InvestCEC

Monitoring Funding Opportunities

Venionaire Capital AG

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Project information

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1. Introduction

This paper outlines the work carried out under Task T3.3.3 of the InvestCEC EU-funded project, focused on identifying underutilized public and private funding sources for circular economy initiatives in cities and regions across Europe. It maps key investor and other funding types, aligns them with suitable Circular Economy (CE) solution typologies, and highlights mechanisms for improving access to finance. Through strategic outreach—led by VENCAP with support from G2G and Enspire, the task aims to build a more connected and responsive investment landscape for cities, regions, and entrepreneurs engaged in the circular transition.

The InvestCEC project focuses on identifying and mobilising funding opportunities to support Circular Economy (CE) initiatives across European cities and regions. Its objective is to bridge the gap between solution developers and suitable financial backers by mapping both public and private sources of finance—such as venture capital, impact funds, philanthropic organisations, government-backed instruments, and European grant programmes—that are currently underutilised in the CE context. While in principle most funding types available for traditional “linear” economy projects are also accessible to CE projects, they are often not applied in practice due to a specific set of challenges unique to circular models.

One core difficulty is that CE projects typically involve systemic, interdependent business models, what we call "circle interdependency", in which the success of one actor or stage in the value chain often relies heavily on others (e.g. waste suppliers, recyclers, and end-users). This creates additional layers of risk and uncertainty for investors and lenders, especially when compared to linear models with more predictable and isolated cash flows. These risks are often perceived as unaddressed or misaligned with the risk-return expectations of traditional financiers.

The diagram below illustrates the current funding landscape for CE initiatives and highlights the relative ‘thickness’ or ‘thinness’ of the financial pipeline across different funding types and project stages. However, it does not explain *why* these gaps exist. The observed “thin” connections in certain parts of the chain represent a lack of funding flow, which can be directly attributed to the systemic risks introduced by circle interdependency. In essence, the more a CE project depends on the success and cooperation of multiple actors, the more difficult it becomes to attract conventional financing, especially when there is no precedent or track record. This is a central blind spot that must be addressed to unlock capital for circular innovation.

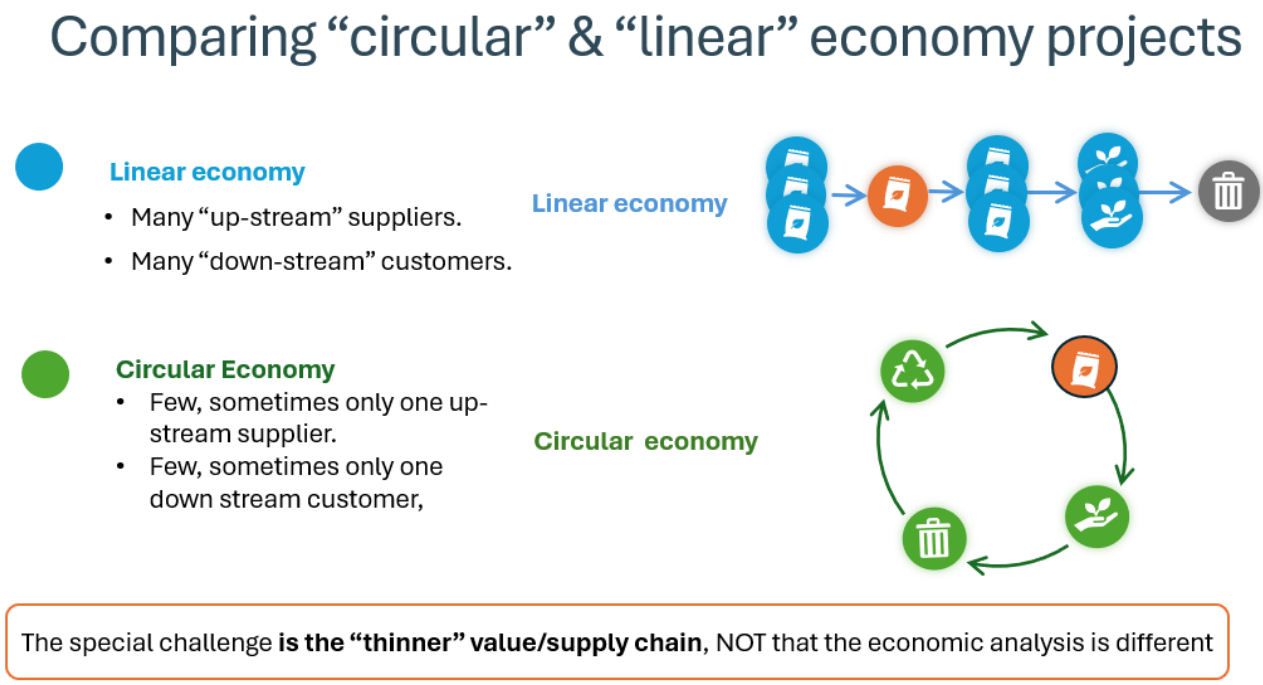

Figure 1 Circular and Linear economic projects

The key objectives of this paper are as follows:

- To present potential funding instruments - both public and private - that are either underutilised or absent in the current CE ecosystem but if exploited in the right way, and in combination of different funding sources has a strong potential for increased engagement.
- To categorize and describe different types of funding sources (e.g., grants, equity, guarantees, blended finance) and their relevance for specific CE solutions
- To map the alignment between financial actors and CE innovators, recognizing the differing expectations, risk appetites, and impact metrics across various investor types.
- To test hypotheses through direct stakeholder engagement, including interviews and roundtables with investors, entrepreneurs, public authorities, and ecosystem intermediaries.
- To develop a framework for matching investor profiles with solution categories, thereby enabling more targeted outreach, investor education, and strategic partnership building.

The scope of the task extended beyond traditional funding identification. It aimed to present a more mature investment ecosystem by exploring trust-building mechanisms, investor readiness tools, and long-term cooperation formats such as funding networks and blended finance models.

2. Funding Landscape Mapping Strategy

A successful transition to a circular economy requires more than innovative solutions; it requires targeted financial strategies and investor engagement. This document provides a structured approach to mapping the funding landscape, identifying potential underleveraged financial sources. This section outlines a relevant framework for this mapping process. The framework presented in this section is intended to support public authorities, investors, financial institutions, philanthropic organisations, and circular economy solution developers in understanding and navigating the complex financing ecosystem. By offering practical insights and categorisations, it aims to facilitate more effective capital mobilisation for circular initiatives across European cities and regions.

2.1. Types of funding sources

In principle there are many ways to fund a circular economy project or a company – and they can be combined or be complementary. Some funding sources are designed to provide small size funding, some are designed for large sum funding or are only relevant to solve short term liquidity challenges, while others are designed for long term funding. In this document a "snap-shot" of the often-confusing funding landscape is provided. The overview is relevant for most circular economy projects and businesses. Their place in the "funding process" is illustrated as in the Figure 2. Below is provided a short description of the most common funding types. Although the list is long, it is not exhaustive.

Different types and sources of funding:

- Own funding generated through sales or other company revenues
- Loans from banks or other credit institutions
    - Credit line facilities
    - Traditional bank loans
    - Project oriented loans
    - Standard Mortgage
    - Crowd loans
- Leasing of capital goods
- Mezzanine debt
- Selling shares in the project/company to investors (or sharing ownership), called "private equity funding" or "public funding" via the stock exchange
    - Sources

        - Private individuals (family and friends)
        - Business Angels
        - Equity crowdfunding
        - "Family funds"
        - Venture Capital
        - IPO/Stock exchange listing
- Grants from Public or Private sources
    - National, Regional and local grants
    - EU grants
    - Private Grants (Foundations and alike)

Participation funding from private or public sources in the form of co-financing, or partnerships, can have many forms, from access to test or production facilities, IPR support (Access to a large company IP office), purchase of test samples, testing of prototypes or access actual "soft funding" in various ways.

The criteria for getting the funding and the type of analysis that will be performed by the supplier of the different funding types differs, and the nature of the funding provided also differs. Even within each type of funding category, the individual fund providers may have different behaviour and can have very different criteria and might be looking for very different required impact to be achieved by the funding made available.

When looking for the right type of funding for a circular economic project or business it is important to secure that the fund provider is familiar with both the risks and opportunities connected to circular economy.

Investors are typically very selective in what they want to analyse as a potential investment possibility. For example, a Venture Fund can receive more than 500-800 project proposals each year, they may take a closer look at 10 % of these but only invest in less than 1 -2%. Business angels have very limited capacity to analyse deals and often rely on cooperation with business angel networks. The selection criteria for family funds may include other than pure financial objectives. When searching for investors it is therefore important to understand that "investors do not seriously analyse at all projects forwarded", and that the same investment opportunity might for some investors look like "heaven", while it looks like "hell" for others.

Contrary to investors, banks have the capacity to process thousands of loan applications. Normally all serious loan applications will be analysed, but not all will get "thumbs up". Although banks have a large loan processing capacity, each analysis is also a serious cost to the bank[1]. Therefore, many banks have limited financial interest in providing loans to the SME market segment, where the risk typically is large, and the transaction cost compared to the value of the transaction is also relatively high.

To be successful in getting a grant requires that the grant application can meet the interest and objective of the grant provider, and that it is a better application than all other applications submitted for the same call. For some type of EU grants, such as Horizon Europe funding scheme, the success rate varies between 2% – 20%. For successful EU grant applications, there are numerous advantages, such as non-diluting,

[1] Even for a rejected SME loan application, it often costs the bank more than €5,000 when due diligence by the banks risk department has been done.

unconditional, pure grant to support a prolonged project for the duration of 3 to 5 years with a single grant application. The downside of these EU grants is typically around 'red tape' aspects involved with these grants, although the EC is constantly simplifying its processes, making them more accessible and easier to handle.

When looking for funding for circular economy projects, it is important to understand that funders, such as banks, investors, grant authorities, and other financing bodies, assess more than just the project's quality, risks, and potential returns. A critical but often overlooked factor in their decision-making process is the internal cost and capacity required to evaluate the opportunity. If the effort to assess a proposal is perceived as too high relative to the potential benefit, funders may choose not to engage, regardless of the project's merits. As a result, many funding applications receive a quick and generic "no interest" response simply because they do not justify the internal processing effort needed to "open a case." This highlights the importance of aligning proposals not only with financial criteria, but also with the operational realities of the funding organisation.

Circular economy projects and business models often face a distinct funding challenge related to what can be described as "circle interdependency." Unlike linear projects, where inputs and outputs are more predictable and value chains are relatively self-contained, circular models typically rely on the interconnected performance of multiple actors across the value loop (e.g. recyclers, remanufacturers, logistics providers, and end-users). This means the success of one element often depends on the success of others, creating a system of mutual dependencies.

For many fund providers, this interdependency introduces additional complexity and uncertainty into the risk/opportunity assessment. Evaluating not just one business but a whole interlinked system increases the analytical effort, cost, and perceived risk. As a result, circular economy proposals are often seen as less "financeable" under traditional investment assessment frameworks, compared to linear projects with simpler, more isolated cash flow structures.

2.2. Typologies of Circular Economy Solutions

To facilitate effective investor engagement, circular economy solutions were categorised by Lüdeke-Freund et al. (2019) into typologies that reflect different business models, capital needs, and impact outcomes. Key CE solution typologies include:

- Waste-to-resource initiatives encompass diverse business models. Municipal recycling includes a wide range of activities, some of which, especially those involving innovative technologies from SMEs, may suit venture capital investment. Composting often involves local, lower-tech solutions that may align better with public or blended finance. Industrial symbiosis typically requires large-scale coordination and infrastructure, making it more suitable for strategic or public-private partnerships. Differentiating these typologies helps match investor profiles with business needs more precisely.
- Product-as-a-service and sharing models (leasing, platform-based access models)
- Reuse and refurbishment innovations (repair hubs, second-hand marketplaces)
- Material innovation and closed-loop production (biodegradable inputs, zero-waste manufacturing)

- Digital enablers for CE (e.g., traceability platforms, digital twins for material flows)
- Socially inclusive circular models (e.g., circular jobs for marginalised communities, community-driven repair and reuse)

Within each of these broad categories, there will be a number of “stand alone” solutions that carries a specific risk-return profile and may be better suited to certain funding instruments than others: for instance, some larger early-stage material R&D may require grant support, while other cases are prone for Business Angel investment, while a scalable platform solution may attract VC interest.

2.3. Grants and Investments – Similarities and Differences

While grants and investments are indeed distinct funding mechanisms, understanding their differences is essential in the context of this document because they often target overlapping innovation segments, especially in the circular economy space. Many early-stage projects navigate between both options, and funders, intermediaries, and recipients must align expectations accordingly. Analysing their differences helps clarify suitability based on project maturity, risk profile, and scalability potential. Although other instruments like loans and guarantees were mentioned earlier, this section focuses on grants and investments because they represent the most common, and often most misunderstood pathways, for early-stage circular solutions. A deeper comparison enables more informed funding strategies and ecosystem coordination.

The written “request for a Grant based funding” is typically a “Proposal” or an “Application”. For equity investments a “Business plan” or an “Investment Summary” is normally required. Despite the different labels, the requirements for information can be similar, especially when the comparison is with grants that aim to fund close-to-market initiatives, such as the EIC accelerator grant, which is an exceptional case in the Horizon Europe programme. However, in many other EU grants, the requirements are very much different.

As a supplement to making a judgement based on the written part of an “Application,” “Business Plan,” or “Investment Summary,” the evaluation process may include an interview session (video format or face-to-face) in front of an Evaluation Expert Board, but this applies only to the two specific EIC grants (Accelerator and Transition). For all other relevant grants, which represent most of the Horizon Europe (HE) budget, such interviews do not take place. The presentation, where applicable, is normally followed by a Q&A session.

3. Detailed Overview of Funding Instruments

3.1. Self-Funding from Commercial Activities

Own funding refers to financial resources generated internally through sales of products or services, licensing income, or other operational revenues. This self-financing approach is often the first and most reliable source of capital for circular economy businesses, as it does not depend on external approval or due diligence. While it can be limited in scale compared to external funding, reinvesting earnings can help demonstrate commercial viability, improve credibility with investors, and reduce reliance on debt or equity financing.

3.2. Public Funding

Public funding includes grants (including non-diluting, pure grants or conditional ones), subsidies, and concessionary finance offered through EU programs, national ministries, and regional authorities. These funds are typically aimed at de-risking innovation, enabling early experimentation, and supporting public-good outcomes.

Key features:

- Non-dilutive capital (no equity or repayment required):

  One of the key advantages of public funding for companies is that it is non-dilutive - recipients do not need to give up ownership or control in exchange for funds, unlike with venture capital or angel investment. This is particularly beneficial for startups and research-driven enterprises. Additionally, most public funding does not require repayment, making it a low-risk financial instrument. While non-dilution is not a relevant concern for public sector entities, public funding remains a vital enabler of early-stage development, feasibility studies, pilot programs, and infrastructure projects across both private and public sectors

- Diverse focus spanning research, innovation, and practical development:

  Public funding in the EU supports a wide spectrum of activities, ranging from research and innovation to highly operational and infrastructure-focused initiatives. For example, while many Horizon Europe grants prioritize knowledge generation, breakthrough innovation, and societal challenges (such as climate change, energy transition, or digital transformation), others are more practical in nature, emphasizing real-world implementation and measurable outcomes. In parallel, the European Structural and Investment

Funds, typically managed at the national or regional level, are geared towards infrastructure, service development, and regional cohesion. Across the board, public funding is aligned with delivering public value, whether through scientific advancement, improved services, inclusive growth, or sustainable development.

- High alignment with national and EU policy objectives:

Public funding is designed to support specific strategic goals set by public authorities. At EU level, this includes alignment with initiatives like the European Green Deal, the Circular Economy Action Plan, or Digital Europe. National and regional programs may focus on climate targets, regional development, or employment strategies. Applicants are required to demonstrate how their project contributes to these policy aims through clear impact metric.

- Procedural requirements and administrative considerations:

Accessing public funding typically involves structured application and reporting processes. While requirements vary depending on the funding source and type, applicants should be prepared to demonstrate the relevance, feasibility, and impact of their proposed activities. Some EU-level instruments may involve international partnerships or detailed project planning, while others, especially national or regional programs, tend to have more streamlined processes. Overall, public funding remains accessible but requires careful preparation and adherence to specific program criteria.

3.2.1. SUBSIDIES

Subsidies are financial supports designed to reduce the cost of specific activities, technologies, or investments and to stimulate market adoption of targeted solutions. Unlike grants, which typically fund entire projects or specific work packages, subsidies most often cover a portion of costs or revenues when certain policy goals are met.

Key characteristics:

- Usually applied retroactively, reimbursing expenses that have already been incurred.
- May cover a percentage of eligible costs, for example, 30–70% of capital expenditures.
- Often target renewable energy, energy efficiency, clean technology, or circular infrastructure.

It is important to note that subsidies can be structured in different ways. In some cases, they provide direct income to the producer or service provider as additional revenue on top of the commercial price, effectively improving profitability. In other cases, subsidies function as deductions from the selling price and are passed on directly to the consumer, reducing barriers to adoption and increasing affordability. Because of this dual role, subsidies are a much broader and more complex policy instrument than this brief overview can fully capture. Their design and administration vary widely across sectors and jurisdictions, and they often interact with taxation, certification, and other market incentives.

Subsidies can be an important lever to make sustainable and circular choices more commercially viable, particularly in markets where traditional price signals do not yet fully reflect environmental and societal benefits.

3.2.2. GRANTS FROM PUBLIC SOURCES

Grants from public sources are commonly referred to as “non-dilutive funding”- financial contributions that do not require repayment and do not entail giving up ownership or control. While the nature and objectives of grants can vary widely, they generally aim to support activities that align with public priorities, such as innovation, sustainability, digitalisation, and regional development.

Grants exist in many forms and are governed by specific criteria, eligibility conditions, and success rates, which can vary depending on the funding program, level of competition, and political priorities. These programs are subject to regular adjustments in scope, focus, and funding levels.

a) National, Regional and local grants reflect domestic policy goals and vary widely across countries and regions. They may support business development, innovation, social initiatives, or infrastructure projects, and are often administered by public agencies.
b) EU grants are aligned with broader strategic objectives such as the European Green Deal, the Circular Economy Action Plan, or cohesion and digital policies. Funding opportunities are published via structured calls, primarily on the EU Funding & Tenders Portal. Given the diversity of EU instruments, not all grants are focused on research and innovation. Many support real-world implementation, infrastructure, or regional cohesion (e.g. through the European Structural and Investment Funds, often delivered via national intermediaries).

Two broad categories of EU grant mechanisms include:

1. Thematic “Calls for Proposals” – These are tied to specific societal challenges or policy priorities. Applicants respond to predefined topics, often as part of international consortia. Thematic calls are common under programmes like Horizon Europe, where funding rates typically range from 50% to 100% depending on the call.
2. Innovation-focused schemes: for example, the EIC Accelerator under Horizon Europe supports high-risk, market-creating innovations. It allows single companies (especially SMEs and startups) to apply and may include both grant and equity components. While unique in its structure, the EIC Accelerator is just one element of the broader Horizon Europe framework.

Due to the competitive nature of these programs, where success rates are often below 10%, submitting a high-quality application that clearly aligns with funding objectives is essential. Applicants must be prepared to demonstrate impact, feasibility, and technical capacity, and navigate formal evaluation and reporting processes.

3.3. Private Funding

Private funding includes equity investments, loans, and other financial instruments provided by individuals, venture capital funds, banks, and corporate investors. These resources are typically aimed at scaling commercially viable solutions, driving market adoption, and generating financial returns alongside business growth.

3.3.1. LOANS FROM BANKS OR OTHER CREDIT INSTITUTIONS

The advantage of debt financing is that it does not impact company ownership distribution. The other advantage is that it is the company which pays the interest and takes care of the repayment of the loan – not the shareholders. And finally, it is always a good idea to have close relations with a professional bank. However, too heavy debt financing can have a negative impact on the balance sheets, and the suppliers and customers could become nervous. Furthermore, lenders might be difficult to find, especially if the company is part of a fragile circular economic environment with many internal interdependencies and cannot present any guarantee, collateral, or otherwise steady income stream. It is also worth mentioning that the riskier the loan, the higher the interest is to be paid. Furthermore, paying interest and repayment of the loan will have an impact on the future liquidity of the company.

In banks normally all serious loan applications are processed, and the criteria for offering the loan is in principle rather objective and “neutral”. This is a truth with modification. Good clients of a bank are often offered better conditions than an unknown newcomer. And the loan risk assessment, although often claimed by the banks to be “neutral”, often include a large subjective element.

The conditions connected to loans offered by banks and traditional credit institutions are not designed to address a high risk connected to getting a loan repaid. Hence there is normally a request for collateral, a third-party guarantee or solid track record. Some banks and credit institutions are very “industry focused” and are better equipped to access an industry specific loan request correctly.

If a company is defaulting with interest payment or payment of the principle on a loan, various conditions for the loan may be triggered or the loan might be called. If there is not enough liquidity to fully answer this call, the lender may try to cover his claim by calling the guarantors or taking control of the assets underlying the collateral. In many cases this can lead to a complete stop of the activities of the company and eventual liquidation or bankruptcy. The interest of the lender is to secure the outstanding balance of the loan by securing all types of assets available as guarantee or collateral for the loan – in many cases also eventual deposits on other accounts in the same bank. Basically, the lender has no interest in trying to help the company out of its difficulties, if such supportive actions may reduce the value of the guarantee or the collateral. Not all lenders will act like this – but many lenders will.

Below some of the most typical loan types are listed:

a) Credit line facilities or overdraft facilities can be obtained from a bank. Whenever you need it, you can draw up to a given amount. This facility is particularly relevant if the company over a period has variations in liquidity requirements. Sometimes an overdraft facility/credit line can be achieved without a collateral and is alone based on “trust” in sales budgets based on a solid track record. In other cases, normal security is requested. The bank does not interfere with what the money will be used for. An overdraft normally costs an annual fee and an interest. The interest rate on an overdraft facility is typically higher than on an ordinary bank loan, where the bank will always need some type of collateral. Often the bank will only offer the credit facility based on a credible budget provided by the company, which gives a clear indication that eventually the credit facility will be correctly serviced.

b) The traditional bank loan is often a “for a purpose” loan with a predefined maturity and interest and amortisation schedule. It could also be a short-term loan to temporarily strengthen the liquidity of the company. The bank will normally require various forms of collateral to cover the risk of getting the loan and interest repaid.

c) Project- or asset-oriented loans are financing arrangements offered by banks or other credit institutions to support the acquisition or development of specific assets expected to generate future revenue. These loans are typically secured against the asset itself or the anticipated income stream. Terms usually include a defined maturity, commonly 1 to 5 years, along with a fixed or variable interest rate and a structured repayment schedule. Interest may be paid during the loan period or capitalised into the principal.

   A notable variant of this approach is infrastructure and project financing provided by international financial institutions, such as the European Investment Bank (EIB) and the European Investment Fund (EIF). These institutions play an active role in supporting circular economy initiatives, offering tailored financial products and advisory support. EIB-backed circular economy loans can extend over 10 to 20 years or more, aligning with the long-term nature and capital intensity of such projects.

   In particular, the EIB has developed dedicated instruments for circular cities, including the Circular City Centre (C3) initiative, which offers advisory services to help municipalities and stakeholders prepare and finance CE projects. These resources are actively promoted by initiatives like the Circular Cities and Regions Initiative (CCRI) and provide a valuable entry point for urban actors seeking to access EIB funding for circular infrastructure and innovation.

d) Loans for buildings is a standard long term (10 – 30 years) loan with fixed or variable interest during the duration of the loan. It is the traditional mortgage-based loan, often provided by special credit institutions / building societies, but also banks provide similar loan arrangements. Often, the specialized credit institutions source the money they lend to the individual house owner through issuance of bonds to the international capital market. These large credit institutions have a strong “asset base” via their mortgage base in solid fixed assets with a substantial longevity. The risk for

investors of buying their bonds is small, and therefore they can raise money at a low interest rate. This gives these credit institutions the possibility to pass on favourable and long-term loan conditions.

Leasing is an often-underutilised way of financing access to use fixed assets, which normally have a high cost. For a company, it may be a good way to reduce liquidity requirements. The cost of a lease is directly reflected as a cost in the company's account. Leasing of capital goods/fixed assets is a sort of rental agreement. The lease is a contract whereby one party, the lessor, grants the right to use particular goods, normally for a predefined period, to the other party, the lessee (or tenant). The lessee will pay for the right to use the asset. The ownership of the product/equipment resides by the lessor, and normally the agreement is binding for the entire period described in the contract, hence from a financial accounting point of view it should be considered as an obligation and recorded as such, but in practice many SMEs will consider it "off balance sheet."

3.3.2. MEZZANINE DEBT

Mezzanine debt is a hybrid form of financing that combines elements of both debt and equity. It is often used to fund growth or expansion when traditional loans are insufficient or unavailable. For a company, mezzanine financing can provide additional capital without immediately diluting ownership, although it typically comes with higher costs than senior debt.

Mezzanine financing usually takes the form of subordinated loans or bonds that rank below senior debt but above equity in the event of liquidation. In many cases, it also includes warrants or options that give the lender the right to convert part of the debt into equity under agreed conditions. Because it carries higher risk for the lender, mezzanine debt often commands higher interest rates and stricter terms.

From an accounting perspective, mezzanine instruments are typically recorded as liabilities. However, their hybrid nature means they can have implications for ownership if conversion features are exercised. While mezzanine debt increases financial leverage, it can be an effective way to secure funding for projects or acquisitions when other sources are not sufficient or appropriate.

3.3.3. EQUITY FINANCING AND OWNERSHIP SHARING

Inviting third parties to fund a project or a company by offering them a share of the ownership is called "selling shares". The resulting funding type is called "equity" funding. Typically, during the development of a project/company the capital requirements at the beginning are small but can increase over time. In the "path to development" very differently minded "investors" can come into play. Often the path to funding, as illustrated below, is considered a smooth process, where one type of investors replaces the next along with the development of the company. However, the "funding path" is often "bumpier".

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considered a smooth process, where one type of investor replaces the next along with the development of the company. However, the “funding path” is often much “bumpier”.

The ones who buy the shares are called “investors.” Normally, investors are selective and only interested in screening investment proposals and buying shares in projects or companies which match their preferences.

Currently, many investors are unfamiliar with the risks and opportunities connected to circular economy projects or businesses. It may be a sort of circular economy sector self-inflicted problem, as many “circular economy projects” in their presentation (and often also in the analysis) have a focus on the circular material flow, with less emphasis on the connected “money flow.” However, it is the “money flow” that is at the centre of interest for investors.

The challenge becomes particularly evident in the so-called “valley of death” between early-stage development and commercial maturity. In theory, capital sources evolve step-by-step: from business angels, crowdfunding, and seed-stage VC to early-stage VC, growth capital, and eventually private equity and public markets. But in practice, many projects fall into a funding gap, where early-stage support has ended, but the project is still too risky or unproven for commercial-stage investors. This gap is shaped by time delays, high uncertainty, and the risk of ownership dilution: all factors that make investors cautious. Circular economy ventures, when failing to clearly communicate their financial model, may struggle even more to attract funding through this critical phase.

The criteria for buying the shares (unlisted shares or private equity) are often very subjective; they may even be politically, ethically, or emotionally influenced—for example: “we only invest in clean-tech companies.” To provide funding for a project or a company through buying shares differs substantially with respect to risk from a loan. If a company does not live up to the expectations behind an equity investment, the investor can do nothing, unless they are in control of enough voting rights to influence the Board of Directors or shareholder decisions.

However, in situations where the company needs more money in the form of new investments, the investor might be in a strong position, as the investor can often set the terms for his own follow-up investment, or before new investors are invited in. In this way investors can provoke a substantial dilution of the founders of the company by setting harsh conditions for accepting an eventual rescue financing2 In principle it is an “un-equal fight” as the nature of risk involved differs: the investor might lose some of his money, while the entrepreneur may be facing losing his company and all his livelihood.

From a funding point of view, the first external funding often originates from the FFF (family, friends and fools) investors. Then as the capital requirement and the value of the company increase, business angels, which have more money to invest, come in. Later, the classical venture funds arrive on the scene. Eventually, the company can move into the “late-stage market” and eventually raise further funds at the stock market. A first-time entry to the stock market is called: Initial Public Offering (IPO).

2 The aspect of dealing with investors is in great length addressed in the book “How to attract investors”, by Uffe Bundgaard-Jørgensen, 2016 Pan Standford Publishing.

For each round of financing, it is often assumed that it takes place at still higher valuation (share price goes up), which leaves everybody smiling and happy, including the first investors like the FFF and business angels. However contrary to the ideal world the share price does not always increase for each new round of financing, which expose the first investors to dilution[3]. It often happens that the later stage investors can be attracted to invest only at a lower price for the shares than the first investors. These later stage investors might have a different view on risk and/or opportunities. If the development of the company relies on subsequent new equity financing, and funding via loans or other financial sources is not a realistic option, the first shareholders might often be forced to accept the new conditions. This is the case, if they do not have the required funds to fill the liquidity gap.

For circular economic projects or businesses, the interdependency in the "circle" can pose a special risk for early investors, as the foreseen growth pattern of the individual companies in the "circle" is heavily dependent on the growth pattern of the other parties in the circular economy. This poses additional dilution risks, not only for the early investors, but also for the entrepreneur, if the funding strategy involves more rounds of funding. Entrepreneurs need to understand that for each "round of financing" the funding process starts with a clean slate. Past cost and previously funds invested does not play a role for company valuation, only actual valuable milestones achieved and realistic prospects for the future counts.

In the following examples of the nature of different type of investors is listed.

a) Private individuals (Family and Friends -and Fools! = FFF) is often the first informal way of getting the first funding. They invest their own money because they like or trust the entrepreneur. The challenge with this type of "informal" funding is often its informal nature with "investment documents" often "written at the backside of an envelope". Often it is unclear if the capital infusion is an informal gift, a loan, or should be considered as an investment with associated ownership. In the agreement it is often overlooked how to handle disagreement, crises, and most importantly new investments from new third parties. For subsequent investment rounds unclear (or lack of) agreements with the "FFF" can pose dramatic problems and insurmountable barriers.

b) Business Angels are investors who invest their own money in unlisted shares. Sometimes they act as sole investors, in other cases they invest with colleagues they know and trust as a consortium. Their investment capacity varies between 50.000 EUR to 500.000 – 1.000.000 EUR. The individual business angel's motive for investment varies considerably. Some invest to get a big capital gain (e.g. they want their "money back "10 times in 5 years' time). They are therefore very selective on business growth aspects and will be "pushing for quick results". Other business angels invest to become "involved" in an interesting business/project. In principle they do not want to lose their money, but they are not so focused on financial returns. Some will only invest into business sectors with which they are familiar (easier to judge the risk & the opportunity), others have a more opportunistic investment behaviour. However, despite the difference in motives, the business angel will normally only invest in companies

[3] Dilution: The "risk of dilution" is a risk which occurs when funding of a company takes place during a series of funding rounds. It the price per share drop from one round to the next, the first investors will find their shareholding to become "diluted" from a value point of view. See more page 234 How to attract investors – a personal guide to understand their mindset and requirements, Uffe Bundgaard-Jørgensen. Pan-Stanford Publishing 2016

/ projects close to where they live. Meaning that a visit to the investment target can be done on a one-day return trip. In general, the term “angel” is misleading. They invest to get a return of investment; their money is not free to grab.

c) Crowdfunding is an emerging new way to raise money for a project or a company by collecting both large and small contributions from a larger group of contributors typically via a crowd-funding platform on the Internet. The different crowd-funding schemes are in general un-regulated, unless it is “captured” by general legislation. E.g. if you offer a product via a crowd-funding scheme, it is actually a “purchase of a product”, which is regulated under consumer protection legislation. This legal aspect often comes as a surprise for many crowdfunding entrepreneurs. There are an increasing number of crowdfunding cases, where the “crowdfunding contributor” suddenly turns out to be a “customer”, who is not satisfied and wants a product replaced or the “money back”. In principle there are many types of Crowdfunding e.g.:

   - Reward-based: It works as a form of sale of a company or an artist's goods. Contributors receive different rewards depending on how much an amount they contribute. This type of network financing is an alternative to startup companies with prototypes of a product and lacking funding for mass production.
   - Share-based crowdfunding (equity) is an investment form in which a larger group of investors (who often do not know each other) each invest smaller amounts in a “crowd fund” which invest in companies in exchange for part of the company's revenue or ownership in the company. The difference between a Share-based crowdfunding and an investment by a business angel consortium is somewhat blurred. But the “crowd funded” money seldom comes with a direct involvement in the company from the individual “small” investors, while the business angels normally are very active investors. Share-based crowdfunding is a different way of investing in unlisted shares.
   - Donation-based crowdfunding is primarily for social or local ideas that often do not have a business model or which may not be scalable or profitable.
   - Crowd-lending is also known as loan-based network financing, where a monthly cash flow is paid to investors. Contrary to equity crowdfunding, where companies offer ownership by issuing shares in the company, Crowd-lending makes it possible to continue the business with full ownership.

Contrary to business angels, crowdfunding investors are normally “putting their money at risk without an interest in active participation in the business operation”. In other words, they “buy a lottery ticket” to a potential big venture. In the last few years, a new crowd-fund trend has emerged. We have seen a funding round started as a traditional crowdfunding solution with a small number of participants (investors), which then result in a similar small number of individuals, but passive, shareholders. As capital requirements of the company increase, the company then rely on a next round of funding from a Crowd fund legal vehicle, which could consist of many very small investors. The “for the purpose” created legal Crowd Fund entity is then represented in the company a “one single shareholder” – which due to the combined size of investment can (but need not) be an active shareholder. If a member/investor of the Crowd Fund entity wants to leave (sell

its share) the transaction takes place “inside the Crowd Fund entity”, and it does not impact the Crowd Fund entity’s shareholding in the company. In many countries there exist companies or organizations which organizes this and other type of crowdfunding.

a) Venture Capital. The typical Venture Fund of today is organized with a management company that invests in several portfolio companies through one or more “closed end4” funds, each with a maturity of 10 – 15 years. The money in the fund often comes from institutional investors (pension funds, mutual funds, fund of funds, saving institutions, insurance companies and industries). The institutional investors who allocate a few % of their very large capital under management for investments in the VC asset class, and they expect to see a return, which not only reflect the risk they are taking, but also the liquidity constraint imposed by having their money locked in a period of 10 – 15 years. The VC fund managers use the money in the fund to invest in the portfolio companies. In figure 4 is illustrated that if the failure rate in the investment portfolio is 50 % then the “surviving companies” shall give the VC fund at least a return of 30 % to “make the investors in the VC fund happy”.

b) To find the right “deals” to invest in for Venture Funds rely on a large deal-flow and a very professional screening process. They often only invest in very few % of the deals, which are send to them, but they also actively “scout” for the right deals at exhibitions, conferences and professional meetings. The principle behind a “closed end” fund is that it will be liquidated after a pre-determined period. This puts constraints on the investment strategy of the VC fund managers. They therefore primarily make new investments as long as the fund is “young.” Later in the lifetime of the fund they monitor and nurture the successful portfolio companies with follow-up investments. The last part of the lifetime of the fund is a rush for exiting from the investments made.

Many fund managers are in a constant fund-raising process – or is considering it. Therefore, to “stay in business”, the management company shall regularly address the financial market and raise new funds to replace those, which are getting closed and liquidated. When doing so they need to provide proof of previous successful investments, which again put a “performance” pressure on their portfolio companies.

c) Initial public offering (IPO) or stock market launch is a type of public offering, in which shares of a company are sold to institutional investors5 and usually also retail (individual) investors. An IPO is underwritten by one or more investment banks, who also arrange for the shares to be listed on one or more stock exchanges. Through this process, also known as “floating”, or “going public”, a privately held company is transformed into a public company. Initial public offerings can be used: to raise new equity capital for the company concerned; to monetize the investments of private shareholders such

4 A “closed end fund” is a fund with pre-determined period until liquidation.
5 Institutional investors are typically pensioning fund, mutual funds and or insurance companies

as company founders, VC funds or private equity investors; and to enable easy trading of existing holdings or future capital raising by pose dramatic problems and unsurmountable barriers.

Depending on the stage of development, all these funding types are available also for circular economy projects and businesses. But only if they can adhere to the funding criteria of the fund providers. In essence what is required is a solid business strategy and business plan, which can convince the funds providers that they are not going to lose their money, and that they will get a return which reflects their individual “yes” criteria. In this aspect there is no difference between “linear” and “circular” business cases access to money.

4. Conclusions and Recommendations

Accessing funding for circular economy (CE) projects remains a significant challenge, not due to a fundamental lack of capital, but due to misalignment between CE project characteristics and investor expectations. The complexity introduced by circle interdependency, the emphasis on material flows over financial flows, and the often-limited investor familiarity with CE models create persistent financing gaps, particularly in the pre-commercial and scale-up phases.

Key Conclusions:

- Funding is available, but CE projects must improve how they articulate financial value, risk mitigation, and scalability to match investor priorities.
- Public grants remain vital for early-stage and high-risk CE innovations but cannot fully replace private capital in later phases.
- Equity investment introduces specific risks (e.g. dilution, control loss) and must be planned carefully through staged financing and clear investor alignment.
- Investors assess not only impact but also transaction cost and internal processing effort—many promising projects are dismissed early due to unclear business models or overly complex value chains.
- The "valley of death" between early-stage funding and commercial scaling remains especially pronounced for CE ventures. Strategic use of blended finance, risk-sharing mechanisms, and trusted intermediaries can help bridge this gap.

Recommendations:

- CE entrepreneurs should enhance investor readiness by focusing equally on material *and* money flows, demonstrating clear business logic, returns, and impact metrics.
- Funding strategies should be hybrid and staged, combining grants, commercial revenues, and private investment, tailored to the project's maturity and risk profile.
- Policy makers and intermediaries should promote investor education, simplify access to funding instruments, and support platforms that match CE innovators with aligned funders.

- A wider application of flexible funding mechanisms, such as mezzanine instruments or innovation-friendly public procurement, could unlock further capital flows into CE.

To truly mainstream circular economy models, both public and private funding stakeholders must evolve toward a shared understanding of value, impact, and risk in circular systems. This requires not only new tools and frameworks but also a cultural shift in how innovation and sustainability are financed.