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(Digital) City Financing Platforms

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Abstract

This chapter introduces the theme of City Financing Platforms, particularly digital ones, as a new and important tool to support the development of smart cities, mainly small- and medium-sized ones which might have several problems in finding the necessary funding for their innovative projects.

First, the role of such platforms is described, particularly as far as energy service companies (ESCOs) and project developers are concerned, who might benefit from such platforms to borrow money in the initial stage of their project and to find co-investors to support their activities, but also to get assistance by expert teams to make their projects financially attractive.

Second, some examples of existing financing platforms are described, according to the type of financial services they provide. Some key points on challenges and failings are also introduced in the conclusions, in particular the need to support cities at local level which are developing smart city strategies and plans, as emphasised by many regional, national, and EU-wide programmes.

12.1 Introduction

(Digital) City Financing Platforms represent an alternative route of financing city projects especially for small- and medium-sized cities with limited lending capacity. However, while the usage of such platforms requires the integration of the platform requirements early in the development phase of city projects, the platform market is itself in an early stage.

The following represents an outcome of the work till today of the City Financing Platform initiative as part of the Smart City Market Place, based

on online exchange amongst initiative members as well as webinars, conferences, and round tables.

12.2 Role of Financing Platforms

Financing is often stated as one of the biggest challenges to implement a smart city strategy. This is not only due to pressure on public budgets but also to inherent complexity of smart city projects often covering a range of different areas at the same time, e.g., energy efficiency measures for various types of building and the development of smart grids and integrated mobility concepts. Bigger cities might be able to develop cross-cutting robust business models, creative revenue models, and identify value capture which can attract investors. But this route is barely impossible for small- and medium-sized cities purely due to a lack of organisational capacity.

This is where digital financing platforms can play an important role, especially as the project developer or an energy service company (ESCO) – and not the city itself – would usually be the contractual partner of a digital financing platform.

Digital finance is increasingly demonstrating its ability to overcome key barriers for smaller scale project finance through the ability to make the processing and analysis of larger amounts of data cheaper, faster, and more accurate. This reduces the risk of obtaining timely, material information relevant to sustainability impacts and financial risks related to the investment while increasing transparency. However, platforms offering financing for smart city projects are still at a very early stage.

In principle, project developers and ESCOs can utilise such platforms for various purposes, e.g., to:

- borrow money to cover initial costs of project development;
- find co-investors that would take equity in the project;
- sell shares of the project at some stages of the activity.

The platforms themselves usually cover all or several of the following steps:

- deal sourcing and matchmaking;
- expert and knowledge management through standardised due diligence tools;
- project bundling for investors.

12.3 But Who are These Digital Financing Platforms – Or Where are They?

That is the big question. Very few seem to exist today, but a growing number is in development driven by the need to mobilise private capital to support sustainable growth.

Over the time, it became clearer that there is no easy solution available. What was clear from the very beginning is that such solutions would start becoming available only, or at least first, for certain kind of projects, namely for re-financing energy efficiency/deep retrofitting and renewable energy projects delivering a predictable revenue stream from energy savings or produced energy. And this revenue streams are in principle suited to allow re-financing of even upfront project financing.

12.3.1 Examples of digital financing platforms

Digital financing platforms usually provide one of the two financial services:

1. loans or credit lines – to finance the purchase of goods or services (loans) or to cover delays between receipts and payments, and to deal with specific periods of lack of liquidity or for specific purchases (credits);
2. re-financing based on calculated or actual revenue streams from projects.

12.3.2 Credit/loans

The most prominent example for this service is likely the Jack Ma's 3-minute loan, a service through which 16 million SMEs in China have received 300 billion USD in loans. And there are already some fintech companies providing a similar service with loans up to 300.000 USD provided to SMEs within a few hours purely using an online service. Examples are as follows:

- Ondeck, US:[1] loan service for SME, access to finance within a day.
- Forward Financing, US:[2] working capital for SME, access to finance within hours, up to USD 300k.
- Kabbage,[3] US: credit lines up to USD 150k within minutes (own claim). Owner: American Express.

[1] https://www.ondeck.com/company/
[2] https://www.forwardfinancing.com/
[3] https://www.kabbage.com/

12.3.3 Re-financing

Businesses operating digital re-financing platforms usually do not provide financing themselves but support the bankability of projects and/or help in getting access to finance. Although they cover very different types of projects and technologies, as of today, none of them has already become a mass market solution, mainly due to the complexity inherent in most projects seeking re-financing.

The list is clearly not complete but represents a good overview of current re-financing platforms:

- TrustEE:[4] Likely the most advanced platforms with software supported project evaluation features up to a linked special purpose vehicle (SPV) directly providing finance. Focus is more on industrial projects but in principle also applicable for smart cities projects.
- EEnvest:[5] Risk evaluation tool for energy efficiency investments in buildings.
- eQuad:[6] Bridging platform for projects and investors.
- ESI:[7] Project structure modelling platform including insurance.
- SOURCE:[8] Software-enabled project structuring and implementation platform, financed by regional development banks.
- Optimised Retrofit: Project delivering a procurement framework but also trainings with a focus on buildings.

Next to platforms using a standard technology approach, first, start-ups are on their way to use blockchain technology for tracing and tokenising energy savings. Well, there is a lot of hype around blockchain and it is not always easy to distinguish between what really works (or can work) and what is just a nice white paper. The two most prominent attempts are as follows.

- EFFORCE:[9] A lot of big buzz including a celebrity as a door opener, Apple co-founder Steve Wozniak. In principle, EFFORCE covers

[4] https://trustee.ise.fraunhofer.de/about
[5] http://www.eenvest.eu/
[6] https://www.eu.jouleassets.com/whitepaperbridgingthegap
[7] https://www.esi-europe.org/financing/
[8] https://regions20.org/source-online-software-structuring-projects/
[9] https://efforce.io/

everything. After the implementation of an energy efficiency project, energy consumption is tracked with smart meters delivering data to a smart contract for initiating payments. Projects get bundled and tokenised and everybody can buy such tokens (cryptocurrency WOZX) and benefit from regular returns. Tokens can also be traded on some crypto exchanges providing a secondary market and finally liquidity.

- Energyglare:[10] Similar approach to EFFORCE. Energyglare plans to build a platform (second half of 2022) with a third-party verifier level for planned energy savings by implementation service providers, tools for institutional investors to build portfolios matching capital deployment requirements, a reporting layer, as well as an interface to convert energy savings into tokenised carbon credits (2024).

12.3.4 Challenge project pipeline: the chicken and egg problem

The lack of projects represents the key challenge for digital city financing platforms – and not the availability of private funds.

Financing platforms can deliver an easy access to private finance including the management of the transactions following project implementation. But they rely on two factors they can hardly influence:

- the availability of bankable projects;
- project structuring fitting the requirements of financing platforms/ investor.

Both are deeply rooted in city planning processes and a lot of information about smart city project challenges, solutions guidelines, and reports can be found on the EU Smart City Marketplace website. Good practice solutions have been already identified many years ago such as the case of Cerdanyola (2013), where experts from universities and consulting companies were involved in preparing feasibility studies and providing scientific methods for the set of requirements included in the call for tender for the ESCO.[11]

Many regional, national, and EU-wide programmes, including the next Smart Cities Marketplace period 2022–2025, are putting specific emphasis

[10] https://energyglare.io/

[11] https://smart-cities-marketplace.ec.europa.eu/insights/publications/executive-summary-report-planning-and-implementation-process-assessment, p137 and p144–145, accessed April 2022

on supporting cities at local level which are developing smart city strategies and plans towards individual project planning and tendering procedures.

Projects represent the "fuel" for city financing platforms, as they are designed to deliver private finance to many projects while reducing financing costs, time to set-up financing, and the need for public funds, all of which is a pre-requisite to scale up smart city project implementation, urgently required to tackle climate change, energy security, and affordability.

12.4 Conclusion

There is no "silver bullet".

Clearly, financing cannot be seen in isolation and a 3-minute financing solution for smart city projects might also not be available overnight if ever, even if the smart city project pipeline would be filled.

On the other hand, various platforms have started to develop comprehensive solutions for all engaged stakeholders instead of only focusing on a single challenge, e.g., including green taxonomy and reporting layers, investor portfolio management, or third-party verification and insurance solutions.

In addition, blockchain technology can help driving costs further down, offering several automation options such as automatic transfer of data via smart meters to smart contracts initiating payments, but there are still many open questions such as data security and standards on oracle/smart contract level. Tokenisation is a key feature of blockchain/DLT and can boost liquidity though creation of secondary markets, but the use of cryptocurrencies is still in its infancy.

Digital city financing platforms are, although still in their early phase, not a bottleneck for smart city project finance. Their business model is easy and market driven focusing on capturing a share of the investment or project return – what the business model depends on is the availability of many bankable projects, currently not available.

The bottleneck today is the project pipeline. In other words, money is not a problem.