse consortia, citizen buy-in and good communication are also key enabling factors that contribute to the successful design and implementation of IFS.

Effectiveness of IFS in innovative practices

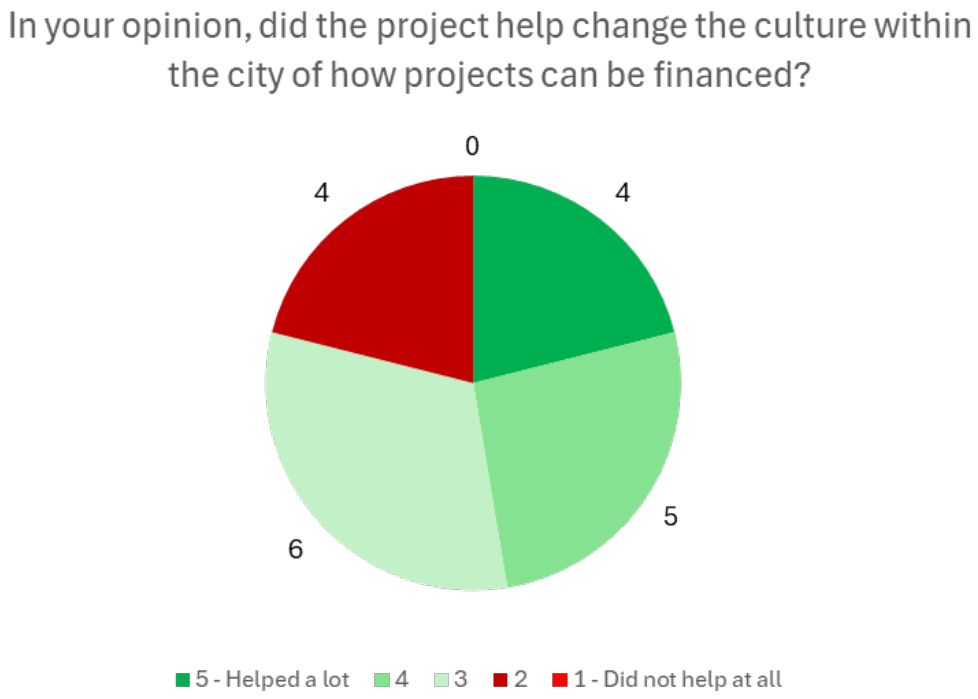
Have IFS produced meaningful practices of innovation?

The findings from the case studies show that IFS have the potential to produce meaningful practices of innovation in cities. These schemes introduce a variety of new funding mechanisms, management approaches, and implementation strategies, allowing cities to explore novel ways of addressing urban challenges in innovative and effective ways.

By definition, IFS drive innovation within city administrations by introducing new approaches to how public funds are mobilised, distributed, and governed. As city governments enter a new era of public sector innovation, they are embracing experimentation and flexibility within their operations while also seeking to engage citizens in new ways and enhance overall community well-being[1].

By rethinking the use of public finances in these ways, cities can strengthen their innovation capabilities, ultimately leading to more

Figure 5. Effectiveness of IFS in changing the culture within cities



Note: 19 respondents replied to the question. Surveyed cities were asked to rate on a scale of 1 to 5 [1 - Not at all; 5 – Yes, very much so]

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[1] OECD (2019), Enhancing Innovation Capacity in City Government, OECD Publishing, Paris,

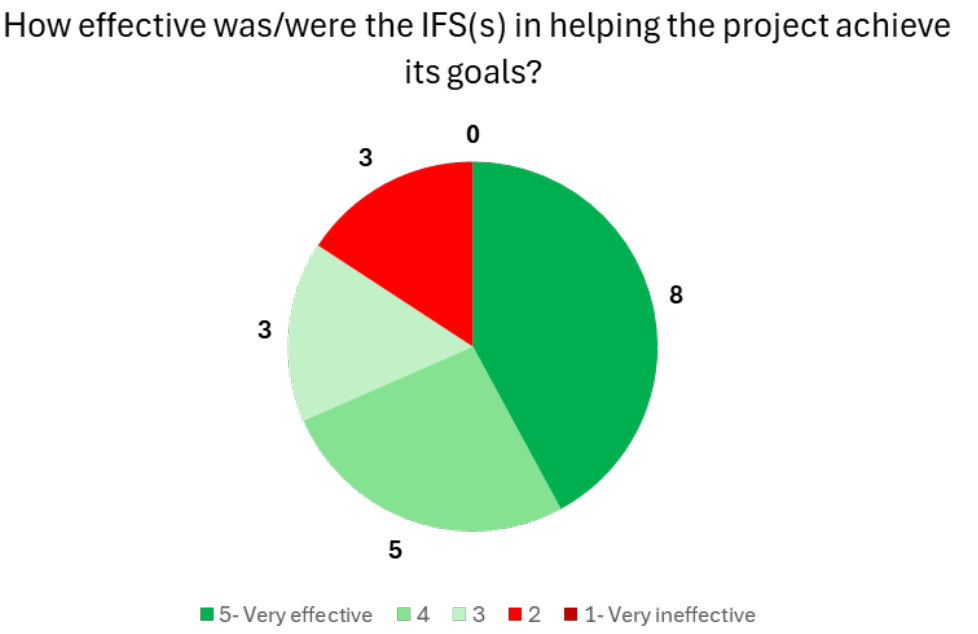
https://doi.org/10.1787/f10c96e5-en.

Have IFS influenced the achievement of expected results in urban development?

Assessing the extent to which the IFS achieved their goals

A survey conducted among some UIA projects shows that IFS are perceived as successful across UIA cities, with 16 out of 19 respondents reporting that the IFS were effective in helping the project achieve its goals (Figure 6). While 3 cities rated the IFS as "ineffective" based on their self-reflection, further analysis suggests these outcomes may reflect broader project implementation challenges rather than limitations of the financial scheme itself.

Figure 6. Effectiveness of IFS in helping the project achieve its goals



Note: 19 respondents replied to the question: "How effective was/were the IFS(s) in helping the project achieve its goals?" Surveyed cities were asked to rate on a scale of 1 to 5 [1-Very ineffective; 5 – Very effective]

The UIA case studies offered an opportunity for a more in-depth look at the effectiveness of the IFS. UIA cities were required to establish key outputs tied to distinct work packages regarding all aspects of the projects' implementation including the use of IFS when applying. Each work package represented a key project component with its own set of measurable outputs, allowing cities to track progress and assess performance. This structured approach to monitoring and evaluation ensured that the IFS components, alongside other project elements, were effectively measured against predetermined targets, providing a clear framework for assessing both the financial schemes and their contribution to broader project objectives. Based on this information and interview with project coordinators, the following conclusions were reached:

- The innovative PPP model of the MILMA project successfully met and even exceeded many of its objectives. Key achievements included increased levels of immigrant participation in training, increased perceptions of social and labour inclusion, and strong outcomes in skills acquisition and job placements. While the pandemic presented challenges, resulting in fewer job placements (182 vs. 196 targeted) and lower business creation (10 vs. 15 initially targeted)[1], the project adapted by transitioning trainings online and reorganising participant groups. Ultimately, MILMA was able to support 500 participants out of the planned 580, demonstrating both flexibility and resilience in its commitment to achieving meaningful impact.
- The classical funding scheme targeting innovation employed in NextGen Microcities ZILE Programme successfully advanced the project's goal of fostering local companies and entrepreneurship growth. During the project's implementation, it exceeded its initial target by supporting 17 projects, compared to the 10 originally planned, highlighting its effectiveness in nurturing local business development and innovation.
- The CALICO Community Land Trust met its objectives, achieving nearly all target outcomes. Through the purchase of land and common spaces by the Public Utility Foundation Community Land Trust Brussels (PUF CLTB), the project delivered 34 affordable housing units as planned. Key results included a high resident satisfaction rate, with residents feeling their views were considered in project development and noting significant improvement in quality of life since joining CALICO. Additionally, residents reported spending less of their income on housing.
- The incentive mechanism (greenApes digital app) used in the Prato Urban Jungle project met its objective of encouraging citizens to participate in various eco-friendly activities. It also exceeded its engagement target, reaching 33 local companies and cultural institutions, compared to the original target of 15.
- BRIDGE's innovative procurement achieved all the targets it had set out at the inception of the project. Although no specific quantitative objectives were set for SROI-related funding, the project accomplished its intended goals. The social credit scheme, which was developed as part of BRIDGE met its target of developing a social coin (Rikx) to place a tradeable value on the social impacts made by social entrepreneurs. Rikx is well-received and used by social entrepreneurs as a way to fund their work. While the scheme continues in a pilot phase beyond BRIDGE's conclusion, it remains well-aligned with the project's overarching objective of reducing youth unemployment in Rotterdam.
- The To-nite grant allocation (classical funding scheme targeting innovation) has helped the project's objective of social innovation in its target neighbourhoods, tackling urban security through novel night-time initiatives. During the project phase, the programme supported 19 projects, which met its initial goal.
- The VILAWATT local or virtual currency (Vilawatt energy currency) aimed to establish a blockchain-based energy currency to promote sustainable energy practices. Although initial targets for household adoption, business participation, and transaction volume were only partially met during the project's phase, the currency gained strong momentum afterward. To date, the Vilawatt currency has 4,600 registered users, with 114 local shops accepting it.
- WESH's incentive mechanism was largely successful in meeting the objectives set out, surpassing several targets. The IFS was designed to engage citizens in public space maintenance through a digital app, incentivising participation with rewards. Notable outcomes included the crowdsourcing of 1,818 man-hours for public space maintenance—a significant increase to the initial target of 150 hours—and a 99% validation rate[2] for tasks completed on the app, exceeding the 90% goal.
- WISH MI's incentive mechanism proved to be effective in meeting its objectives, resulting in substantial improvements in service access for impoverished households. Notably, the project successfully enhanced awareness among these households about available city services and significantly increased participation in early childhood education and afterschool activities for vulnerable students. The WISH MI platform expanded its offerings, providing a wide range of services tailored to youth, while also ensuring that all service providers received proper training in the platform's protocols. Additionally, the platform experienced a rise in user engagement, indicating its effectiveness in connecting community members with essential resources and support. Overall, the initiative made significant strides in fostering greater access to services and enhancing the well-being of the community.
- The revolving fund used as part of the ICCARus project proved highly successful in sustaining housing renovations. To date, 92 houses have been renovated, all showing improvements in both living conditions and energy efficiency. Notably, energy performance improved by 227 kWh/m²/year—more than double the target of 90 kWh/m²/year. Additionally, CO_2 emissions were reduced by 5,406 kg/year per house, vastly surpassing the target of 250 kg/year. These outcomes highlight the project's effectiveness in achieving and exceeding its sustainability goals.

In general, it can be concluded that many of the IFS were successful in contributing to the overall objectives of the projects. Their effectiveness was largely influenced by a number of success factors and obstacles (see section

3.3.1.2).

Nonetheless, not all IFS achieved their objectives fully. Below several examples from the case studies are presented.

- The Antwerp Circular South's digital currency (Circules) set out to operationalise a blockchain-based reward and exchange system, which was achieved. However, the overall impact on the neighbourhood has been limited in terms of boosting sustainable behaviour, as only 39 people took part in the experiment. Nonetheless, it lays the groundwork for a scalable methodology that can support the broader transition to more sustainable practices – e.g. the app designer made the app available for all interested Belgian resident.
- The incentive mechanism of WESH did not meet some targets, such as the engagement of registered users in the app, with only 13% of them being active on it compared to the 85% target. Similarly, 84% of posted city maintenance tasks were completed, falling short of the 95% goal, and only 1% of the local population aged 18–65 registered on the app, below the 5% target. Moreover, one of the general goals of the IFS was to boost social cohesion and well-being, however, no significant changes were recorded. The latter may suggest that some of the expectations of what the app can achieve.
- The crowdfunding platform - Prato Forest City designed and launched its web platform where citizens can donate and have a say in the management of urban green spaces, achieving its main objective of creating a new governance model for such spaces. It was established to facilitate the involvement of a broad range of local actors in the municipality's green and reforestation plans. No specific donation targets were set for citizen or company contributions, making it challenging to assess its effectiveness. Nonetheless, while the platform facilitated community involvement in green space initiatives, the platform experienced challenges reaching a critical mass of donors.

Sustainability of the IFS

The long-term sustainability of IFS serves as an important metric when evaluating different financial schemes and considering whether to replicate them. Sustainability also plays a role in the decisions of both public and private funders, as they seek to ensure that projects are not short-term, one-off initiatives. Funders are particularly concerned with projects that offer lasting value and impact, rather than isolated efforts. It is essential that investments support initiatives that continue to deliver benefits over time, providing long-term solutions. These schemes should also inspire other cities to adopt similar approaches, demonstrating their broader applicability and enduring relevance.

The survey results reveal that 12 out of the 19 surveyed UIA projects have maintained their IFS beyond the UIA project period, demonstrating potential for sustainable urban financing solutions. This continuation rate demonstrates the potential of these financial schemes to evolve from experimental initiatives into established instruments within municipalities. This transition from pilot to permanent status is particularly significant as it validates both the practical viability of innovative financing approaches and their ability to become integrated components of cities' long-term strategies. Of the 7 projects that did not, 4 indicated that they were planning to do so in the future and 3 did not. The latter was explained by budgetary constraints within the municipality and the fast pace of technological development, which require investments.

The case studies have helped shine light into how some of the IFS have been sustainable in the longer term (see Table 3 for examples). They suggest that their sustainability is influenced by several factors:

- Strong political commitment and strategic alignment are proven crucial, as exemplified by VILAWATT's integration into the Viladecans 2030 Strategy, which positions the project as a key driver for achieving climate neutrality.
- Self-sustaining financial mechanisms play an essential role, allowing IFS to leverage additional funding and create revolving financial mechanisms. This means that funds can be reused or reinvested, ensuring the longevity of the initiatives beyond the initial investment and promoting financial sustainability. As demonstrated by ICCARus's revolving fund, which has been extended to 2026 and shows early success in repayments supporting future renovations.
- The transitioning to new funding sources emerges as another key theme in IFS sustainability. Many projects have successfully transitioned from initial EU-UIA funding to alternative support mechanisms. This transition takes various forms, from municipal support, as seen in MILMA's and WESH's case, to integration with national funding streams, as demonstrated by WISH MI's access to a relevant national fund.

The table below presents examples of IFS that have managed to continue operations after the UIA project end.

Table 3. Examples of how IFS have been sustainable across UIA projects

Case Study	IFS	Examples of the sustainability of IFS

Case Study	IFS	Examples of the sustainability of IFS
CALICO	Community Land Trust	While CLTs typically require initial grants, their structure is designed to ensure the long-term sustainability by creating a framework that delivers enduring community benefits. By holding land in trust for the community and separating land ownership from property ownership, CLTs can keep homes affordable over the long term.
ICCARus	Revolving fund	The project's sustainability and long-term impact are reinforced by its design, notably through its revolving nature, which allows for continuous reinvestment into home renovations. This scheme, initially developed during the ICCARus project (supported by EU-UIA funding), has been extended by the City of Ghent until 2026. Moreover, the continuation of the revolving fund, an essential mechanism for financial sustainability, has seen early successes in terms of repayments, which will support future home renovation projects.
NextGen Micrcocities	Classical funding scheme targeting innovation	The sustainability of the ZILE programme is evident in its continued success and integration into the local business support ecosystem. The programme's ongoing operation is supported by a robust framework that includes strong political backing and active engagement from local businesses. Local politicians and businesses have demonstrated strong commitment to the programme, recognising its long-term impact on the community. Moreover, the programme's integration with educational institutions and its focus on fostering entrepreneurship among students add an additional layer of sustainability.
MILMA	PPP	The MILMA project's methodology continues on a smaller scale, sustained by the municipality through the municipal budget and the Centre for Training (CIFE), with 1-4 training trainings offered annually. While reduced in scope, political backing of the programme has allowed it to continue to address local workforce needs through partnerships between companies and the public sector.
PUJ	Incentive mechanism	The greenApes App is still running, with citizens continuing to actively engage with the app. The app's reward system is designed to be self-sustaining, relying on user preferences to select available rewards rather than requiring monetary contributions and encouraging ongoing participation. However, maintaining custom content and tailored experiences for the city does require additional funding.
VILAWATT	Local or virtual currency	The sustainability of the Vilawatt currency is strengthened by the integration of the VILAWATT project into the broader strategic framework of the city. The Viladecans 2030 Strategy, adopted in September 2021, positions the VILAWATT project as a key driver in achieving its mission to make the city climate neutral by 2030. This strategic alignment ensures continued political commitment and facilitates resource allocation to the project, and hence the energy currency.
WishMI	Incentive mechanism	While the incentive mechanism is not currently in use, there are plans to reinstate it reflect the city's commitment to using vouchers as a tool for promoting child and youth well-being. The recent allocation of €400,000 from the National Fund ex Legge nr. 285 to support youth participation in sports is a direct continuation of this approach.

Case Study	IFS	Examples of the sustainability of IFS
WESH	Local or virtual currency	The IFS is still in use and the City Council earmarked approximately 200,000 EUR in the municipal budget for ongoing structural improvements, including the operational expenses for the app. This effectively doubled the initial project period. A new project leader was tasked with maintaining the current activities and expanding into additional domains. For the sustainability of WESH on the long term, the municipality of Heerlen is looking for ways to either connect with or integrate the digital currency into ongoing community related projects.

Scalability potential of the IFS

The scalability of IFS represents an important dimension of their long-term success and broader impact on urban development. A scalable IFS demonstrates the capacity to expand its reach, adapt its mechanisms, and increase its impact beyond its initial scope, whether through geographic expansion, increased funding capacity, or adaptation to different contexts. Moreover, scalability enables cities to respond effectively to growing urban challenges while maintaining the efficiency and effectiveness of their financial mechanisms.

According to the survey responses, 18 out of the 19 consulted UIA projects believed that the use of innovative financial schemes can be expanded in other parts of the city and to other projects.

The case studies have helped shine light on scalability of IFS (see Table 4 for examples). They suggest that their scalability is influenced by several factors:

- Digital and technological infrastructure: IFS that rely on technological infrastructure, especially virtual currencies, can be scaled through software updates. For example, Antwerp Circular South, VILAWATT and WESH have the potential to scale by increasing their user base and application features. Currently, Viladecans is working on integrating an Eco-Rating system into the currency.
- Policy and legislative support: Projects with strong policy backing, such as BRIDGE's innovative procurement model in Rotterdam, found scalability easier and secured funding and scaled the project components beyond the target area of Rotterdam South to incorporate the whole of the city as a result of supportive legislation. The latter often brings funding, creates operational consistency, and fosters long-term impact across larger geographical areas.
- Funding: Securing additional funding is key for allowing cities to scale IFS. This was the case of the Rikx model developed in the context of the BRIDGE project in Rotterdam, which won a $1 million prize from Bloomberg Philanthropies. The prize is being used to develop the model so that it can be scaled with the ability to integrate multiple cities across Europe and beyond.
- Adaptability and transferability: IFS with straightforward, adaptable structures—such as the classical funding schemes in NextGen Microcities and To-Nite—were able to scale up by adjusting the scope, audience, or target area without extensive restructuring. Transferable frameworks with proven outcomes, especially those with clear governance and funding structures, can be efficiently adapted to fit local needs.
- Integration with broader strategic goals: Aligning initiatives with overarching strategies and developments (e.g. Prato Urban Jungle (PUJ) and Prato's inclusion in the EU's 100 climate-neutral cities) can play a significant role in their success. In PUJ's case, this generated strong political support from elected officials and the municipality. In general, when IFS are embedded in long-term urban strategies, they align with ongoing city goals and are more likely to receive funding, staffing, and cross-departmental support necessary for scaling.

The table below presents examples of some scalable practices identified among the UIA projects.

Table 4. Examples of how IFS have been scaled across UIA projects

Case Study	IFS	Examples of scalable practices

Case Study	IFS	Examples of scalable practices
ICCARus	Revolving fund	The project's revolving fund model has demonstrated significant scalability potential, both within the City of Ghent and in other cities across Flanders (one of the regions of Belgium). Originally focused on select neighbourhoods and elderly homeowners, the fund expanded to all Ghent neighbourhoods and is now broadening its target demographic. Other cities in Flanders are also exploring adoption.
NextGen Micrcities	Classical funding scheme targeting innovation	In 2022, the programme was successfully expanded across the entire municipal territory, encompassing both urban and rural regions. The expanded programme now features two distinct sub-programmes: one focused on development and innovation projects, and the other dedicated to supporting business idea holders and new start-ups.
To-Nite	Classical funding scheme targeting innovation	Initially implemented in two neighbourhoods, the model is now expanding citywide. New elements of this expansion include a citywide Call for Proposals, an increased budget, and a focus on supporting projects in peripheral areas.
VILAWATT	Local or virtual currency	While the energy currency already covers the entire city and does not intend to expand its geographical scope, the municipality is exploring ways to scale its practical application. Viladecans is currently working on integrating an Eco-Rating system into the currency, which will link it to other important city goals, such as recycling and sustainable practices.
Wish MI	Incentive mechanism	The Municipality of Milan has invested in a digital infrastructure through the WISH MI project that is now integrated into the city's permanent IT systems. This platform, originally designed to match services with the needs of minors and families, is now positioned to be repurposed for other vulnerable groups, such as the elderly or people with disabilities

Replicability potential of the IFS

The replicability of IFS stands as a key consideration in urban innovation, offering cities the opportunity to learn from and adapt successful financing schemes implemented elsewhere. A replicable IFS demonstrates that its core mechanisms, governance structures, and operational frameworks can be effectively transferred and adapted to different urban contexts, albeit necessary adjustments to local conditions. This transferability is particularly valuable in the urban development landscape, where cities often face similar challenges but operate within distinct regulatory, economic, and social environments.

By documenting and sharing successful IFS models, cities can benefit from proven approaches while avoiding common pitfalls, ultimately accelerating the adoption of innovative financing schemes across urban contexts. The potential for replication thus serves not only as a measure of an IFS's success, but also as a catalyst for spreading innovative financial practices across the urban development sector. The successful replication of IFS across different urban contexts depends on several factors that facilitate adoption and implementation. The findings from the case studies highlight the conditions and characteristics supporting successful replication of IFS. These include adaptability and flexibility of frameworks and technologies, existence of regulatory requirements, transfer of the knowledge and evidence of success. They are presented in the table below, along with relevant examples.

Table 5. Factors enabling replicability

Factors enabling for replicability	IFS	Examples
Adaptable and flexible frameworks and technologies	Classical funding scheme targeting innovation	Other cities can replicate the IFS used in NextGen Microcities and To-Nite due to their relatively simple implementation and proven effectiveness by tailoring these schemes to their unique circumstances by modifying key parameters, such as implementation scale, budget allocation, and strategic priorities, ensuring alignment with local needs and resource constraints.
	Incentive mechanism	The technology for the digital platforms used in PUJ, WISH MI & WESH exists, making it easier for other cities to adopt without building a new system from scratch. Moreover, the app's features can be customised to local context requirements. For example, PUJ's app can be used in other sectors, including circular economy, mobility, energy, food, and health. To replicate the project, however, it is very important to work on securing full political commitment and ensuring a sufficient user base.
Existing regulatory requirements	Innovative procurement	In the case of BRIDGE, replicability is facilitated by existing Dutch legislation mandating that companies spend a portion of contract value on social impact activities. The innovative procurement scheme is replicable in other Dutch cities, many of which have shown interest in adopting the BRIDGE model. In addition, the IFS has attracted attention from cities abroad.
	Revolving fund	The revolving fund developed as part of ICCARus aligns with the EU Renewables and Electricity Directives, making it easier for other EU cities to adopt the model under similar regulatory frameworks.
Knowledge transfer networks	PPP	Participation of the project team in knowledge-sharing projects has expanded the reach of the MILMA methodology, allowing other cities like Milan, Sofia, and Halifax to adopt and adapt its innovative PPP through shared knowledge and resources.
	Local/ virtual currency	For VILAWATT, collaboration with other municipalities and coordinated support from the Barcelona Provincial Government provide a structured network for cities to learn about and implement similar local currency initiatives.
	Revolving fund	The success of Ghent's model has inspired other cities in Flanders (Belgium), leading to the creation of revolving funds in cities like Antwerp and Leuven. The Flemish government has even introduced an "Emergency Purchase Fund" (Vlaams Noodkoopfonds), which, while operating differently from the ICCARus model, provides financial support for vulnerable homeowners, with a particular focus on improving energy efficiency. This initiative allows cities with smaller budgets to implement their own independent revolving funds, tailored to local needs. Currently, 6-7 Belgian cities have adopted this model.

Proven success	Factors enabling for replicability	IFS	Examples
		Social Credit Scheme	The BRIDGE project team is working with the city of Warsaw, to support replication of the model in this city. Promising discussions are underway with cities within the Netherlands and across Europe interested in replicating the model. Smaller cities may encounter challenges to replication if they lack entrepreneurs willing or needing to prove social impact for this reason, the project team has developed a ready-to-go-system which can be used by paying a subscription fee.
		CLT	CLTs are growing in number in Belgium. When evaluating the replicability potential of CLTs, several factors need to be considered. The availability of land or the ability to acquire existing residential buildings is crucial. Equally important are the characteristics of the neighbourhood and the feasibility of setting up and managing the housing units.

[1] UIA02-253_MILMA_Fiche Project Closure & Sustainability.

[2] The 99% validation rate refers to the percentage of tasks that were completed and confirmed as satisfactory according to the standards set by the app's verification system.

Which of these IFS are the most efficient and impactful in funding experiments in cities?

The IFS designed and implemented within the UIA projects vary significantly in terms of type and application to the different topics that UIA cities tackled, which makes their comparison difficult. The case studies offered between 1 and 3 examples per IFS and 1 to 2 per UIA topic (with some topics not being covered), which is insufficient to draw any meaningful conclusions. Nonetheless, it is worth mentioning some relevant insights which may be of use to urban practitioners seeking to design IFS explored through the case studies, in particular incentive mechanisms and virtual currency (represented in 3 case studies each) and IFS implemented in the areas of “Jobs and skills in the local economy” and “Housing” (covered in 2 case studies each):

Local virtual currency

Out of the three case studies that looked at local virtual currencies – two sought to encourage and reward virtual behaviour (Antwerp Circular South, Vilawatt) and one to stimulate completion of maintenance tasks around the city (WESH). The experience from these UIA projects shows that, as a fairly novel idea, designing and implementing virtual currencies is challenging, and so is the process for tracking behaviour changes. They require extensive engagement with potential users due to the need to reach a critical mass to make them a viable solution and require a certain degree of digital literacy among the intended users which can represent an additional initial barrier to participation. Before designing virtual currencies, it is important to be mindful of the technical complexity and considerable regulatory hurdles associated with their implementation, as well as the effort on communication activities, and to determine whether they are the most efficient and viable solution given the task at hand.

Incentive mechanisms

Like virtual currencies, incentive mechanisms also varied greatly from one another. WESH used a virtual currency to attract citizens to perform maintenance tasks around the city of Heerlen (the Netherlands); Prato’s GreenApes App offered real-life rewards from local producers, such as organic farmers, local stores, and sustainable brands for engaging in eco-friendly behaviour, and Milan, through WISH MI, made use of digital vouchers to encourage minors from low-income families to attend extra-curricular activities. These examples point to the versatile application of incentive mechanisms and underscore that designing worthwhile incentives, which are attractive

and simple enough to use, is essential for the success of this type of IFS. WESH's example shows that incentives are not the only reason why people performed the maintenance tasks – they were also motivated by the social aspect of the group activities and a desire to make their living environment more pleasant. This suggests that while important, incentive mechanisms are only one aspect of an intervention.

Housing

Brussel's CALICO and Ghent's ICCARus projects both delt with housing issues – the former with the lack of affordable housing and the latter with poor quality of housing. In practice, CALICO demonstrated the successful delivery of a CLT. With 112 CLTs and 7 more in development in Brussels alone, they are viewed as a good way to provide affordable, resident-controlled housing while fostering stronger, more resilient communities. ICCARus' revolving funds set out to enable renovations of the houses of residents of limited means (to improve their living conditions and the energy performance of the houses), to recuperate the investment once the house is alienated (i.e., house is sold, rented, or the owner dies) and to reinvest it into the renovations of other houses. This resulted in the renovation of 92 houses and the improvement of the housing standards of the residents and the energy efficiency of the houses. However, to date only 8 houses have returned funds. This points to the main challenge when managing a revolving fund – the uncertainty around when the funding will come back, making it difficult to plan future renovations. This is further complicated by the administrative burden around contracting and monitoring the housing. Nonetheless, the application of a revolving fund in the housing sector offers a way to continuously improve the building stock and living conditions, as well as increasing resale value.

Jobs and skills in the local economy

Two case studies – BRIDGE and NextGen Microcities, looked at UIA projects in the area of jobs and skills. BRIDGE developed the idea for a social credit scheme, which enables companies to "purchase" social impact, i.e. to fund social entrepreneurs and to enable them to meet social return obligations (mandated by law in the Netherlands) simultaneously. This new approach has gone through 4 rounds of implementation, and it helped more than 200 people towards employment. A potential replication is made easier by the fact that the consortium has developed a package that could be purchased by municipalities to set up their own social credit scheme without having to go through the arduous process of designing it. NextGen Microcities and particularly the ZILE Programme serves as a targeted local grant scheme designed to support local businesses, start-ups, and entrepreneurs by providing funding, educational resources, and expert guidance. In doing so, it aims to boost innovation and to create new job opportunities. Both of these approaches have shown promising results, and are being scaled up, suggesting that they offer suitable solutions for supporting local employment.

Influential factors in designing and implementing IFS in UIA projects

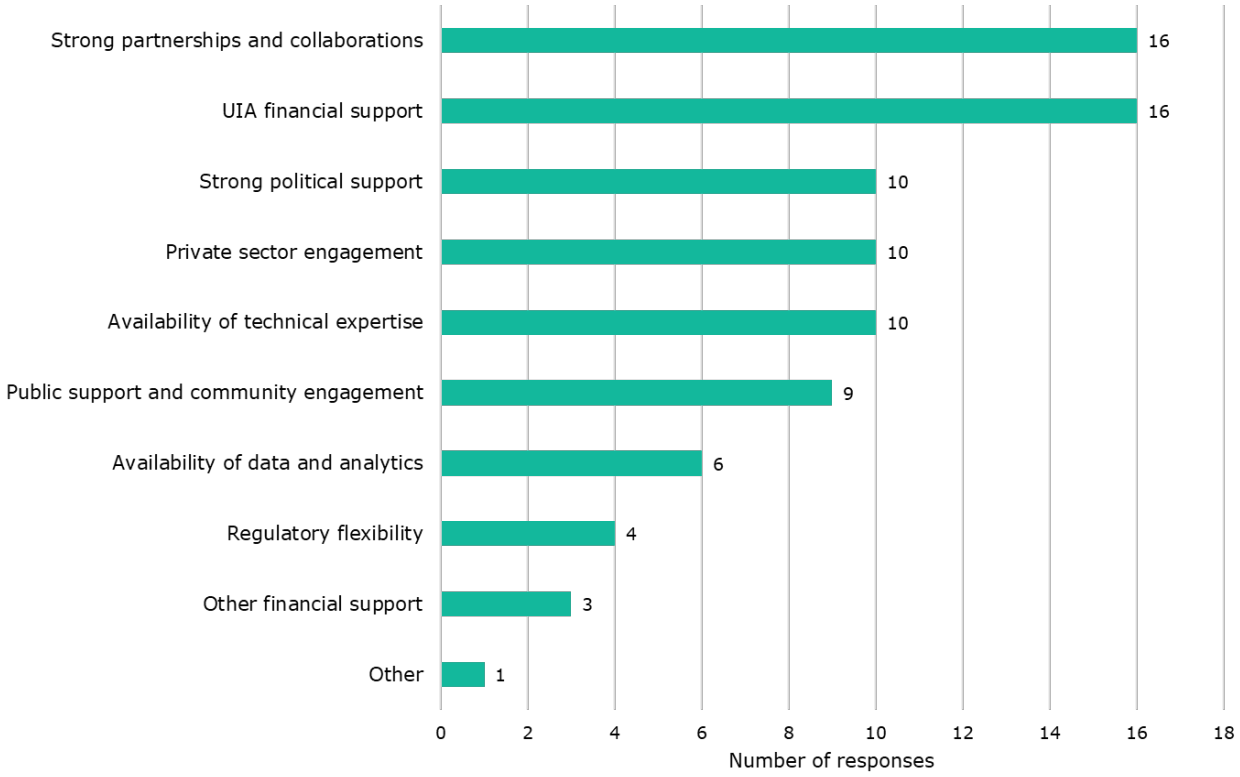
What were the most influential factors in designing and successfully implementing IFS in UIA projects? (e.g.: political context, the nature of the proposed project, etc.)

Key enabling factors

The successful implementation of IFS relies on a range of factors that enable their effective execution and positive outcomes.

According to the results of a survey conducted among some UIA projects, key enabling factors include **strong partnerships, financial backing, political support, and technical expertise** (see Figure below).

Figure 5. Enabling factors for the design and implementation of IFS



Note: 19 respondents replied to the question: "What were the primary enablers that facilitated the successful implementation of the IFS(s) in your project?". Respondents could select multiple options.

While the survey responses provide a valuable overview of various enabling factors, the case studies offer a more in-depth exploration of these factors and several enabling factors emerge across different IFS, which are discussed in detail below.

- **Strong partnerships:** Collaboration between public authorities, private enterprises, non-profit organisations, and community groups brings diverse expertise, resources, and perspectives to the table. These partnerships not only enhance the design and implementation of financial schemes coming from the experts of the field, but also ensures that the solutions are tailored to the needs of the community. In addition, strong partnerships build trust among stakeholders, increase transparency, and improve the likelihood of long-term success by fostering shared accountability and mutual commitment to common goals.
- **Solid institutional capacity:** Cities need to have the capability to lead or support the design and implementation of IFS. This includes having the necessary resources and processes to manage and monitor financial schemes. Building institutional capacity often involves training public officials, creating dedicated teams, and partnering with experienced external partners. For example, the Prato Forest City crowdfunding platform was dependent on ensuring city administrations had the institutional capacity to effectively manage and monitor the platform. This required training programmes with municipal staff and experienced partners to strengthen management capabilities.
- **Key skills and expertise:** Successful implementation of IFS often demands high levels of technical skills and expertise, especially in areas like financial management, urban development, law and IT. Municipal staff and project partners must possess the necessary knowledge to design and operate complex schemes, such as digital vouchers, crowdfunding platforms, or blockchain technologies. For example, the IFSs developed as part of MILMA and WISH MI benefitted from the technical expertise of consortium members and private partners, ensuring that the projects could navigate the technical and legal complexities involved.
- **Supportive legal framework and regulatory environment and legal expertise:** The success of IFS is often dependent on a supportive legal and regulatory environment. This includes laws and regulations that enable cities to experiment with and implement these schemes. For example, the BRIDGE project benefitted from national legislation that supported innovative procurement mechanisms, demonstrating how important a conducive legal framework could be to facilitating IFS uptake. Similarly, it is important that project teams possess the necessary expertise to navigate them. A poor understanding of regulations by urban authorities may weaken the capacity to implement IFS.
- **Cross-departmental collaboration:** In large urban projects, collaboration across different municipal departments is crucial to ensuring that IFS are well-integrated into broader urban strategies and policies. Projects often require the involvement of various sectors, such as finance, urban planning, environment, and social services, to ensure that all aspects of the project are addressed. Cross-departmental collaboration allows for more cohesive project execution and ensures that resources and expertise are pooled efficiently.
- **Sufficient financial resources:** Cities need access to funding to cover both the upfront costs of launching innovative schemes and the operational costs of maintaining them. Initial EU support through grants or via Financial Instruments like loans play an important in kickstarting those projects which often struggle to find initial private investors. Additionally, IFS projects often require multi-source funding, combining public funds, private investments, and grants. Without sufficient financial resources, even well-designed IFS projects risk stalling or failing (see section 2.4.1 for more information)
- **Strong political support:** Politicians and local representatives can send strong messages about the importance of finding

new ways of financing and the importance of creating an environment that values and encourages IFS. Political will ensures that IFS receive the necessary resources, prioritisation, and public visibility. This support can also align the IFS with broader city or national agendas, such as sustainability or social inclusion, making it easier to engage a wide range of stakeholders.

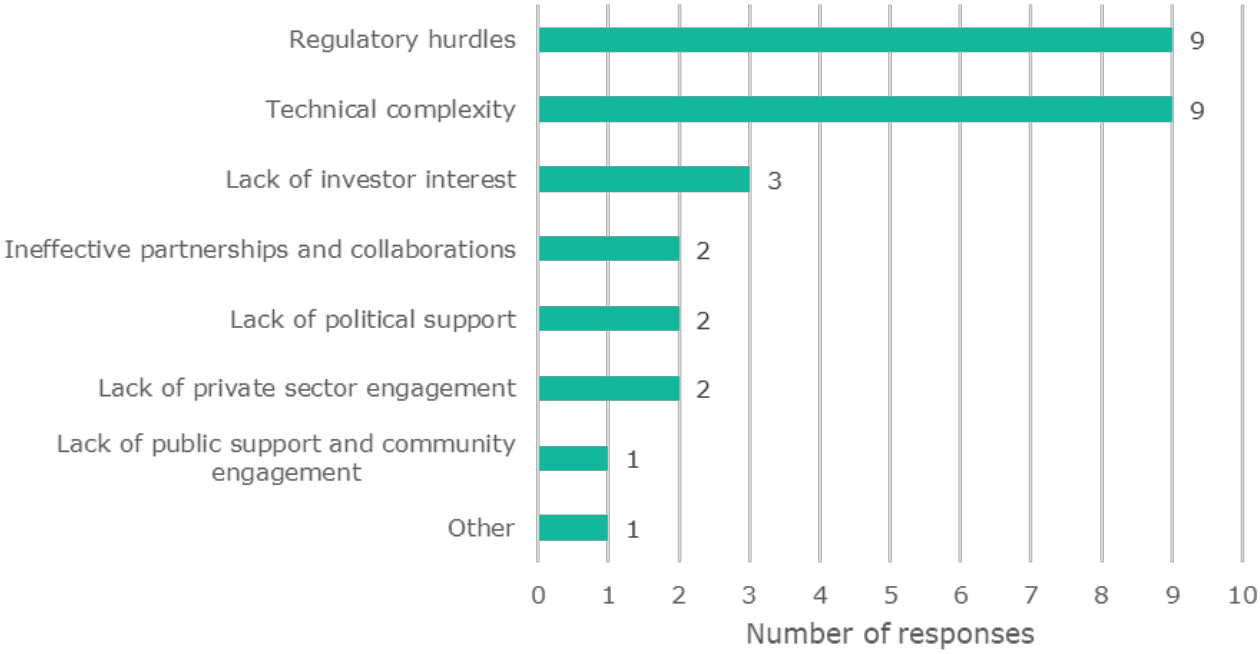
- **Clear Ex-Ante Assessment:** Conducting a thorough ex-ante assessment is vital to evaluate the feasibility and potential impacts of the proposed IFS. This assessment should identify those who are targeted, potential revenue generation, and any market failures that the funding aims to address. By establishing these parameters, cities can design IFS that are not only feasible but also aligned with city needs. Such assessments help in mitigating risks and ensuring that resources are allocated efficiently, ultimately increasing the likelihood of success.
- **Effective Communication:** Clearly sharing the city's priorities and demonstrating how IFS can contribute to achieving these objectives is essential to ensure the buy-in from all stakeholders, including the general public, local authorities, and private sector actors. This involves not only disseminating information about IFS, but also framing it within the broader context of the city's vision for development. To achieve this, cities should employ a variety of communication channels, including public meetings, social media, and community workshops, to engage different stakeholders. In addition, cities should establish a feedback model where stakeholders can express their concerns, ideas, and suggestions. This not only enhances stakeholder engagement but also increases the chances of successful implementation and long-term sustainability of the IFS initiatives.
- **Citizen engagement:** The level of citizen engagement and public support significantly influences the success of IFS. Projects that actively involve community members tend to gain more traction. Effective engagement not only helps tailor financial schemes to meet community needs and expectations but also builds trust between city administrations and residents, enhancing the likelihood of successful implementation. In the case of digital reward systems (WISH MI, WESH, PUJ), ensuring they are user-friendly and accessible and offer a diverse range of tasks and incorporate group challenges is key. It is also essential to ensure that the target audience has both access to the necessary technology and the knowledge to use it effectively.

These enabling factors can vary depending on the type of scheme, the sector it addresses, and the local circumstances in which it operates. For example, some may require enabling conditions within the administration (technical and legal expertise), whereas others may require enabling conditions outside the administration (for example, citizen buy-in). **Additionally, sector-specific projects, such as those related to energy transition or affordable housing, may require targeted technical knowledge and specialised legal frameworks.** The table below presents examples of examples of specific enabling conditions, demonstrating how different factors can influence the success of diverse IFS across various urban projects.

Key challenges and hindering factors

When designing and implementing IFS as part of their urban development strategies, cities typically have to navigate a range of potential challenges and risks. The environments in which cities operate do not always support innovative finance. Awareness of these potential obstacles is essential, as it enables cities to develop mitigation strategies and enhance the overall feasibility of IFS implementation. Referring to the survey conducted of UIA cities, respondents were asked to indicate the main challenges that impeded the successful implementation of the IFS in their project. Overall, **regulatory hurdles** and **technical complexity** were perceived as the main challenges that impeded the successful implementation of the IFS (see Figure 6 below). Existing regulations may not always align with innovative approaches, creating a landscape where compliance becomes a significant challenge (please see section 3.3.1.3) In addition, public authorities may lack the technical expertise to implement and manage certain IFS. This skills gap can result in inefficiencies, delays, and mismanagement, ultimately preventing cities from successfully implementing the financial scheme.

Figure 6. Key challenges impeding the design and implementation of IFS



Note: 19 respondents replied to the question: What were the main challenges that impeded the successful implementation of the IFS(s) in your project?". Respondents could select multiple options.

While the survey responses provide a valuable overview of various barriers, the case study interviews conducted for this research offer a more in-depth exploration of these factors. Drawing on insights from the UIA case studies, several barriers emerge across different IFS (see Table 7 below for some examples). These challenges are further categorised as inherent or external. **Inherent barriers** refer to challenges that are internal to the structure or implementation of the IFS itself, such as the **design limitations, resource constraints, or technical issues** faced by the UIA cities. **External barriers**, on the other hand, originate outside the project's control—such as **regulatory hurdles, economic uncertainties, citizen engagement and ability to use the IFS**—that can influence the IFS.

Table 7. Examples of barriers for UIA IFS

IFS	Barriers	Examples	Inherent or external
	Technical challenges	The WISH MI project introduced new administrative procedures, such as public procurement and calls for contributions, which were unfamiliar to the municipality. Overcoming these complexities required close collaboration with the legal, financial, and IT departments.	Inherent
	Digital illiteracy	In WISH MI, many families, especially those with migrant backgrounds, faced difficulties using the digital platform. Language barriers made it hard for them to understand how to navigate the system, and many families needed extra support to participate.	External
Incentive mechanism	Reaching critical mass	WESH showed that in order to kickstart a digital platform successfully, both sufficient users as well as local business were needed - in order to convince the latter to join, sufficient customers are required but the platform users would join if there are sufficient interesting products and services available on the platform. This chicken and egg problem meant that significant efforts needed to be made to attract both groups by making the platform as easy as possible to use and the tasks attractive enough.	External

IFS	Barriers	Examples	Inherent or external
Community Land Trust	Securing pre-development financing	Securing pre-development financing before obtaining planning permission is a significant challenge for CLTs, as it is essential for covering critical early-stage costs like feasibility studies, site assessments, legal fees, and other pre-construction expenses. However, due to the inherent risks of this stage, banks are often reluctant to provide loans.	Inherent
Innovative procurement	Compliance and monitoring	The complex nature of social return obligations means implementation can be challenging. Checks and balances need to be put in place to ensure the enforcement of the social return obligation. The governance and management of the fines received requires time and consideration	Inherent
Social credit scheme	Earning investor confidence	Encouraging companies to invest in RIKX was difficult. It was difficult for everyone to initially grasp the concept of an intangible currency.	External
	Technical complexity	Developing the social credit scheme (Riks) involved a significant element of technical complexity and establishing a working financial model for Rikx was time consuming.	Inherent
Revolving fund	Public procurement and participant selection challenges	In the case of ICCARus, public procurement and participant selection were complex due to the innovative, inclusive approach, but these were resolved by creating specific criteria and involving technical counsellors in renovation planning.	Inherent
Crowdfunding	Ensuring citizen participation	Crowdfunding initiatives, such as the PUJ Prato City Platform, rely on citizen participation, which is not guaranteed and requires significant effort to achieve.	External

Interviews with stakeholders also pointed to some additional challenges that cities face when they develop and implement IFS, such as the **financial capacity of a municipality, lack of citizen buy-in and trust, and a general lack of funding opportunities.**

Contextual factors which include the design and implementation of IFS

The selection and implementation of IFS among urban practitioners is significantly influenced by the context in which they are developed. Cities differ in their political, economic, and social environments, all of which play

crucial roles in shaping how financial schemes are selected, designed, and executed. The success of IFS depends not only on their financial structure, but also on how well it aligns with local capacities, responds to specific urban challenges, and integrates with existing institutional frameworks. Understanding these local dimensions is, therefore, key for urban practitioners when selecting and designing financial schemes, as it helps ensure that the chosen schemes are capable of delivering meaningful impact within their specific urban context.

Political context

Political contexts play a crucial role in shaping IFS selection. Cities must navigate their existing governance structures, regulatory frameworks, and political priorities when choosing financial schemes. For instance, some cities may have regulatory environments that are more conducive to certain types of IFS, while others might face regulatory barriers that make alternative financing approaches challenging. The level of political support within a municipality can also significantly influence which financial schemes are feasible and sustainable over time.

- **City/national commitments: Strong political commitments at the city or national level play an important role in the success of IFS.** When cities are part of broader national or international initiatives, there is often more political will and institutional support to support the implementation of IFS that contribute to these national goals. For example, in the Prato PUJ projects, the city's inclusion in the EU's 100 climate neutral cities generated strong political backing, aligning the city and its stakeholders around common goals. This alignment helped secure the necessary support, helping the implementation of the project's greenApes app (incentive mechanism) and the Prato Forest City platform (crowdfunding). In addition, the Antwerp Circular South project was highly supported by local politicians and was embedded in the city's New Climate Action Plan. Commitments from the municipality or national governments can signal long-term support for innovative urban projects, encouraging stakeholders such as businesses, investors, and civil society to engage more actively.
- **Regulatory environment: On one hand, the regulatory environment can enable cities to adopt innovative financial schemes by providing the necessary legal frameworks for their implementation.** For example, in the BRIDGE project, national legislation supported innovative procurement mechanisms in the Netherlands, including the integration of social return obligations. This legislation allowed cities, including Rotterdam, to incorporate social return clauses into their procurement processes. To facilitate this, the city established a dedicated social return department within the municipality, tasked with overseeing the implementation and adherence to these social return obligations, thereby promoting greater social accountability in public procurement. **On the other hand, legislation can also hinder the implementation of IFS.** For example, CALICO faced a specific challenge whereby local regulations required the construction of parking lots for new housing projects. Given that CALICO's tenants are typically low-income individuals who often do not own cars, the project needed to seek an exemption from this requirement to align with the community's needs and financial realities. This highlights a common tension in urban development where standard planning policies may work against affordable housing goals, and points to a deeper issue in urban policy-making: regulations designed for general urban development may need to be reconsidered to better accommodate diverse community needs, particularly in affordable housing contexts, and evolving approaches to other aspects of urban planning, such as, in this case, (sustainable) mobility. Similarly, the implementation of the virtual currency in WESH was accompanied with considerable challenges due to the expectation of the Dutch tax authority that the earnings from the completed tasks would be treated as income which is subject to taxation. Initially, it wanted to raise wage tax for performers by requiring citizens to register at the Chamber of Commerce as self-employed entrepreneurs, which would have significantly reduced the number of willing participants. Subsequently, the tax authority granted a wage and VAT exemption for the project, however, reaching this agreement led to a 5-month delay. The VILAWATT team also experienced significant difficulties as there were no established guidelines for how such a currency should function, particularly within the context of Spain's existing financial regulations. This shows that cities need to carefully navigate these regulatory landscapes to ensure that their chosen financial models comply with both national and local laws, which often requires collaboration with legal experts and stakeholders at various levels of government.

Economic context

The overall financial health and solvency of a municipality are important factors, as cities with stronger fiscal positions are better equipped to manage the risks and long-term commitments associated with innovative financing schemes. City size and resources influence a city's ability to engage with and implement certain types of IFS. Larger cities, particularly in Western Europe, tend to have greater awareness, demand, and capacity to adopt these financial schemes. This is largely due to their bigger budgets, higher investment needs, and access to expertise who can help structure and execute complex IFS. These cities often have higher debt needs, which attracts a more experienced pool of investors, allowing them to design and implement more sophisticated schemes. In contrast, smaller cities, often with more limited financial and human resources, struggle to adopt complex IFS. Their lack of financial depth can make it difficult to assemble the necessary expertise to design such instruments, limiting their capacity to explore innovative solutions. **Moreover, the larger economic context impacted by global events ,such as COVID-19 pandemic and the energy crisis following the war in Ukraine also have a large impact on the choices surroundings the design, and subsequent success of some IFS.**

While these factors may present obstacles, IFS have demonstrated their potential to be tailored across cities of varying sizes. Even in smaller municipalities or those with constrained resources, with strong partnerships among

the city and stakeholders, simpler or more targeted IFS can still be effectively designed and implemented to achieve meaningful outcomes. These schemes can be tailored to address specific local priorities, leveraging existing resources, fostering partnerships, and drawing on community participation to maximise impact. This adaptability ensures that even cities with limited financial or human resources can benefit from the transformative potential of IFS, enabling them to address pressing challenges and drive sustainable development.

Social context

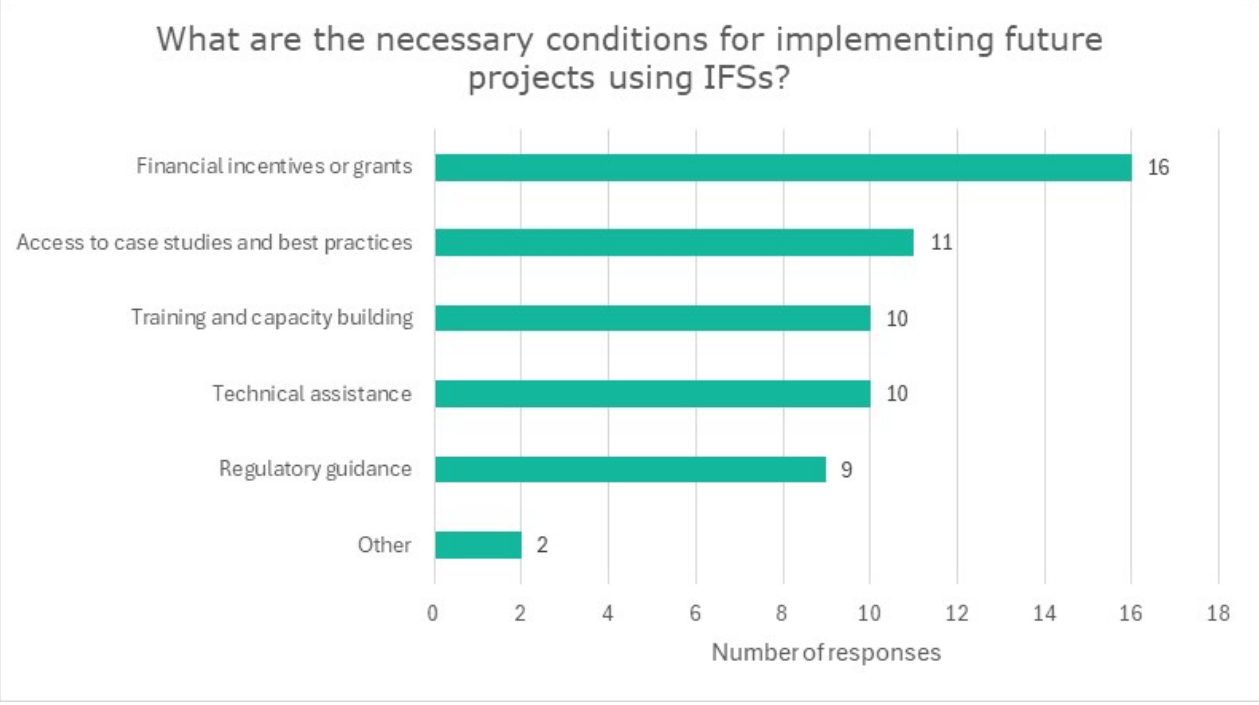
The social context in which IFS are implemented influence their success. When communities are actively involved in shaping these initiatives, public support grows, helping to tailor financial schemes to address specific needs and build trust between residents and city administrations. Local needs, especially in areas facing socio-economic challenges like high unemployment, could drive community openness to IFS projects. Such initiatives not only offer potential for immediate job creation and skill development but also foster long-term community benefits, making sustainable projects more likely to succeed. However, as seen in WESH, the concerns of the local community about the implications of a potential involvement in the scheme, could impact the use of the IFS and need to be careful considered and addressed through communication and community engagement.

Resources

How can urban authorities across EU unlock their innovation potentials and fund their urban projects by exploiting their already existing resources to the fullest?

As IFS are fairly new to the urban context, it is important to consider what urban authorities need to design and implement them successfully and, where possible, to look at any existing resources already available to them.

Figure 7. Necessary conditions for implementing projects with IFS



Note: 19 respondents replied to the question: "What are the necessary conditions for implementing future projects using IFS?"

According to the key stakeholders consulted for the study, the responses to the survey (see Figure 7 above), and the findings from the case studies, urban authorities that seek to develop IFS would benefit from the following:

- **Building open-minded teams, combining expertise in a variety of areas.** While the needs would vary depending on the IFS and the circumstances, the case studies showed that multidisciplinary teams that break silos and work in an innovation-friendly environment are key for developing and implementing IFS. The experiences with the local virtual currencies and the social credit scheme indicated that some IFS involve a significant element of technical complexity (e.g. using blockchain technology) and, as such, require **technically skilled experts**. The same IFS also faced numerous regulatory hurdles due to their novelty (e.g. with the national banks, which were concerned about the creation of parallel currencies, and with tax authorities, which expected to tax tasks performed by citizens as regular wages) and had to navigate complex General Data Protection Regulation (GDPR) considerations. These challenges demonstrate the need for

solid legal expertise. The CALICO CLT and ICCARus' revolving fund also involved a significant amount of legal paperwork placing further emphasis on the need for reinforcing project teams with legal experts. As financing municipal projects increasingly requires a much more creative approach to financing, the role of **financial architect** has grown in popularity. While there is no formal definition, they typically put together complex financial strategies, build partnerships with stakeholders and champion innovative funding[1], which makes them a welcome addition to any team working on designing and implementing IFS. Lastly, the success of many of the IFS was predicated on effective and targeted awareness-raising and communication campaigns. This points to the importance of involving **experts who are well-versed in communication and community engagement.** These considerations should all factor in any hiring decisions.

- **Securing funding.** None of the examined IFS would have been possible without the UIA funding, which was regularly cited as a key enabling factor. As such, urban authorities could consider applying for similar streams of funding, e.g. through the European Urban Initiative (EUI) and other Cohesion Policy funding instruments to enable the development of their own IFS. Prato's crowdfunding for reforestation and the maintenance of the city's green spaces and Rotterdam's "social coin" Rikx rely on the funding from donors or local business seeking to comply with their social return obligation by investing in projects. As such they demonstrate a model where a significant proportion of the funding is collected in small increments motivated by a personal conviction or legal obligation. BRIDGE and the idea for a social credit scheme, which won $1 million from Bloomberg Philanthropies (which has supported piloting and system development to enable the running of the scheme) also show that very innovative ideas could receive and use prizes and investments to develop them further. However, for a more widespread use of IFS, cities should consider whether the IFS would generate funding (e.g. revolving fund) or not (local currency) when deciding on a potential source of funding. By designing **a revenue-generating IFS**, which is typically seen in energy efficiency upgrades or urban regeneration, cities can leverage commercial finance and EU financial instruments that require repayment, allowing them to maintain a sustainable funding model. This funding could be coupled with other sources – e.g. the ICCARus combined UIA funding with Flemish subsidies for inflation for building renovations of homes of residents with limited means, and BRIDGE use funds generated from social return fines with UIA funding to co-finance the project. Moreover, authorities could also attract institutional investors like pension funds and insurance companies to finance urban projects. These investors bring long-term capital, which can be aligned with urban infrastructure development. **Non-revenue generating IFS** could be considered when they are tied to social impact funds, where returns are based on measurable outcomes.
- L**everaging already available resources and infrastructure.** Depending on the IFS type and its needs, urban authorities could benefit from already existing resources and infrastructure within the municipality or the city. For example, the municipality of Antwerp had a municipal IT company, which was able to support with the development of the virtual currency. Similarly, Antwerp also has a royalty card, available to citizens, which could be incorporated into the framework of the IFS. Beyond these, national laws or regulations can also be leveraged to support IFS initiatives. For example, the BRIDGE project utilised national policies in the Netherlands that encourage companies to contribute to social impacts. Other cities can explore whether similar national laws are in place.
- **Seeking synergies and leveraging the resources and skills of partners.** As mentioned previously, all IFS were developed by diverse constellations of partners. This enabled urban authorities to capitalise on their resources and expertise. For example, in the case of Antwerp Circular South, an already existing energy cooperative could support with the development of the energy community and energy providers could share data on energy consumption, which enabled the behaviour change tracking needed to implement the incentive mechanism. Heerlen's WESH was aided by the presence of a Brightlands Smart Services Campus, where the municipality was able to find a start-up willing to develop the software needed for the IFS. The PUJ project, partnering with greenApes, which already had the necessary software and technology in place, was essential. This eliminated the need to start from scratch, making it easier to deploy and despite some challenges - to adapt it to the city of Prato. As such, it is important to consider what the needs of the IFS are, seek suitable partners, reach out to them and come to mutually beneficial arrangements. This is also the case when working on ensuring the longevity of the IFS, where partnering with other initiatives or institutions is key. For example, NextGen was integrated with educational institutions with a focus on fostering entrepreneurship among students, which added an additional layer of sustainability to the IFS. WESH is looking to partner with other similarly-minded initiatives to do the same by integrating the digital currency into ongoing community projects.
- **Building on existing platforms and materials.** To avoid starting from scratch, urban authorities should also consider whether there are already available IFS (or parts thereof) that could be adapted to their needs. For example, the platform of BRIDGE's social credit scheme could be used and adapted for a subscription fee, which amounts to a fraction of the initial cost, thus removing the need to invest a lot of time and resource into developing a new one. Generally, for IFS built on digital platforms, open-source coding could help shorten the IFS development phase. For example, certain parts of the software behind the digital platform of WESH were made open sources so that they could be more easily adapted by other public entities.
- **Learning from others.** IFS are still quite new to EU cities and learning from the frontrunners is essential. This was the case with some of the UIA projects, which used insights gained from others to design and build their IFS. For example, NexGens' ZILE Programme looked at the specific examples and results of other cities and used them to minimise errors and ensure a smoother and more efficient implementation. ICCARus was also inspired by the CLTs developed by other cities in Flanders. Similarly, a number of UIA projects serve as an inspiration to others and participate in knowledge-sharing activities. For example, the municipality of Fuenlabrada has been involved in several such projects, where they have shared their methodology. There are also sources that showcase useful examples from other projects[2] that could be of use, though it should, generally be acknowledged that many of the solutions are context specific. Implementing the innovative procurement IFS used in Rotterdam would not be possible without the social return obligation mandated by law and replicating ICCARus' CLT would depend on many factors such as housing stock, rate of homeownership, availability of social housing, etc.

[1] https://eurocities.eu/latest/urban-pioneers-leuvens-financial-architect/#:~:text=A%20Financial%20Architect%20is%20someone,and%20build%20a%20coherent%20story.

Conclusions and Recommendations

The design and implementation of IFS by UIA projects have revealed significant potential for addressing urban challenges through innovative funding mechanisms. This study highlights some of the diverse range of schemes employed—ranging from innovative procurement, revolving funds, community land trusts, to local currencies, and demonstrates the versatility of IFS in enhancing urban governance and sustainability.

By diving into multiple case studies (complemented by literature review, a survey and interviews with key stakeholders), the study has been able to unveil key insights into the use of IFS in UIA cities. This includes an understanding of some of their main features, key enablers and challenges in designing and implementing IFS, the extent to which they have been successful in achieving their objectives, and their long-term sustainability, scalability and replicability potential across diverse European cities and urban topics. The findings indicate that these schemes go beyond simply mobilising additional finance, but have helped spur innovation within city administrations, particularly in the way funds are mobilised, distributed, and governed. IFS offer new ways for urban authorities and local stakeholders to collaborate and manage urban development projects, and they have led to a shift in the mindset of some municipalities regarding the way such projects are financed. Some of the IFS also enabled the implementation of innovative approaches to solving urban challenges, such as encouraging sustainable behaviour by tracking and rewarding it, crowdsourcing governmental tasks, involving companies in job seeker training, and funding social projects.

While the IFS explored as part of this study differ significantly from one another, they share common features. They were all designed and implemented by large consortia made up of diverse stakeholders – e.g. municipalities, NGOs, academic organisations, private companies, national agencies, etc., allowing municipalities to leverage the resources and expertise of diverse stakeholders and to overcome financial and human resource limitations. In some instances, the traditional role of municipalities shifted from being solely responsible for implementing a project to "outsourcing" some of the steps and responsibilities to stakeholders, who possess the skills and expertise to deliver the services to citizens. Many of the IFS also relied on digital and technological developments, capitalised on citizen engagement, and required extensive communication efforts.

It is important to note that the effectiveness of the IFS is often depended on careful design, stakeholder engagement and communication and alignment with local needs. Successful IFS require specific enabling conditions, including:

- Strong partnerships: Collaboration among municipalities, businesses, and citizens is critical, as seen in projects like CALICO and Prato Urban Jungle.
- Supportive legal and regulatory frameworks: Regulatory alignment, such as the social return legislation utilised in Rotterdam's BRIDGE project, facilitated implementation.
- Community engagement: Citizen involvement, as demonstrated in CALICO's community land trust model, ensured alignment with local needs and fostered ownership.
- Effective communication: Well-thought-out communication strategy is necessary to explain the novel approaches associated with some IFS to potential users, like in Vilawatt and BRIDGE.
- Strong political support: Political support proved to be important for ensuring that IFS receive the necessary resources, prioritisation, and public visibility.
- Key skills and expertise: Securing the involvement of technically skilled members like in the case of WESH and partners with solid legal expertise like in CALICO and ICCARus is key for ensuring the IFS meet the necessary technical requirements and capitalise on or tackle issues associated with the legal framework.

similarly, urban practitioners should be aware of and navigate potential challenges to the implementation of IFS, such as regulatory hurdles, technical complexity of some IFS, lack of engagement, resource constraints among others.

As urban challenges become increasingly complex and resource constraints more pronounced, the capacity to design, implement, and replicate IFS will likely be key in the future. This study contributes to the emerging understanding of how cities can leverage innovative finance to address urban challenges, offering insights for policymakers and urban practitioners committed to driving sustainable and inclusive urban transformation. Below, we summarise key recommendations for urban authorities and policymakers to enhance the future use and impact of IFS.

Recommendations for Urban Authorities:

- **Set up dedicated teams with key expertise:** Establish multidisciplinary teams that are open to experimentation and possess expertise in finance, legal frameworks, IT, communication, and community engagement. The design and

implementation of some incentive mechanisms, local virtual currencies and the social credit scheme showed that some IFS involve a significant element of technical complexity and require technically skilled experts. For example, Prato Urban Jungle's incentive mechanism benefitted from a dedicated team including IT professionals that led the Green Ape app's digital initiatives, developing and maintaining the core platform while continuously enhancing its features based on user feedback and performance metrics. Some of the IFS faced numerous regulatory hurdles due to their novelty and had to navigate complex GDPR considerations, which demonstrates the need for securing solid legal expertise. Similarly, communication and community engagement experts, as well as the so-called "financial architects", who can put together complex financial strategies, build partnerships with stakeholders and champion innovative funding, are also recommended for the successful design and implementation of IFS.

- **Build partnerships and leverage synergies:** Form consortia to pool resources and expertise together. Projects like CALICO and BRIDGE demonstrated the value of collaborative approaches in finding new solutions to funding and financing urban development challenges by partnering with complementary organisations.
- **Build on existing platforms:** It is not always necessary to invent something new. Use and adapt existing platforms and tools. For example, the municipality of Antwerp makes a good case for capitalising on already existing resources (e.g., a municipal IT company and a royalty card, which could be incorporated into the framework of the IFS). Rotterdam's Rikx social credit system provides a replicable model for financing social impact, which could be purchased by other cities instead of developing it on their own. Similarly, IFS using digital platforms can look for open-source coding to build on.
- **Learn from best practices:** Engage in exchanges with cities that have implemented similar IFS. For example, Belgian cities are seeking to learn from the experience of Ghent of developing an CLT and BRIDGE and MILMA are sharing their experience with several cities internationally.
- **Align with local strategies and regulations:** Ensure IFS are aligned with municipal strategies and national policies to gain political buy-in. For instance, Vilawatt's integration into the Viladecans 2030 Strategy ensured continued support.
- **Leverage private sector reporting:** Build awareness of private sector obligations like the Corporate Sustainability Reporting Directive (CSRD) and explore synergies to fund sustainable urban development projects. The social return obligation in the Netherlands is a key success factor in the implementation of Rikx, with the growing impetus on businesses to report on their environmental and social impact, the attractiveness of Rikx is extending beyond those businesses responding to the national social return obligation.
- **Adapt funding to the type of IFS:** For revenue-generating IFS (used for energy efficiency upgrades or urban regeneration), cities can leverage commercial finance and EU financial instruments that require repayment, allowing them to maintain a sustainable funding model. Like in the case of ICCARus, which combined UIA funding with Flemish subsidies for inflation for building renovations of homes of residents with limited means, several types of funding can be coupled. Other investors could include pension funds and insurance companies. For non-revenue generating IFS, authorities could consider social impact funds, where returns are based on measurable outcomes.

Recommendations for Policymakers:

- **Incorporate IFS into grant requirements:** One clear, resounding and common enabler across these examples has been the opportunity for cities to experiment and test these IFS in the safe space and frame of the UIA project. To foster a cultural shift and mainstream the practice of trial and experimentation with new ways of funding in cities, it is recommended that a requirement for cities to test or develop an IFS be introduced as a condition for receiving grant-based funding, beyond UIA/EUI.
- **Target funding diversification and blending:** Identify areas in sustainable urban development, which are heavily reliant on public funding (e.g. green infrastructure). Ensure these are clearly reflected in the cohesion policy objectives and develop targeted measures to support increased funding diversification in these areas. Develop national-level financial instruments that blend EU funding with commercial financing to enable municipalities to access larger pools of funds.
- **Address regulatory barriers:** Develop capacity-building programmes to support multi-level policy makers to scan, assess, adapt and where necessary, introduce regulations that would make the implementation of IFS easier (e.g. regulation around the creation of virtual currency, micro-entrepreneurship policy to enable citizens to perform tasks in the city without facing tax issues, resolving zoning and parking challenges that can delay CLTs like CALICO).
- **Facilitate and promote knowledge-sharing:** Establish and promote IFS-focused platforms for cities with similar challenges to collaborate. For example, Rikx's off-the-shelf model is a promising candidate for replication and dissemination. Create opportunities for cities to demonstrate and exchange best practices and learn from and inspire one another.
- **Support scaling and standardisation:** The study provides examples of several effective IFS but refining, scaling, standardising and replicating requires significant time and money as seen from the example of Rikx in Rotterdam. Dedicated supporting including finance and technical assistance could support the scaling and replication of other IFS models.

The experience of UIA projects underscores the transformative potential of IFS in urban governance. By leveraging lessons learned, fostering the right conditions, and adopting the recommendations outlined above, cities and policymakers can proactively enhance the design, implementation, and impact of IFS, accelerating sustainable and inclusive urban development across Europe.

Appendix 1

Methodology

This chapter outlines the methodological approach of the study. To learn more about the use of IFS designed and implemented within UIA projects, the study took the following steps:

- **Screening of key documents**[1] of all 86 UIA projects to determine whether and if so - what type of IFS were used in the project, and to gather data around stakeholders involved, outputs and impact achieved, level of data availability, etc. In total, 37 IFS were identified.
- **Clustering** of the 37 UIA projects (per IFS type, UIA topic, and per country and region) in order to pre-select UIA projects for further study. The projects were mapped in terms of IFS type and UIA topic and in instances where there was only one project covering a particular topic or a specific IFS, they were automatically pre-selected. Geographical coverage was also taken into consideration - with most projects located in Western and Southern Europe, nearly all Eastern and Norther European projects were pre-selected. Aspects, such as data availability, innovativeness of the projects and replicability and scalability potential, also informed the final list of 23 pre-selected UIA projects.
- **Disseminating a survey** among the pre-selected projects. It served as a data collection and case study selection tool and focused on the following themes - simplicity of developing and implementing IFS; sustainability, scalability and replicability of IFS; necessary conditions for the implementation of IFS; primary enables; external factors influencing the implementation of IFS; challenges encountered. A total of 19 responses were received.
- **Selecting 11 case studies** based on the survey responses[2] and geographical balance and IFS type and UIA topics coverage considerations.
- **Conducting case studies** on the basis of **interviews** with project team members, and **literature review** of key documents, materials available on the UIA website and the European urban knowledge platform Portico, and information shared by the interviewees.

To complement the findings from the case studies, the study also relied on:

- **Literature review** to better understand the various types of IFS and the key challenges and opportunities related to their implementation. It was conducted using a combination of database searches and consultation of authoritative sources[3] in the field of urban finance and sustainability. A set of relevant keywords[4] was used to identify recent literature, with a focus on publications from 2008 onwards, with the majority between 2015 and 2023. Publications were initially evaluated by examining titles, abstracts, and keywords. Those deemed potentially relevant underwent a full-text review to assess their suitability for inclusion in the literature review. A total of 27 publications were selected for in-depth analysis and inclusion in the review. Other web-based sources (32) ranging from articles to city websites were also used to either provide real-life examples or strengthen some key findings.
- **Interviews** with key stakeholders (European Investment Bank, European Commission (DG REGIO), Joint Research Centre, Eurocities) to gain a deeper understanding of the application of IFS in the urban context.

The findings from the case studies, literature review, survey and interviews are used to answer the following research questions, presented in this report.

Table 8. Research questions

Main topics	Research questions
Forms of IFS used in UIA cities	What have been the different forms of IFS used based on the experiences of UIA cities?
Effectiveness of IFS in innovative practices	Have IFS produced meaningful practices of innovation? Have IFS influenced the achievement of expected results in terms of urban development? Which of these IFS are the most efficient and impactful in funding experiments in cities?
Influential factors in designing and implementing IFS in UIA projects	What were the most influential factors in designing and successfully implementing IFS in UIA projects? (e.g.: political context, the nature of the proposed project, etc.)
Resources	How can urban authorities across EU unlock their innovation potentials and fund their urban projects by exploiting their already existing resources to the fullest?

Limitations

The implementation of the methodological approach was met with some limitations.

- Screening of UIA projects – due to limited time availability for this task, it is conceivable that a particular IFS may have been missed, despite the team's best efforts. This became clear during the development of the case studies as the interviews and in-depth literature review led to the discovery of new information and subsequently - to some revisions of the initial assessment. Nonetheless, the screening identified a large and varied sample of IFS, which served as a good basis for the following phases of the study.
- Survey – there were some delays with the closure of the survey, as initially the response rate was quite modest, most likely owing to the fact that it was launched during the summer holiday period. Through regular reminders and support from the UIA Secretariat the response rate was ultimately satisfactory.
- Case study selection – as mentioned before, the selection relied to a certain extent on the responses to some of the survey questions. However, they were not always useful (e.g. all respondents indicated that the IFS were scalable and replicable, which rendered these questions useless for selecting projects) and relied to a large extent on the subjective opinions of the respondents, which were not comparable (i.e. the assessment of the extent to which an IFS has been successful in meeting its objective varies depending on the respondent). Similarly, it was challenging to strike a balance between ensuring geographical balance and selecting varied IFS. Several discussions with the UIA Secretariat to agree on the optimal selection of case studies.

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[1] Project closure and sustainability fiche, Final Qualitative Report, Application Form, Annual Performance Report, UIA website

[2] Ratings to questions such as "How successful was/were the IFS(s) in meeting its/their objectives", "How effective was/were the IFS(s) in helping the project achieve its goal", "Do you believe the use of innovative financial schemes can be expanded in other parts of the city and for other projects?", "Do you believe the IFS is replicable in other parts of the city or in other cities?"

[3] European Commission, European Investment Bank, European Parliament, ICLEI, United Nations, OECD, UIA

[4] "innovative finance," "innovative finance mechanisms," "innovative finance for sustainable urban projects," "financing innovation," and "sustainable finance initiative"

Appendix 2

Types of IFS

Financial Instruments (FIs)

- Loans: a financial product in which a lender provides funds to a borrower under agreed terms, including repayment schedule and interest rate. Within the IFS framework they differ from traditional bank loans due to key advantages for borrowers, such as lower collateral requirements and longer repayment periods (EPRS, 2019; EIB, 2016).
- Guarantees: provide written commitments to take responsibility for all or part of a third party's debt or obligation in case of default. These instruments help lower risks and costs for managing authorities, as their conditions and fees can be more favourable due to the presence of a guarantor. They are particularly important in sustainable projects that are not necessarily profit-driven and carry higher risks for financial institutions (EIB, 2022).

- Equity and Quasi-equity Capital: These instruments provide capital to firms in exchange for total or partial ownership, allowing investors to share in profits and potentially assume management control. They include venture capital, seed capital, and start-up capital, with returns depending on business growth and profitability (EPRS, 2019; EIB, 2016).

Additional Innovative Schemes

Performance-based Contracts: These agreements link payments to the achievement of specified performance targets or outcomes over the contract's lifetime. They shift financial risk to service providers, focus on measurable outcomes rather than inputs, and create incentives for efficiency and effectiveness (Ogita, Palsson, and Mills, 2022).

Bonds: An investment product in which individuals lend money to a government or company at a fixed interest rate for a specified term, with repayment of both the interest and the principal amount at maturity. While

traditional financial instruments, bonds have evolved to include innovative variations such as green bonds and social impact bonds. These new forms aim to address modern social and development challenges by linking returns to specific social or environmental outcomes (OECD, 2016).

Community-Based Mechanisms

- Community Land Trust (CLT): Allows communities to acquire land for real estate development while maintaining affordability through innovative ownership structures (Lenna, 2020)
- Crowdfunding: Enables community participation in project financing while allowing municipalities to retain control over returns (Novikova, A. et al., 2017)
- Participatory Budgeting: Allows governments and communities to jointly choose spending priorities and allocate funding (EPRS, 2016)

Alternative Financial Tools

- Local and Virtual Currencies: Support local economies through geographically limited currency systems or blockchain-based solutions (Dodd, 2015)
- Incentive Mechanisms: Financial and non-financial incentives designed to encourage specific behaviours or actions contributing to desired outcomes
- Innovative Procurement: Leverages purchasing power to stimulate the development of new solutions addressing urban challenges
- Revolving Funds: Create continuous investment cycles by reinvesting loan repayments into future projects (PROSPECT+, 2017)
- Social Impact Credit schemes: Allow investors to fund social impact projects and receive tradeable credits based on verified positive outcomes, creating a marketplace that bridges profit-seeking with measurable social good.

Public-Private Partnerships (PPP): While traditionally used for large-scale infrastructure projects, PPPs have evolved to become an IFS themselves, particularly in smaller-scale projects where they serve as both a financing tool and a means to share knowledge and resources between sectors (ADB, 2008).

Classical funding schemes targeting innovation: these funding schemes take various shapes, e.g. grants - particularly via Call for Projects or award prizes which aim to enable the funding of innovative sustainable urban projects.

See on UIA website