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CSP Center for Sustainable Finance & Private Wealth

Unlocking Investments for Water Entrepreneurship

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Innosuisse – Schweizerische Agentur für Innovationsförderung

Initiative for Blended Finance at the University of Zurich

cewas

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Foreword

Taeun Kwon
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Since the departure of this research project, nothing has been made clearer to me than this: there is an immense need when it comes to water, and an equally immense financing gap. I hear time and again how investors are interested in the water sector. Large financial institutions launching water-themed funds, families and UHNWIs laying out water as one of their primary sector of interest, and water joining the list of commodities being traded as futures are all a manifestation of the interest in the sector. Knowing this, it is puzzling to note the immense financing gap faced by so many water initiatives.

Among many other challenges laid out in the report, an underlying problem is the lack of focus on entrepreneurship. The majority of conversations on water sector investments circles around large scale infrastructure and utilities companies. However, innovative solutions driven by entrepreneurship are equally required to meet water specific needs. These solutions include business models solving the last mile problem of water distribution, tech for good allowing for easy water purification, and technology enabling efficient water resource management.

With the entrepreneurs vantage point in mind, we created a toolkit that allows the matching between different types of water enterprises and appropriate financing tools. We lay out a typology of water enterprises created with a science- and data-based methodology, and explore the full range of possible financing instruments that can be used. Finally, we share how some instruments are more suitable than others, depending on the type of enterprise, allowing the entrepreneur and investor to find each other more easily.

We hope that this toolkit can contribute to accelerating the financing of much needed water related innovations.

Why We Decided to Dive into Water

"Thousands have lived without love, not one without water."

— W. H. Auden

In all his cheesiness, author and poet Wystan Hugh Auden is right. Just as life depends on water, achieving the United Nations sustainable development goals (SDGs) rely on water and access to it, either directly or indirectly. Poverty, hunger, gender discrimination, and peace and security all rely on the availability of and access to water. With this in mind, it seems obvious that fostering innovative enterprises that ensure the sustainable use of this natural resource is critical. Yet, investment in the water sector, especially in enterprises, is still lacking.

In an endeavor to engage more sources of capital from private and public actors with water-related interventions, a project called Unlocking Investments for Water Entrepreneurship was kicked off with the generous support of Innosuisse—the Swiss Innovation Agency and the Swiss Agency for Development and Cooperation (SDC). The results of the study are collected in this guidebook, which aims to connect investors and water enterprises with shared goals. The guide does this by providing:

- An overview of the water sector from an investor's point of view;
- An outline of the different typologies of water enterprises, including key characteristics of their business models, enterprise setup, and revenue generation; and
- Knowledge of the diverse investment instruments, ranging from traditional to innovative models.

This study is a collaborative effort between the Center for Sustainable Finance and Private Wealth (CSP) and the Initiative for Blended Finance at the University of Zurich, as well as the Center for Entrepreneurship in Water and Sanitation (cewas), enabling the interweaving of knowledge from both the industry and academia. The goal of the body of work is to allow water enterprises and ecosystem actors, such as incubators and accelerators, to identify and approach suitable financial sources for the relevant enterprise typologies, while funders can seek out suitable enterprises or financing instruments, depending on their objective.

The guidebook is structured as follows:

1. Insights into the water sector in general, its evolution over the past years, and its importance for other sectors relevant to the achievement of the SDGs.

1. Overview of the typology and methodology behind the water enterprises. This guidebook provides ten enterprise profiles that have been identified in the course of the study as relevant and insightful typologies.

1. Overview of traditional and innovative financing mechanisms, such as results-based finance or quasi-equity instruments. The overview will also include case studies providing insights on how the instruments can be applied in the water sector.

I. Unlocking Investments for Water Entrepreneurship

Importance of Investing in Water

More than
2 bn
people do not have access to safe drinking water

Around
3.6 bn
people do not have access to safely managed sanitation

Water is life. Despite this fact, one in four people—that is more than 2 billion people—do not have access to safely managed drinking water[1]. More than half of the world's population (around 3.6 billion people) live without safely managed sanitation services[2]. As the climate crisis intensifies and global warming continues to break heat records, water-related issues will only increase in severity.

The international community has acknowledged the importance of water and sanitation by adopting SDG6: Clean Water and Sanitation as a priority, but the relevance of water goes beyond that. Water is directly linked to other SDGs, such as good health and wellbeing, climate action, and life below water or on land. It can be a source of renewable energy, linked to SDG 7: Affordable and Clean Energy. Access to clean water ensures that children, especially girls, can attend school consistently and contributes to SDG 4: Quality Education and SDG 5: Gender Equality. SDG 12: Responsible Consumption and Production is closely related to waste management, which is also related to water. Needless to say, a stable water source contributes to peace and stability, which makes it essential for achieving SDG 16.

The magnitude of the problem requires solutions from public entities, coupled with the increased involvement of the private sector. Yet, access to the required early-stage risk capital, particularly smaller tickets ranging from $10,000 to $250,000 USD, remains one of the biggest hurdles for water startups.

While many private investors have the necessary means and show interest in the water sector, it remains the sector with the highest discrepancy between investment intentions and capital deployed[3]. This is partially due to the hesitation of private investors due to higher perceived risks. Additionally, businesses in the water sector often need to develop demand and willingness to pay of end customers over a longer time frame, or go through the lengthy process of developing customer relations with public authorities. This can result in the need for more patient capital or acceptance for below market rate returns. If this results in hesitance to invest, the needed capital flow is restrained, exacerbating issues underlying the water crisis and missing out on the opportunity for high impact returns.

This is why Innovative financing mechanisms are key for the improvement of investment terms and de-risking, as well as growing the sector[4]. While considering more traditional ways of financing enterprises is important, innovative finance can fill gaps where traditional finance is lacking. Innovative finance is receiving growing attention, especially through its de-risking and incentivizing investments by using catalytic capital from development and philanthropic organizations[5]. These developments underscore the latent potential in exploring innovative ways of financing to match the needs of the sector and accelerate the growth of sustainable water solutions.

1 UN Water (2021). Summary Progress Update 2021: SDG 6 – water and sanitation for all, UN-Water, Geneva, https://www.unwater.org/publications/summary-progress-update-2021-sdg-6-water-and-sanitation-for-all/

2 OECD (2019). Making Blended Finance Work for Water and Sanitation: Unlocking Commercial Finance for SDG 6, OECD Studies on Water, OECD Publishing, Paris, https://doi.org/10.1787/5efc8950-en

3 CSP (2019). Impact investing: mapping families' interest and activities. University of Zürich. http://theimpact.org/wp-content/uploads/2019/09/TI_MA_ImpactInvestingReport2019_LowRes.pdf

4 Rieiro, F. M. (2017). Bridging the gap between impact investing and the WASH sector. https://www.ircwash.org/blog/bridging-gap-between-impact-investing-and-wash-sector

5 OECD (2019), Making Blended Finance Work for Water and Sanitation: Unlocking Commercial Finance for SDG 6, OECD Studies on Water, OECD Publishing, Paris, https://doi.org/10.1787/5efc8950-en

About the **Unlocking Investments for Water Entrepreneurship** Project

For our project, we first set out to understand how water enterprises are currently financed. This involves creating a typology of water enterprises based on scientific methodologies, including qualitative comparative analysis (QCA). This exercise allows us to understand what characteristics of water enterprises are critical to facilitate investments various financing instruments.

In addition, we review various financing instruments, ranging from traditional equity, debt, mezzanine, and grant, to more innovative ones such as blended finance funds or facilities, impact bonds, outcome-based funds, and crowdfunding. Given the nascent stage of such instruments in the water sector, we also look into sectors sharing similarities with the water enterprise sector, such as (off-grid) renewable energy, education, and healthcare, to identify the development and effect of the various instruments.

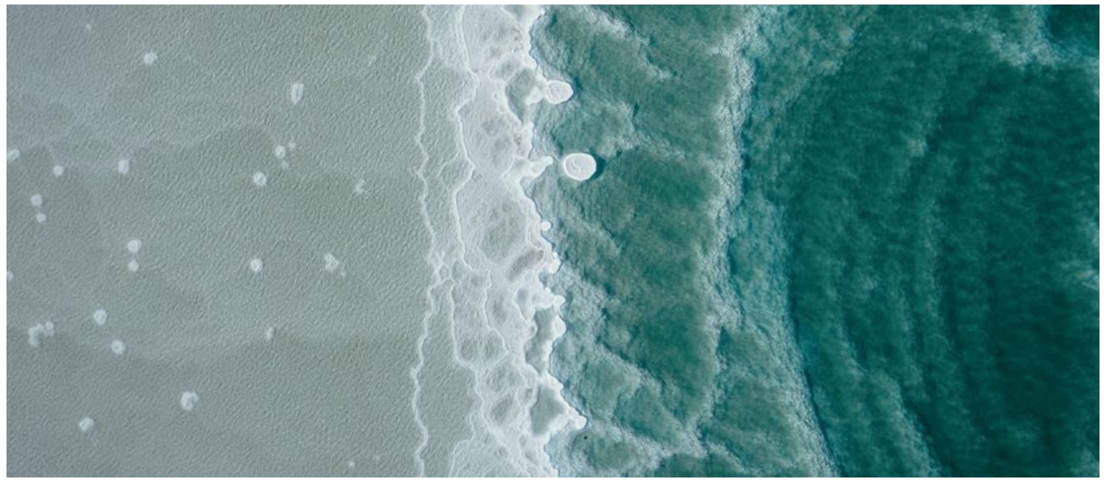
Based on such a review, we identify:

a. objectives, pros and cons, and effect of the various instruments,
b. investors' requirements and selection criteria for the respective instruments, and
c. how to match the instruments to the identified enterprise types.

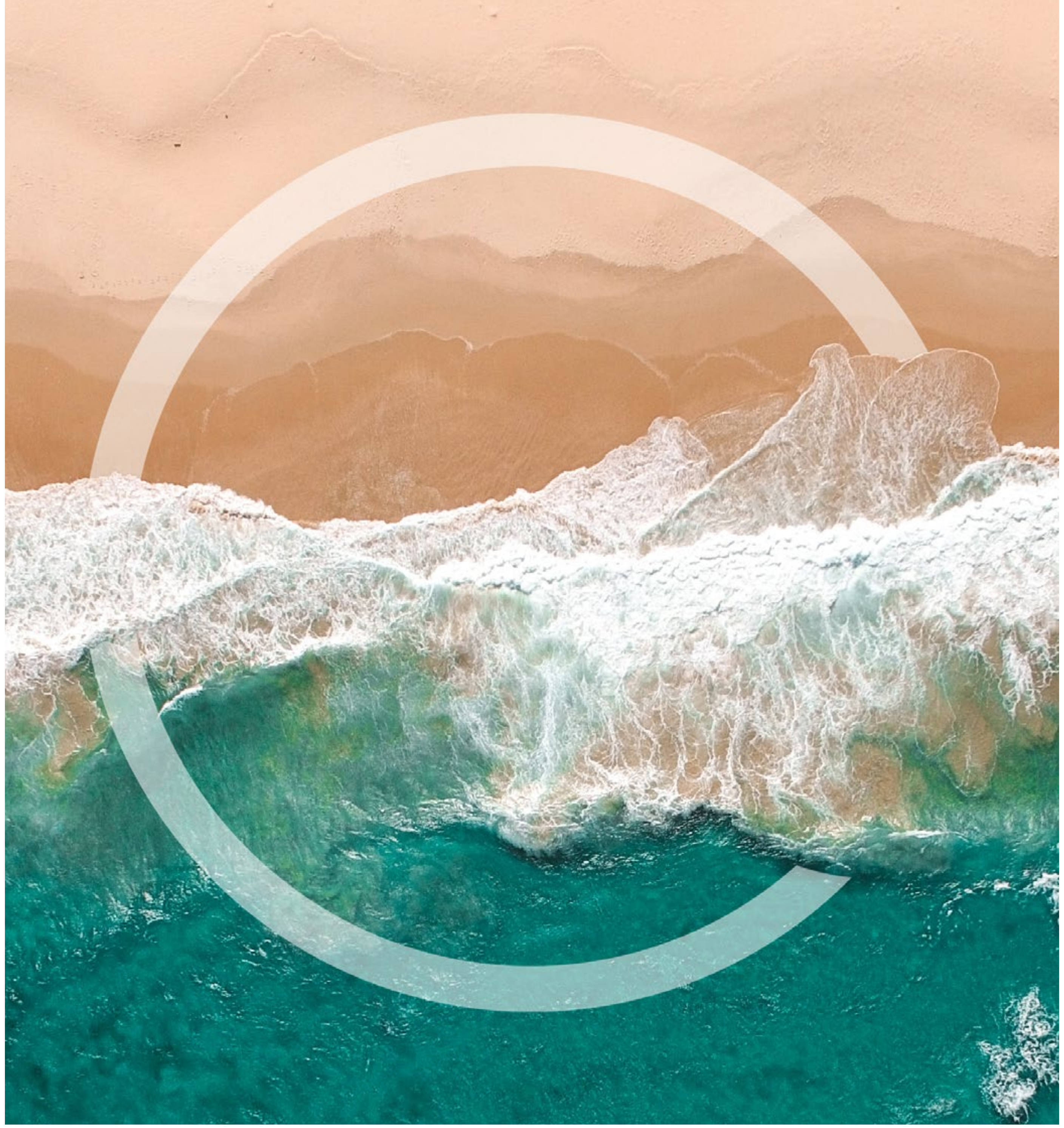
Given that the water sector is vast, we limit our scope to the freshwater sector. We focus on different sectors of the water nutrient cycle, including water resources management, piped and non-piped water systems, water use in agriculture, households, industry, sanitation, wastewater management and reuse. See our overview of the water sector in Chapter 2. We also focus our attention on enterprises that have considerable potential to scale and innovate but have not received much attention relative to infrastructure projects in terms of financing.

The Water Entrepreneurship typology is expected to provide knowledge on how to effectively finance water enterprises—more specifically, on how to identify the most appropriate financing instruments for different water enterprise types.

This should give entrepreneurs, as well as investors, some guidance on how to approach investments in the water sector and find a suitable match.



II. The Water Sector at a Glance



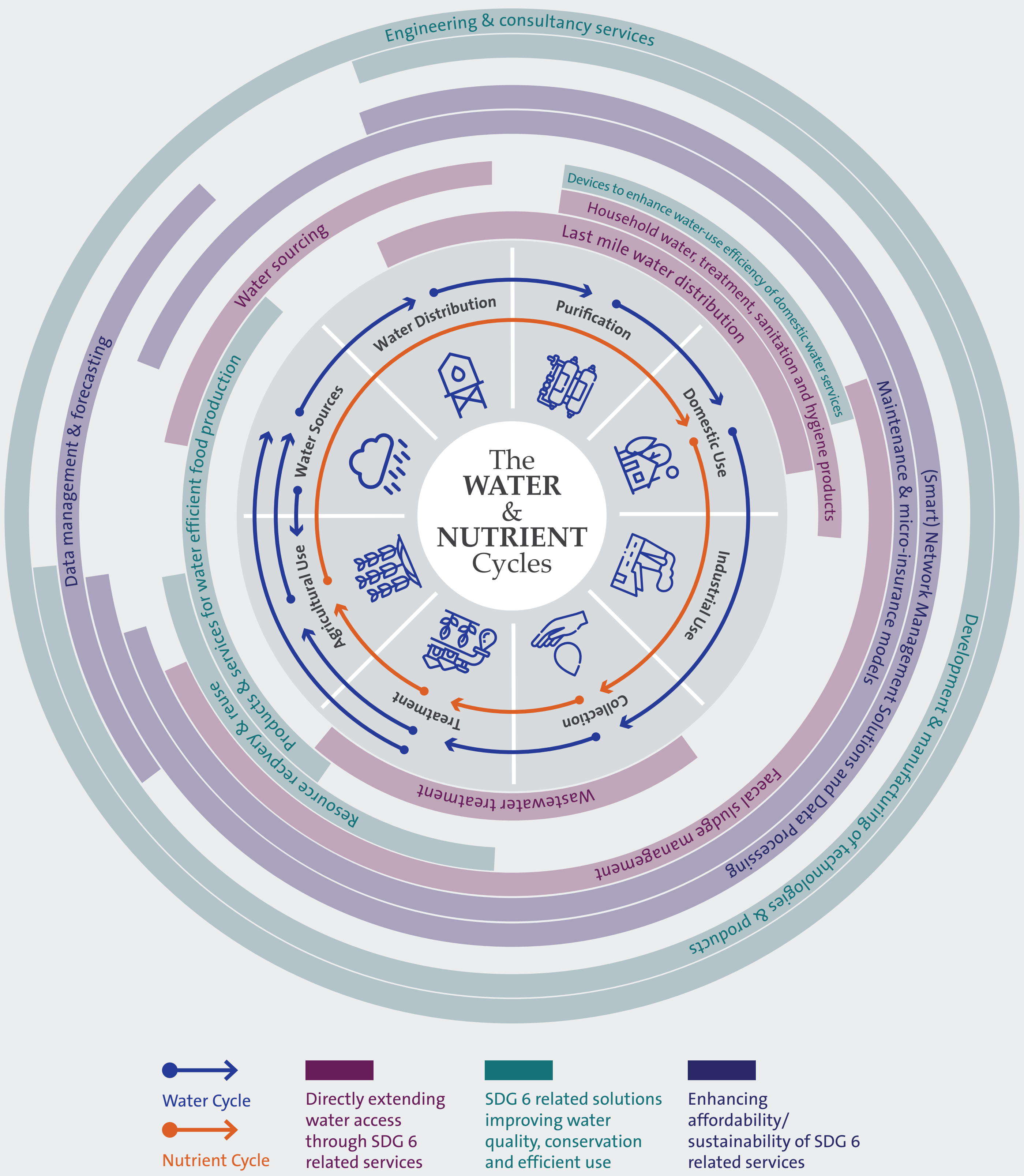
Mapping the Water Sector

The scope of this project has been limited to the freshwater space. We map relevant solutions along the water nutrient cycle[6], differentiating between the steps and functions of the cycle. By considering the whole water cycle, we are taking a holistic approach to sustainability and investing, starting with water from actual water sources and activities such as water resources management. As we progress, we move onward to distribution and optimization, bringing in questions relevant to agriculture, households, industry, and other sub-sectors. For example, we see that on the household level, businesses provide treatment as well as sanitation and hygiene services, and on the agricultural and industry level, companies offer farmers or factories advanced technologies to increase water-use efficiency or decrease water pollution. To close the circuit, we also draw attention to businesses that collect and treat the resulting wastewater, while others offer water reuse products or protect and replenish water sources. It is worthwhile to note that some enterprises cover several sub-sectors simultaneously.

Water enterprises play an indispensable role in ensuring the proper functioning and closing of the water nutrient cycle. **Figure 1** aims to visualize the different sub-sectors within the water system and their interlinkages, while also providing an overview on how to map the water sector. The visualization is all but exhaustive as other sub-sectors might exist within the water nutrient cycle.

[6] sswm.info (2020). The Water Nutrient Cycle. https://sswm.info/perspective/water-nutrient-cycle-perspective

Figure 1: Water Solution Mapping



Source: Authors

Water and Sanitation Related Business Models

Directly extending water and sanitation access through SDG 6 related solutions	SDG 6 related solutions improving water quality, conservation and efficient use	Enhancing affordability/ sustainability of SDG 6 related services
Water sourcing through water harvesting from air, rainwater harvesting, desalination, borehole drilling, etc.	**Devices to enhance water-use efficiency of domestic water services** incl. water saving taps etc	**Maintenance and micro insurance models** for off grid water infrastructure (incl. plumbing services)
Last mile water distribution, incl. distributers for water utilities, micro utilities, water kiosk models (through social franchise or water ATMs, among others)	**Development & manufacturing of technologies** (treatment, measurement, testing) **and products** (pipes, tanks, etc.)	**(Smart) Network Management Solutions and Data Processing** improving water efficiency and affordability
Household water treatment, sanitation and hygiene products, incl. toilets, handwashing kits, among others	**Engineering and consultancy services** along the water and nutrient cycle	**Data management & forecasting** around water resources, weather and climate change
Faecal Sludge Management models providing more comprehensive solutions along the sanitation value chain (including container based sanitation, pit emptying etc.)	**Resource Recovery & Reuse** business models, ranging from composting / fertilizer production over energy recovery to treated wastewater reuse	
Wastewater treatment solutions contributing to conservation of water sources and ecosystems	**Products and services for water efficient food production**, incl. aquaponics, hydroponics, irrigation systems, among others	

Challenges and Funding Needs of the Water Sector

Funding the water sector has its own sector-specific challenges. For instance, in order to build or expand piped water infrastructure, climate-smart agricultural systems, wastewater systems, or nature-based flood protection, many enterprises are dependent on large, upfront capital investments with long payback periods[7]. Thus, initial capital expenditure (Capex), as well as maintenance costs, are particularly high in the water sector. This means that external financing is critical for water enterprises, especially in the start-up phase.

At the same time, cost recovery is rather challenging because water continues to be an undervalued and underpriced resource[8], water tariffs are usually set low due to the public nature of water, and enforcement of regulations, especially for wastewater treatment, is often inefficient. The challenge is intensified for enterprises that operate in rural or bottom of the pyramid (BoP) markets since they target low-income consumers who have limited means to pay for basic services. In addition, water enterprises suffer from seasonal variations, also causing variations in revenues. Thus, businesses need financing that enables end-users to pay and can bridge dips in revenue until they have generated the necessary traction and stable customer base to cover costs or become profitable.

Given these regulatory and market conditions, many early-stage water businesses are also in need of funding to cover day-to-day expenses, while establishing a viable business model. In addition to high asset and maintenance costs, the water business is usually quite labor-intensive, increasing the need for working capital. Hence, external financing that supports short-term working capital is also important for businesses operating in this sector.

As water quality regulations and efficiency grow, enhanced demands are being voiced regarding the digitalization of the sector and the use of Internet of Things (IoT) approaches. These demands create both an opportunity and a need for investments in new, cutting-edge technologies enabling, for example, smart metering or leak detection[9].

Besides high initial upfront capital and difficult market conditions, businesses in the water sector also face a complex legal and regulatory environment that makes it more challenging to raise funds when comparing fundraising processes to those of other sectors. Since providing access to water is usually the role of the government, the water sector is highly regulated and dependent on policy change.

Some water enterprises face success or failure purely based on the regulatory risk, which makes fundraising challenging.

[7] Sachwani, K. (2020). Financing the water sector – an alternate approach. World Bank Group. https://www.2030wrg.org/financing-the-water-sector-an-alternate-approach/

[8] Sachwani, K. (2020). Financing the water sector – an alternate approach. World Bank Group. https://www.2030wrg.org/financing-the-water-sector-an-alternate-approach/

[9] Sachwani, K. (2020). Financing the water sector – an alternate approach. World Bank Group. https://www.2030wrg.org/financing-the-water-sector-an-alternate-approach/

Investment Trends in the Water Sector

The OECD suggest that the number of people affected by water-related disasters will increase to 1.6 bn in 2050

Millions of people are affected by water-related disasters, such as floods and droughts, and both the frequency and intensity of such disasters are expected to increase in the coming years. The OECD suggest that the number of people at risk from floods will increase from 1.2 billion to 1.6 billion in 2050 and will affect almost 20% of the world population[10]. While this might be a dire outlook, it also indicates a market opportunity, as investments in the water sector could provide security for people and communities and appropriately equip water businesses and infrastructure to respond to the mounting needs.

In the last decade, developments have been seen and made in the sector and in capital markets, resulting in the valorization of the business case for water. A study by the World Health Organization (WHO) found that the global economic return on sanitation spending stood at 5.5 per US dollar invested[11]. Also, given the ongoing Covid-19 pandemic, the increasing need for and importance of hygiene cannot be overstated.

WASH was the fastest growing sector with allocations growing at 33% CAGR from 2015 to 2019

In addition to the financial case for investing in water, the impact case is significant, too. According to the WHO, WASH (water, sanitation and hygiene) is the most effective investment strategy in health, with six lives saved per $100 invested[12].

The private sector plays an important role in closing the financing gap for water. Involvement of the private sector started in the 1990s when water operator businesses and the issuance of municipal bonds for water began[13]. However, the focus on large, profit-oriented corporations and the financial crisis around the year 2000 posed limits to the service improvements, expansion, and impact-oriented innovations needed for a more sustainable water sector. Today, there is a renewed interest from private capital in improving and increasing water financing, mainly spurred on by investors seeking new markets and socially and environmentally responsible businesses[14]. In fact, the GIIN (Global Impact Investing Network) annual Impact Investor Survey 2020 stated that WASH was the fastest growing sector, with allocations growing at 33% compound annual growth rate (CAGR) from 2015 to 2019. This upward trend is likely to continue in the coming years[15].

However, most WASH investments shared by investors as part of the survey were noted to go to developed markets rather than emerging markets, with 10% of assets under management steered to developed markets and only 1% to emerging markets. Looking at the ratio of water enterprises founded per region over the years, North America, especially the United States, dominates in terms of the number of enterprises. While European enterprises also account for a large proportion, this continues to decrease over time. However, less developed regions—such as Africa, the Middle East, and Latin America—are still lacking in terms of the

[10] OECD (2012). OECD Environmental Outlook to 2050. OECD: Paris, France, 2012.

[11] ACTIAM (2020): Water: an essential element of investment portfolios. https://www.actiam.com/499561/siteassets/perspectives/202004-water/actiam-perspective---water---an-essential-element-of-investment-portfolios.pdf

[12] ACTIAM (2020): Water: an essential element of investment portfolios. https://www.actiam.com/499561/siteassets/perspectives/202004-water/actiam-perspective---water---an-essential-element-of-investment-portfolios.pdf

[13] Alaerts (2019). Financing for water – water for financing: a global review of policy and practice. Sustainability 2019, 11, 821. https://doi.org/10.3390/su11030821

[14] Alaerts (2019). Financing for water – water for financing: a global review of policy and practice. Sustainability 2019, 11, 821. https://doi.org/10.3390/su11030821

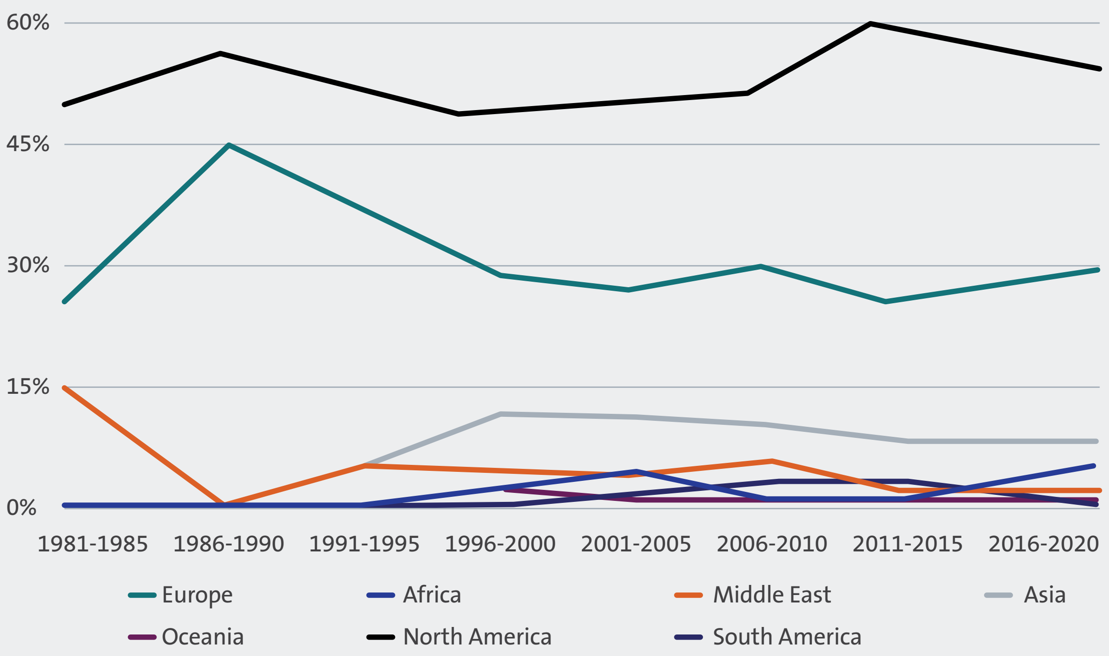
[15] GIIN (2020): Annual Impact Investor Survey 2020. https://thegiin.org/assets/GIIN%20Annual%20Impact%20Investor%20Survey%202020.pdf

number of established water enterprises. The divide is worrying, especially knowing that the countries most affected by water scarcity and those experiencing inadequate water and sanitation services are in emerging markets.

Nevertheless, when broken down by country, India has the highest value of investments at $8.27 billion USD. This is mostly due to a few large private equity investments, but it also indicates the opportunity the Indian water sector offers.

For investors, finding enticing investment opportunities can also be a challenging endeavor, particularly for investors with little knowledge of the sector. Most impact investments today are made through illiquid assets, such as sustainably irrigated or rain-fed farmland or private-public-partnership infrastructure, with only a few liquid publicly traded water utilities and water tech businesses included[16]. Several hurdles and disincentives hinder the deployment of capital in water markets, largely depending on the asset type, sub-sector, and owner profiles. These complexities further add to the risk profile and transaction costs of water investments[17]. There is a clear mismatch between the opportunities that investors are looking for and those that are available. Figure 2 illustrates this discrepancy.

Figure 2: Ratio of number of enterprises founded per region 1981–2020, source: Crunchbase

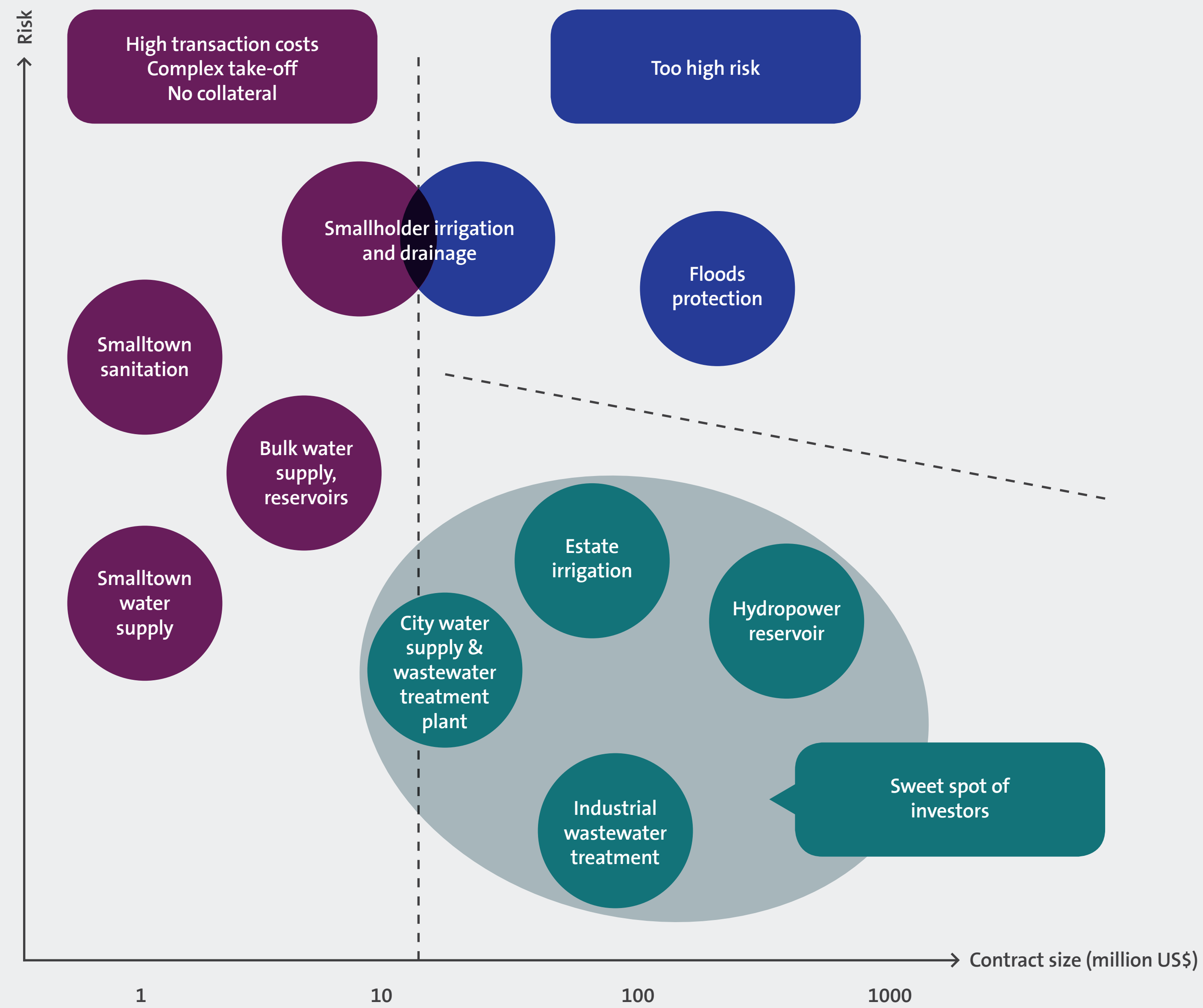


Source: Crunchbase

[16] Stroud, J. (2020). The rise of impact investment in the water sector. https://www.globalaginvesting.com/contributed-content-rise-impact-investment-water-sector/

[17] Alaerts (2019). Financing for water—water for financing: a global review of policy and practice. Sustainability 2019, 11, 821. https://doi.org/10.3390/su11030821

Figure 3: Investment appetite depending on asset class, investment size and risk profile.

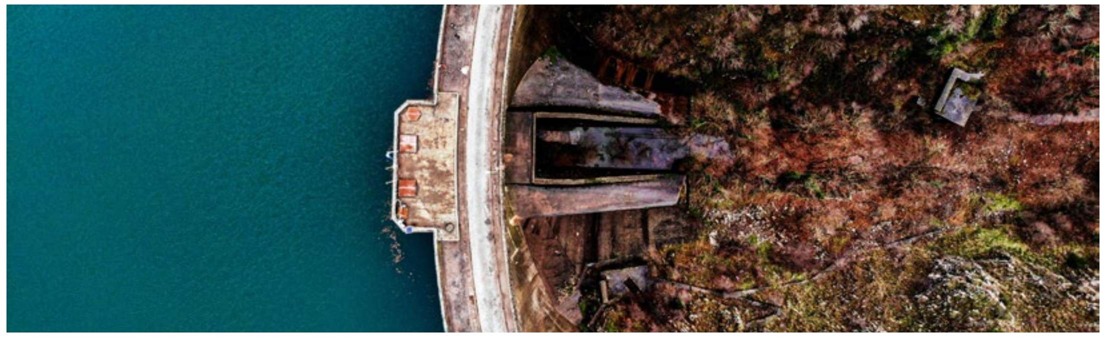


Graph source: Alearts (2019)

When examining tendencies per region, the majority of investors are concentrated in developed economies, such as North America and Europe. The investors in the United States especially are mostly venture capitalists or angel investors, providing enterprises with early-stage risk capital, which allows the sector to grow. North America and Europe also deploy more risk and flexible capital through accelerators, incubators, or the government, which is very much needed to build an ecosystem of innovative businesses. On the other hand, emerging economies, such as countries in Africa or the Middle East, do have more grant providers, but they lack the pre-seed, seed, and early venture capital that allows enterprises to grow and scale.

However, there are a number of viable businesses that eventually qualify for financing. As they grow and attract investors, these businesses develop their capacity, adapt to current trends, and contribute to building the market. As already stated in the previous chapter, companies increasingly adopt new technologies to positively influence water efficiency and customer experience, making investments in R&D in water technology all the more important . In recent years, a growing trend toward de-risking investments and increasing the effectiveness of existing funds through innovative financing mechanisms has been observed. Thus, funding water businesses and other projects in the sector is expected to become more attractive in the near future.

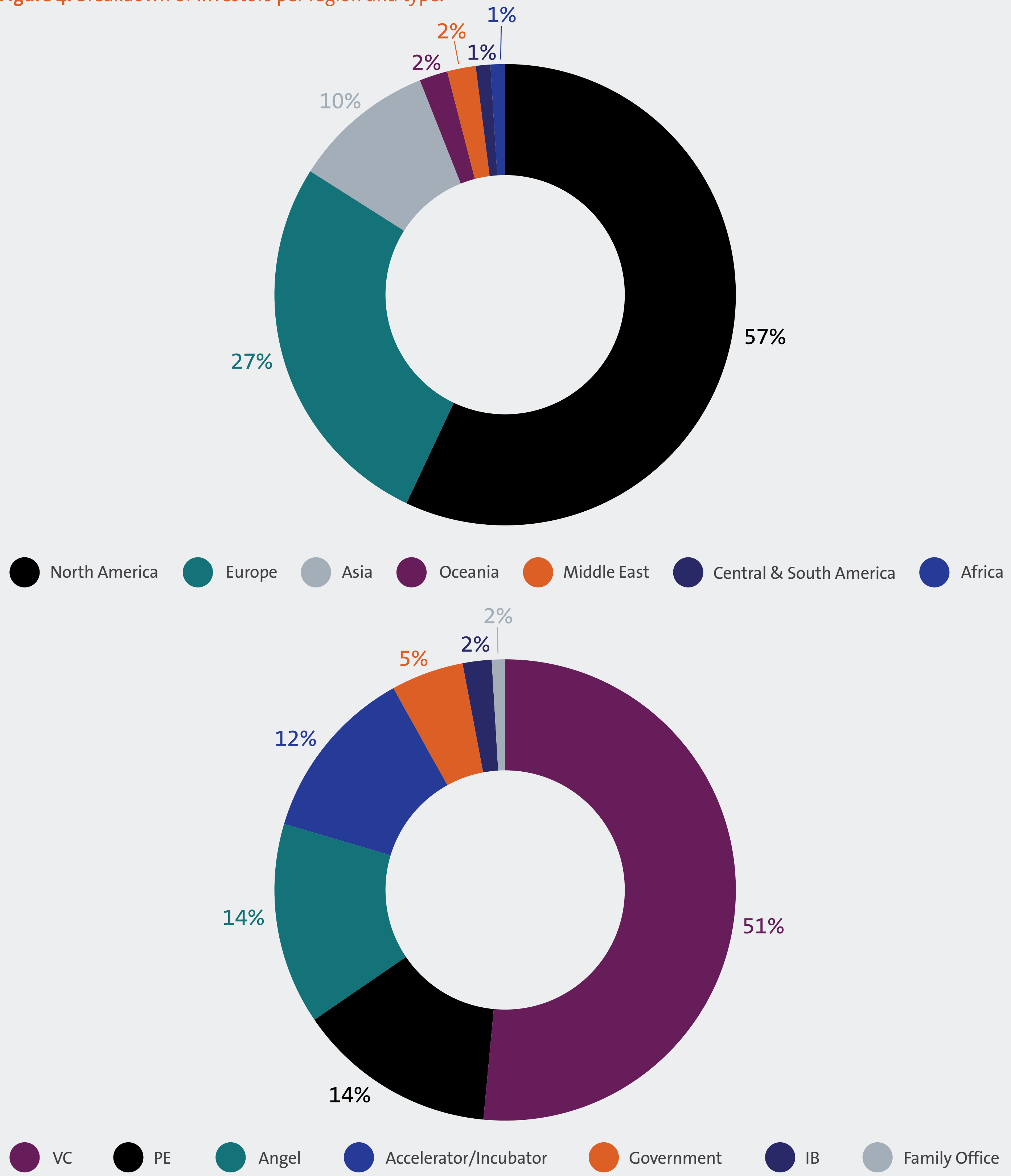
To conclude, despite the growing interest from investors in water, they remain hesitant when it comes to allocating their capital, particularly to emerging markets. This is mainly due to their expectations with regards to return, risk, size of investment, and impact. While there is an increasing number of diverse investment opportunities in developed markets, emerging markets are lagging behind in building viable pipelines for investable firms and assets with the potential of benefiting the individuals most in need of safe water and other water-related solutions. According to assessments by ACTIAM, one of the largest Dutch asset managers, the water sector lacks market-building efforts, especially in emerging markets . Yet, with some patience and smart and innovative deployment of capital, the sector and these untapped markets are likely to emerge as an attractive investment opportunity.



[18] Stroud, J. (2020). The rise of impact investment in the water sector. https://www.globalaginvesting.com/contributed-content-rise-impact-investment-water-sector/

[19] ACTIAM (2020). Water: an essential element of investment portfolios. https://www.actiam.com/499561/siteassets/perspectives/202004-water/actiam-perspective---water---an-essential-element-of-investment-portfolios.pdf

Figure 4: Breakdown of investors per region and type.



Source: Crunchbase

Table 1: Ratio of investors providing investment type per region.

	Europe	Africa	Middle East	Asia	Oceania	North America	LatAm	Total
Grant	13%	25%	0%	3%	9%	14%	9%	13%
Pre-Seed	19%	0%	9%	13%	36%	26%	18%	23%
Seed	68%	25%	64%	58%	73%	73%	73%	72%
Early Venture	73%	13%	82%	70%	68%	73%	73%	74%
Late Venture	39%	13%	50%	36%	36%	42%	9%	44%
Angel	14%	0%	14%	44%	59%	23%	18%	24%
PE	33%	38%	18%	20%	5%	23%	18%	26%
Debt	21%	0%	32%	10%	0%	27%	0%	23%
Note	10%	0%	23%	7%	18%	32%	18%	22%
Crowdfunding	7%	0%	9%	1%	0%	2%	0%	3%

Source: Crunchbase

III. Water Enterprise Typology

In order to match water enterprises with suitable financing, we present the different water enterprise types that are ready for financing. The water enterprise typology is divided into pre-seed stage or seed stage and growth stage, marked by different business model characteristics and financing requirements, and matched with fitting instruments.

The typology has been created in line with a strong investor perspective. It is based on several interviews with practitioners and data collected from water enterprises, including their funding information. Unlike other typologies that have been created by water sector actors (e.g., ODI[20]), the typology presented in this document takes a bottom-up approach based on current financing practices instead of applying a top-down methodology that creates frameworks from conceptual constructs.

For entrepreneurs, the typology can:

- Offer inspiration and guidance regarding developing the business model
- Provide information on the kinds of financing to look for
- Help understand the requirement and need to meet in order to receive financing

For investors or other ecosystem actors, the typology can:

- Give an overview of business models and their different characteristics
- Provide guidance on important investment criteria when looking at water enterprises
- Help in choosing the right instrument depending on the enterprise they wish to finance

[20] ODI (2015). Private sector and water supply, sanitation and hygiene. https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9930.pdf

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Typology

PRE-SEED & SEED STAGE

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- The Cutting-Edge Tech Provider for Large Clients 26
- The Urbanite Consumer Goods Enterprise 28
- The Hippie Seeking Rural Impact 30
- The Master Orchestrator Across the Value Chain 32
- The Solution Finder for the Tech-Savvy 34

GROWTH & LATER STAGE

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- The Impact-for-All Producer 38
- The 911 for Water Needs 40
- The Government Substitute for Urban Services 42

Methodology

In order to develop the water enterprise typology, we use the qualitative comparative analysis (QCA) approach. QCA is a research methodology that investigates combinations of conditions instead of independent variables separately. The methodology is meant to address the complexity of causality[21], as described through three features: conjunction, equifinality, and asymmetry[22]. For further details on QCA, please see the Appendix.

We identified QCA as the methodology best suited to this part of the project for several reasons. First, the objective of the project is to identify different enterprise models for successful financing, and QCA is known to be suitable for creating typologies. Second, QCA enables the identification of conditions that lead to financing, as well as barriers that lead to a failure to secure financing. In many cases, the mere absence of a success condition does not necessarily lead to negative outcomes, and the methodology shows the relevant conditions that contribute to negative outcomes by accounting for that[23]. Lastly, QCA also allows the establishment of causal relationships without neglecting qualitative insights acquired through deep case knowledge.

Data Collection

We collected the data based on a sector-wide survey among water enterprises. In order to limit the scope to startups and growing enterprises, rather than established ones, we sent out the survey through the Crunchbase database and other sector-relevant incubators and investors, including cewas and ImagineH2O. After filtering for quality, the exercise resulted in a data set of about 70 water enterprises on their business model features, track record, financing, revenue, and impact.

The survey was set up based on several semi-structured interviews conducted with 38 practitioners. In these interviews, we asked them to identify relevant criteria for investing in water enterprises. We tried to cover investors across the public, private and philanthropic sectors in order to take into consideration different investor groups with varying interests. The spectrum of organizations included development actors, foundations, commercial investors, as well as impact investors. For a list of practitioners and contributors, please see the Appendix.

[21] Ragin, C. C. (2014). The comparative method: Moving beyond qualitative and quantitative strategies. Univ of California Press.

[22] Misangyi, V. F., et al. (2017). Embracing Causal Complexity: The Emergence of a Neo-Configurational Perspective. Journal of Management, 43(1), 255–282. https://doi.org/10.1177/0149206316679252

[23] For instance, higher education can be a factor contributing to career success, but the absence of higher education does not necessarily lead to career failure. There might be stronger attributes that lead to career failure, which QCA analyzes separately.

The enterprise typology has been developed based on the inputs about business defining features and the track record for each stage of the business: pre-seed, seed, and series.

Business Model Relevant Factors

Products / Services	Whether the enterprise offers products and/or services
Diversification	Whether the enterprise has more than one offering
B2C / B2B / B2G*	Whether the enterprise sells B2C, B2B, and/or B2G
Urban / Rural	Whether the enterprise focuses on urban and/or rural areas
Recurring Revenue	Whether the enterprise has a recurring revenue stream
Water Impact	Whether the enterprise has water impact (track record, not future projection)

*Business to government / public authorities

Track-Record

Business Model	Whether the enterprise has spent more than four years developing their business model
Team Experience	Whether the team has more than four years of experience in technology, finance, marketing, and/or production
R&D	Whether the enterprise spent more than one year on R&D
Revenue	Revenue in 2019 (USD)
Revenue growth	Based on the projected revenue growth from 2019-2021
Break-even point	The amount of time required to reach break-even
Capex requirement	The Capex the enterprise requires (USD)
Profitability	The average profitability of all products in %

The business's defining features offer a short description of the typology and give an idea of the kinds of businesses that would fit in the category. The following sections on team and experience, and the financial aspects give details on the track records of enterprises that successfully received financing within the typology. Finally, the financing section presents the instruments that have historically been used for financing enterprises in that category.

Pre-Seed & Seed

The Water World's Technology Lab

Enterprises in this category have a range of technology-based offerings that can be applied across sectors. In most cases, solutions are aimed at treating and/or purifying water based on sophisticated, modern technology. They sell to businesses in high- to middle-income developed markets and have a recurring revenue model.

Business model defining features	This type of enterprise has an offering based on modern laboratory solutions to purify or treat water. The technology-based offering is relevant mainly to businesses (B2B) across various sectors, such as the industry, agriculture, and healthcare. While operating a B2C model would technically be possible, end customers struggle to understand the underlying technology and see its benefits. Due to the highly technical nature of the products and solutions, enterprises usually offer supplementary client services, such as customer support and maintenance services. Having a close customer relationship allows the enterprise to scale and benefit from stable and recurring revenues from its customers.
Context	Enterprises within this category offer their products to a diverse customer spectrum, regardless of the urban or rural context. Due to the higher price range of the products, target groups tend to be predominantly high- to middle-income customers from developed countries or emerging markets.
Impact	Most enterprises in this category first and foremost aim to bring their new technological solutions to the market and are not explicitly impact-driven. While their offering has potential for impact at scale, it is mostly indirect and difficult to measure. This can make the enterprises less appealing to donors but more appealing to risk-taking investors. Relevant SDG Targets SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.4 Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. SDG 6.5 Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.
Team and experience	Since solutions within this category are typically highly complex and technology-based, having in-depth technological expertise and production experience is a prerequisite for the company. They also have R&D experience in order to develop state-of-the-art products and services. Given the B2B focus, professional experience in marketing is less required at this stage.
Financial Aspects	In terms of financial status, the enterprise is able to demonstrate a promising growth trajectory in terms of revenue as well as profit. Despite the high technological standard of the company's products, the initial Capex requirements are still manageable, which allows the company to break even, or if it has not done so yet, break even in the next two years. The company's favorable financial situation, paired with its stable recurring revenue model, makes it very attractive for commercial investors, particularly equity and debt providers.

Financing	Grant Tech-driven enterprises with new and innovative products are usually able to access R&D grants. Thus, enterprises in this typology are likely to receive grants on the basis of their new technology. When it comes to grant funding based on impact, enterprises have to demonstrate measurable and direct impact on the end-beneficiary. Since it is difficult for enterprises in this category and B2B businesses to demonstrate measurable and direct impact, impact-based grants are not a viable financing option.
	Equity or alike (common stock, preferred equity, convertible note) The company is able to grow its revenue and shows profitability, which means it is able to cover its capital expenditure requirements in the near future, demonstrating its ability to operate on a financially viability basis. Some of them have already reached their break-even point, which is likely to appeal to equity (or alike) investors. Enterprises in the very early stages and without valuation might also be able to use convertible notes.
	Debt or alike (debt, venture debt, subordinated loan) For this type of enterprise, debt funding might be a viable option due to its recurring revenue model and promising financial performance. Yet, it still has to demonstrate a solid financial track record and prove its commercial viability. If the company is backed by venture capital, it may also be eligible for venture debt, which can improve the company's short-term challenges.

Pre-Seed & Seed

The Cutting-Edge Tech Provider for Large Clients

This type of enterprise offers services based on innovative and state-of-the art technology, typically contributing to solving key challenges related to the sustainability and efficiency of water management systems and projects. Its B2B/B2G business model creates recurring revenue, which allows the company to grow and eventually reach profitability.

Business model defining features	This type of enterprise primarily offers services based on state-of-the art technological solutions that aim to create a water-related impact on a larger scale by, e.g., improving network management, facilitating more effective project implementation, ensuring more efficient use of water resources, or enhancing waste treatment. Its main customer groups are governmental agencies, utilities and businesses that provide a more stable and predictable revenue stream. The services typically have to be personalized to the client's needs due to the technological complexity of the services, meaning that customer relationship management is crucial for this enterprise.
Context	The enterprise is selling its services mainly in urban areas where it can reach more end-beneficiaries. Yet, rural areas are not excluded from making use of the services and the enterprise could be operating in developing as well as developed economies. Similar to that of other B2B/B2G businesses, the operating context of the enterprise depends more on the needs of its clients and their willingness to pay than the context as such.
Impact	The businesses in this category offer tech-driven services to governmental organizations and businesses, aiming typically at improving water quality or conservation within their locality. Due to the B2B/B2G nature of the company, the impact on the end-consumers of the enterprise is mainly indirect. However, impact-driven enterprises with a convincing theory of change are sometimes able to demonstrate substantial impact by, for instance, enhancing efficiency and thereby enabling their clients to make services more affordable or accessible for disadvantaged communities or contributing to reducing resource consumption. Relevant SDG targets SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.4 Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and significantly reduce the number of people suffering from water scarcity. SDG 6.6 Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes. SDG 6.a Expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management.

Team and experience	The businesses in this typology vary in terms of their experience. Due to the technical nature of the solutions, experience in technology, as well as in R&D, is important in order to provide a high-quality and tailored service. Compared to the company's strong technological expertise, marketing/sales and financial management skills are typically not one of its assets. Complementing the existing expertise with marketing/sales and finance experience will contribute to receiving financing and acquiring clients.
Financial aspects	The enterprise typically has a relatively high capital expenditure requirement due to its investment in the technology. This is covered by its high profitability from servicing B2B and B2G clients and its stable revenue growth, allowing the enterprise to reach its break-even point within a comparably short time frame. If the Capex is high, the enterprise needs to be able to scale and grow fast. Having a recurring revenue stream or a strong relationship with its clients will be critical to the enterprise in terms of finding capital, especially debt. In order to receive debt financing, the enterprise also needs to demonstrate a solid financial track record and a concrete projection of revenue growth.
Financing	Grants or results-based financing (Impact bond, SIINC, performance-based loan, performance-based contract) Due to the enterprise's high innovative strength in using new technological solutions, R&D grant funding will be an option. While it is usually harder for B2B/B2G businesses to access impact-oriented grant funding or results-based financing, enterprises in this category are able to access results-based financing by proving, for instance, the increase in efficiency for their B2B/B2G clients. The impact orientation comes from the fact that the clients are mainly providers of water-related public goods that operate at scale. Equity or alike (common stock, preferred equity, convertible note) If the enterprise is able to demonstrate long-term financial viability with adequate revenue growth and profitability that covers the higher upfront investment within a few years, it is likely to attract equity or equity-like investors. Depending on the technology, it can be challenging to agree on a valuation of the enterprise, in which case using convertible notes can be more convenient than traditional equity. Having professional finance experience is crucial for this step. Debt or alike (debt, subordinated loan, venture debt) For this type of enterprise, debt funding might be an option, especially if it can demonstrate a recurring revenue stream or strong relationship with the client, indicating a stable revenue projection. Some enterprises might be eligible for venture debt in order to fund working capital or capital expenses, but only if it has already been funded by a venture capital firm.

Pre-Seed & Seed

The Urbanite Consumer Goods Enterprise

This type of enterprise offers products, specifically non-durable products, to end consumers as a B2C business. Since the business requires a large customer base, it operates in an urban environment, where the population is dense and the average income level allows selling at cost-covering or profit-generating prices.

Business model defining features	This type of enterprise focuses on offering standardized and scalable consumer goods, such as soap, domestic water filters, or bottled water. While production involves some form of technology to have a competitive edge, the products themselves are normal daily staples that have multiple alternatives, indicating that differentiating the product to the consumers is of importance. Cooperation with retailers or innovative logistical solutions is key to enable the business to sell the products to customers at scale.
Context	Enterprises in this typology focus on selling in predominantly urban areas. They usually target high- to middle-income customers in the cities, where there is a larger population and greater willingness to pay for the product. Marginalized and bottom of the pyramid (BoP) communities are less likely to buy the product due to the higher price compared to similar products in the market.
Impact	This type of enterprise offers products that are related to the water use of the end consumer, but the focus is more on the product itself than the consumer. In terms of impact, this means that the enterprise can create a water-related impact, depending on the product, but there is more potential to create other types of impact throughout the production process and product lifecycle, e.g., using organic waste as material, using biodegradable packaging, or engaging women, youth, or marginalized communities in the value creation process of business. While the impact potential might not be as deep as serving the BoP community, it can be broad touch on various SDGs, depending on the scale of the enterprise. Relevant SDG targets SDG 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. SDG 8.6 Substantially reduce the proportion of youth not in employment, education or training. SDG 8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, particularly women migrants, and those in precarious employment. SDG 12.2 Achieve the sustainable management and efficient use of natural resources.
	SDG 12.3 Halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses. SDG 12.5 Substantially reduce waste generation through prevention, reduction, recycling, and reuse. SDG 12.8 Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
Team and experience	The enterprise has been working on its business model for at least a year and is backed by a strong team with relevant knowledge (at least four+ years professional experience) in finance and marketing/sales, which is particularly important for B2C businesses. Since the products are not based on cutting-edge technology but rather existing ones, the presence of technological and production expertise can compensate for the lack of R&D.
Financial aspects	One of the main advantages of the enterprise is its cost structure. Not only does it have low capital expenditure requirements, but it also lowers its production cost (or at least has the potential to do so) by reusing waste as material or outsourcing (parts of) the production. This allows the company to reach its break-even point early in the process. Due to its financial aspect and the scalability of the product, the enterprise has the potential to attract commercial debt and equity investors.
Financing	Grant Given the commercial viability of the enterprise, it would be fitting to secure grants for incubation or acceleration, and the potential for impact will be perceived positively. Nevertheless, the depth of impact is likely not significant enough to attract donors who would be willing to provide grants or results-based financing based on impact, especially water-related ones. Equity or alike (common stock, convertible note, preferred equity, SAFE) The commercial viability of the enterprise is promising for receiving equity or alike and is likely to provide it with the discipline to grow through market-based mechanisms (in comparison to grants). At this stage, the enterprise has only limited successes to showcase, and other aspects, such as team experience, will play a more important role. The investor will expect a strong team with several years of knowledge in finance and marketing/sales, in addition to technology and production. The financial and marketing aspects are particularly important since they will be critical for a B2C enterprise to scale. Certain impact-driven investors might also provide funding despite the enterprise's early stage and lack of track record. In order to receive equity funding from an impact investor, the enterprise needs to offer a convincing theory of change and potential to achieve, for instance, social impact through a business model that is focused on including marginalized communities or providing a viable and ecologically friendly alternative to existing consumer goods with a poor environmental balance.

Pre-Seed & Seed

The Hippie Seeking Rural Impact

The main goal of this type of enterprise is the creation of meaningful impact for the most disadvantaged groups within society, with most of these groups residing in rural areas. It is close to its end-beneficiaries, engages the local community, and its solutions are built based on the needs of the community rather than a business opportunity.

Business model defining features	The enterprise has a diversified offering, including both products and/or services that aim to provide access to or secure/improve basic water-related services in hard-to-reach rural areas. It sells its offerings to all client types (B2C, B2B, B2G). The products primarily benefit the end-user and are based on what the communities require. The enterprise usually aims to secure recurring revenue from its customers, while also relying on other strategies to retain them—for instance, by offering maintenance services. The offerings are mostly products, such as water filters or mobile or low-cost infrastructure for water purification and sanitation.
Context	This type of enterprise operates in rural areas of developing countries, where the needs for and potential impact of access to water is the greatest. It serves middle- to low-income customers and also marginalized or BoP communities, providing water-related solutions like clean drinking water and sanitation.
Impact	Enterprises in this category offer effective water solutions to beneficiaries in rural areas, contributing to a more safe and sustainable water supply for lower income and marginalized groups. The solutions are often based on what the beneficiary group needs and are paired with activities engaging and educating the local community, legislation, and other stakeholder groups. Relevant SDG Targets SDG 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management. SDG 8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. SDG 8.6 Substantially reduce the proportion of youth not in employment, education or training. SDG 8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
Team and experience	Although rather young, the enterprise has worked and refined its business model over several years. The team has technical expertise, and the enterprise has also invested in R&D of the product and services. Production expertise is less relevant if the enterprise provides existing technologies and solutions. At this stage, many teams lack professional experience in finance and marketing/sales, which might be required at a later stage to access further funding and reaching potential customers.
Financial aspects	Enterprises in this typology commonly offer products and services that are based on existing technologies, indicating lower capital expenditure requirements. The business model is rather easy to replicate, but since the enterprise is operating in rural areas, competition is also low. The enterprise cannot raise its price significantly due to its target customers and might have high operational costs to reach the rural areas. This results in a rather difficult operating environment and explains the low revenue. Nevertheless, by offering related products or services, the business might be able to build loyalty and attract new customers. Parts of the offerings can be scaled into more commercially viable businesses through product innovation or by implementing a franchise model. These might attract more commercial financing. Partnering with micro-finance institutions or banks that provide end-user financing can be another important strategy to extend the customer base.
Financing	Grant or results-based financing (impact bond, SIINC, performance-based loan, performance-based contract) Enterprises operating in rural areas and creating meaningful impact for lower-income groups and other marginalized communities are likely to fulfill the requirements for grant funding. Yet, it is important to provide a clear theory of change on what impact will be achieved and who will benefit from it. In order to receive results-based financing, the enterprise would need to demonstrate a clear way of measuring impact, in addition to its theory of change. This is oftentimes more fitting for enterprises that have a running operation (seed stage) than those that are still experimenting with their business model (often pre-seed stage). Some of the results-based financing options require further indicators on the financial viability of the enterprise, such as for a performance-based loan or SIINC, as it needs to demonstrate its ability to service the loan or raise equity.

Pre-Seed & Seed

The Master Orchestrator Across the Value Chain

This type of enterprise covers a broad spectrum of services along the water-use cycle, providing an integrated solution for several steps of the service value chain. Commonly, it provides basic waste(water) services to end-beneficiaries and turns waste and sanitation end-products into sellable products that target adjacent and more profitable sectors. In doing so, the enterprise provides water or sanitation services to the end customers (B2C), waste(water) management services to governmental (B2G) or business customers (B2B) and also sells by-products as an additional revenue stream. While such business models are complex and take time to fully establish, they have the potential to attract both impact-oriented and commercial investments once they have established successful references.

Business model defining features	This type of enterprise offers products and combines them with services across several steps of the value chain, with the most common being providing toilets (or waste bins), collecting waste, processing waste into end-products, and selling the products to businesses. For the waste collection business, the customer groups are end-beneficiaries (B2C), or businesses (B2B) that produce larger quantities of waste(water). By charging the clients for the collection service, the enterprise can often extend it at a lower cost than fully subsidized government services. Additionally, the enterprise can also engage with governmental actors as clients in this business model (B2G) since they usually hold the mandate to ensure such basic services. Nevertheless, it is still challenging to fully cover the costs through charging clients. This is why the enterprise offers end-products, such as fertilizers or alternative fuel products, to break even. These can be sold to businesses (B2B) in adjacent sectors, such as agriculture or energy-intensive industries, which have a higher willingness to pay. The additional revenue stream ensures the enterprise stays profitable.
Context	For collection services, the enterprise operates in underserved/off-grid urban areas; while there is limited ability to pay, the lack of alternatives for basic services does result in a willingness to pay a limited amount of fees. For the sale of fertilizers (or similar end-products), the enterprise deals with agricultural (rural) areas, and for the sale of fuel products, it deals with urban end-customers or industries. This is the part of the business model that allows the generation of higher profit margins.
Impact	The enterprise extends basic services to underserved communities, indicating a high level of impact intentionality and additionality. Further, it has added impact by selling sanitation and waste end-products that reduce the strain on natural resources. Relevant SDG Targets SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.4 Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. SDG 6.6 Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
	SDG 6.a Expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management.
Team and experience	These complex businesses require a broad range of experiences that are often built throughout the lengthy process of setting up the enterprise, which may take up to ten years. The enterprise needs to set up large-scale infrastructure for treatment and resource recovery, which requires technical knowledge and experience with managing governmental stakeholders. Team management, including the ability to manage local partners/franchisees, compliance management, marketing/sales and finance experience are all critical to deliver services at scale, raise investments, and develop required infrastructure.
Financial aspects	The customer products are low-tech solutions that are often rolled out through franchise or partnering models with local entrepreneurs, which do not require much R&D or capital expenditure (Capex). However, the collection service and waste treatment require a higher Capex for building up the infrastructure. The enterprise has several revenue streams, including product sales to the end customer, collection fees, and the sale of waste/sanitation end-products. In some cases, it also has long-term concessions or performance-based contracts with public entities, which are beneficial for commercial financing, especially debt, as it reduces the risk for the capital provider. In order to attract financing, the enterprise needs to demonstrate a solid financial track record and a concrete projection of revenue growth.
Financing	Grant or results-based financing (impact bond, SIINC, performance-based loan, performance-based contract) Due to the systemic approach and impact, the enterprise stands a good chance of acquiring grant funding to extend its services if it can prove that the business model allows a sustainable impact to be achieved at a lower price than public authorities would charge. If the enterprise has established solid relationships with public authorities, it may qualify for government grants and PPP financing. Results-based financing is also very relevant for the enterprise if it is not making use of that type of financing already. Given that the enterprise provides products and relevant services to underserved communities, it is viable to receive funding based on the impact the enterprise creates. The impact measurements should already be part of the operational targets. Equity or similar (common stock, preferred equity, convertible note) The enterprise is able to attract equity (or equity-like) financing, particularly by leveraging its more commercially viable components. These are usually parts like recycling facilities that have already proven profitable elsewhere or agricultural products that can be competitive in commercial markets. Debt or similar (debt, subordinated loan, venture debt, revenue-based loan) Debt financing can be a viable option if the enterprise is able to show a track record and demonstrate stable future revenue streams. Recurring revenue streams, such as collection fees or government performance-based contracts, will be beneficial, in addition to having multiple revenue streams. Venture debt can be interesting for enterprises that have acquired equity and need additional financing until the next financing round. Revenue-based loans can also be of interest if the enterprise is not yet profitable but is showing fast growth.

Pre-Seed & Seed

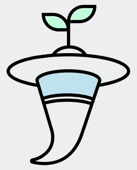
The Solution Finder for the Tech-Savvy

This type of enterprise offers technological solutions, specifically durable products, to both end consumers (B2C) and businesses (B2B) that help reduce costs for basic services. The product is based on sophisticated technology that often requires a level of guidance to ensure the clients understand how to use it.

Business model defining features	This type of enterprise focuses on offering products, especially durable consumer goods, such as water filters, -heaters, or -pumps. The products are technology-driven and provide water-related benefits, such as reliable water purification, efficient and effective heating, or easy and flexible pumping. The solutions have a price advantage compared to the available alternatives or business as usual. They require some learning from the client on how the product functions to understand the benefits and how to operate them. The products can be appealing to both B2C and small-scale B2B customers.
Context	Enterprises within this typology offer their products wherever the target client is. As long as the product meets a need, the enterprise can operate in a rural and/or urban context, as well as in a developing and/or developed market. Given that the products are technology-driven, the pricing also targets more high- to middle-income customers than BoP communities. Nevertheless, there are always ways to be more inclusive through adding end-user financing services for lower income customers.
Impact	The enterprise sells technology-driven products that create a positive, water-related impact on the end-beneficiaries' lives. Since the products are durable goods, they can be used continuously and can be distributed to a wide customer base, creating impact at scale. Especially if linked to the reduction of greenhouse gas emissions, climate change mitigation impacts may be significant and can provide an opportunity to leverage climate financing. Because the impact is somewhat indirect, it may be challenging to measure or even certify it, especially on an outcome level—unless there is a tracking mechanism in addition to the product. This could make it more challenging to appeal to donors who require exact measurements of impact, but the scalability and reliability of the impact can be appealing to more risk-tolerant investors. **Relevant SDG targets** SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management. SDG 7.1 Ensure universal access to affordable, reliable and modern energy services. SDG 7.2 Substantially increase the share of renewable energy in the global energy mix. SDG 7.3 By 2030, double the global rate of improvement in energy efficiency.

	Similarly, entrepreneurs could focus on areas in waste management or agriculture where a high impact can be achieved by overcoming the barriers rural end-customers face. Additionally, striving to reduce climate change impacts by providing alternatives to high-polluting options can also achieve impact at scale.
Team and experience	Since the product and services are technology-based, professional experience (five+ years) in this field, as well as in R&D, is highly relevant. While a systematic sales effort is a condition for success for these businesses, the technological details of the products and rather tech-savvy clients allow businesses to succeed with less marketing/sales and finance experience than might be expected (in some cases only one to three years of experience in this field). The enterprise has spent enough time developing its business model, especially in cases when the technology can easily be replicated by others or there are multiple alternatives already in the market.
Financial aspects	Despite the high technological standard of the company's products, the initial capital expenditure requirements (Capex) are still manageable with a decent revenue growth. In addition, the enterprise has a higher profit margin due to its technological edge. This allows the company to reach the break-even point relatively early on. The enterprise does not need to have a recurring revenue stream since its products can be used continuously, but it can maintain customer loyalty, for instance, by providing a free maintenance service.
Financing	**Grant** Grant funding, especially R&D grants, can be found if the enterprise's products and services are based on new technology. To raise grants from impact-driven donors, enterprises are usually required to demonstrate direct impact on the end-beneficiary level and be able to clearly measure it. This can prove to be challenging for this specific typology. **Results-based finance (carbon credit)** For enterprises that offer products that are an alternative to high-polluting ones (e.g., solar cooking stove instead of coal or gas stove), carbon credits can be a viable source of financing. Once the enterprise proves that its offering reduces greenhouse gas emissions, it can get the reduction certified and sell it on the carbon credit market. This can help an enterprise achieve market-level profitability that might be difficult to reach when targeting BoP clients alone. This in turn will help in attracting further investors. **Equity or similar (common stock, preferred equity, convertible note)** IIf the enterprise is able to demonstrate long-term financial viability with an adequate revenue growth that covers the upfront investment within a relatively short time frame, it is likely to attract equity or equity-like investors. Enterprises in their very early stages and without valuation might also be able to use convertible notes. Having professional financial experience will help with finding equity for the enterprise.

Growth & Later Stage



The Wizard for Inclusive Impact

The main goal of this type of enterprise is the creation of meaningful impact for the most disadvantaged groups within society. It is close to its end-beneficiaries and aims to serve as many of them as possible. It focuses on increasing its share of the market rather than its share of the wallet through a scaled operation.

Business model defining features	The enterprises in this typology have a diversified offering, including both products and services. They aim to serve hard-to-reach rural areas, regardless of whether the client is an end-user (B2C), business (B2B), or governmental agency (B2G). Operating in rural areas makes it particularly challenging to reach customers. Thus, the ability to innovate and adapt to changing circumstances, as well as strategic partnerships for demand creation, is very desirable.
Context	Since enterprises in this typology focus on selling in predominantly rural areas, delivering the last mile can be very difficult and costly. They target customers are on the middle- to low-income spectrum or are part of marginalized and BoP communities. They mostly operate in developing countries. Nevertheless, the countries of operation need to be conflict-free or politically stable to facilitate the work of the enterprise.
Impact	This type of enterprise operates to reach communities in hard-to-reach rural areas via B2C, B2B, and/or B2G channels. The potential to create impact where it is most needed is significant. The enterprise is able to provide new and/or improved access to water to the BoP, as well as job opportunities for women, youth, and other disadvantaged groups. Demonstrating strong impact potential is especially relevant for receiving grants and results-based financing. This is particularly important for this type of enterprise since they are often unable to reach commercial viability without grant financing or capitalizing on their impact. Relevant SDG Targets SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management. Social impact SDG 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. SDG 8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. SDG 8.6 Substantially reduce the proportion of youth not in employment, education or training. SDG 8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

Team and experience	The enterprise has been operational for an extended period of time and has worked for at least four years on developing its business model within this context. Due to the challenging environment the enterprise operates in, it is important that it has an experienced team (four+ years of professional experience) in all areas, including technology, production, marketing/sales, and finance. The company benefits from strong technical and production knowledge within the team and/or uses existing technology and solutions, which indicates that R&D is not always an essential requirement.
Financial aspects	The enterprise makes use of accessible water solutions and technology and focuses on providing these solutions as a service, indicating that the upfront investment is manageable. This allows the company to reach the break-even point relatively early in the process. However, operating in rural areas is more costly than in urban areas. This can be mainly attributed to the lower density in population and larger distances that have to be covered, leading to lower revenue streams. The overall financial prospects are less attractive to commercial investors, and the enterprise needs to compensate for this with a higher impact for impact-driven investors.
Financing	Grant and Results-based Finance (impact bond, SIINC, performance-based loan, performance-based contract) Given the enterprise's focus on impact creation and serving people in BoP and rural areas, it is likely to attract grant-based funding. Showing that it is capable of creating new and/or enhanced access to water, sanitation, and hygiene by demonstrating its past and future impact performance will further increase its chances of receiving results-based financing, such as performance-based contracts or impact bonds. However, some results-based financing options also emphasize the importance of financial viability, which might be more difficult to show for certain businesses in this typology (e.g., SIINC or performance-based loan). Equity or alike (common stock, preferred equity, convertible note) The company's generally low financial performance poses a considerable obstacle to accessing equity-based funding. Many investors are less likely to invest if they cannot expect a financial return in the future. However, some investors can be convinced by: a) demonstrating financial viability by having a recurring revenue stream and b) compensating with a strong track record in water-related impact projects. The fact that the enterprise has already been operational for several years, is backed by an experienced team, and it has the potential to create significant water impact will appeal to impact-oriented investors. Debt or alike (debt, subordinated loan, revenue-based loan) For this type of enterprise, it is difficult to receive debt-based funding due to its lack of financial viability. In order to access debt financing, the enterprise needs to demonstrate a recurring revenue stream and reasonable profitability. Given the volatile operational environment due to weather, seasonality, and the rural context, revenue-based loans can be particularly interesting.

Growth & Later Stage

The Impact-for-All Producer

This type of enterprise focuses on one thing: a scalable and replicable product. It is close to its end-beneficiaries and aims to serve as many of them as possible. It focuses on increasing its share of market rather than its share of wallet through scaled operations.

Business model defining features	The business model focuses on offering products that are tangible items sold on a specific market, such as items that allow the consumer to access safe drinking water. The enterprise operates mainly a B2C business, meaning that it aims to sell the product to end consumers. It is important for the enterprise to understand who the consumer is and maintain a flexible operation that can respond to changing market conditions.
Context	Focusing on selling as many of its products as possible, the enterprise operates in both urban and rural areas. It is successful in penetrating both high- as well as low-income customers and could also serve rural BoP markets. Many enterprises in this typology operate in less developed countries, but a few also operate globally with a broad and diversified product offering.
Impact	The enterprise reaches the end customers directly with their products, having a water-related impact on customers' lives. Many in this typology operate in the water purification and distribution sector or in hygiene and sanitation. The potential to create impact, particularly for BoP and more marginalized groups, is likely to be substantial. Some of these enterprises also deploy a franchise model, and due to their wide reach in urban and rural areas, they can also create valuable job opportunities for women, young people, and minorities. A strong impact performance is highly beneficial if the entrepreneur aims to approach impact-oriented investors, as well as results-based financing sources. **Relevant SDG Targets** SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management. **Social impact** SDG 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. SDG 8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. SDG 8.6 Substantially reduce the proportion of youth not in employment, education or training. SDG 8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

Team and experience	The enterprise has worked over an extended period (more than four years) on developing its business model and has been operational in its target market for at least three years. The product has been continually improved by R&D or is backed by in-depth technical and production expertise within the team. Being a client-centric model, it is important for the team to have relevant marketing and sales experience (with more than five years of combined professional experience in the team) and finance experience. This is vital to manage operations and also secure funding.
Financial aspects	Since enterprises in this typology have simple product offerings with scaled operations, they have higher variable costs than fixed costs, leading to a lower capital expenditure requirement. Typically, the enterprise has already reached its break-even point or is planning to do so within the next three years. Similar enterprises also have recurring revenue streams through, for instance, subscription models, making revenue flow more predictable. However, there can be the exception of those wanting to finance their scaling to a rural area, for which a higher Capex is required and the break-even takes longer to achieve. In such cases, either the profitability or the impact needs to justify the long runway until break-even. The enterprise is also likely to appeal to a different investor group.
Financing	**Grants and Results-based Finance (impact bond, SIINC, performance-based loan, performance-based contract)** Given the enterprise's focus on serving customers, it is able to secure grants when it can demonstrate its impact in terms of new and/or enhanced access to water, sanitation, and health. This is much more achievable in comparison with other SDGs, such as water resource management or increased water quality, given that impact targets are closely linked to operational targets. **Equity or alike (common stock, preferred equity, convertible note)** Due to the enterprise's established business model and scalable operation, it is likely that it attracts equity or equity-like investors. It is especially relevant to have finance expertise within the team—someone who is able to put together a convincing financial model and speaks the language of investors. Many equity investors interested in the water sector are also looking for impact, indicating that an enterprise that is able to demonstrate a track record (and not just the potential) of water-related impact has a higher chance of securing equity investment. **Debt or alike (debt, subordinated loan, revenue-based loan)** Due to the enterprise's established business model and scalable operation, it is also likely that it attracts debt or debt-like investors. In order to access debt financing, the enterprise needs a reliable cash flow and long-term financial viability, indicating that it requires recurring revenue streams that have been locked in. For enterprises that require a longer runway until the next funding round, venture debt is interesting to look into. For those that are affected by seasonality, a revenue-based loan is particularly interesting.

Growth & Later Stage

The 911 for Water Needs

Enterprises that fall into this category have a standardized product and flexible operation to meet the surge demands of businesses at scale (e.g., seasonal change, weather, conflict). Instead of aiming for stable and recurring revenues, these enterprises have a volatile revenue stream and are able to handle it operationally

Business model defining features	The business model primarily focuses on offering products that aim to facilitate the distribution or treatment of water. Even though the enterprise offers predominantly standardized and tangible items, it also offers supporting consulting services. The enterprise's primary customers are businesses (B2B), but it also occasionally sells to end-users (B2C) or government agencies (B2G). Unlike typical B2B businesses that focus on stable and recurring revenue from their business customers, the enterprise in this typology offers solutions suitable for flexible demand, such as the need for increased irrigation due to seasonal change, water treatment and distribution for emergency relief, or construction material for stormwater relief.
Context	The operating contexts are diverse and depend more on the beneficiaries of the businesses they serve than on the enterprises themselves. If the businesses operate in agriculture, these enterprises sell in rural areas; if businesses have a lot of end-beneficiaries, it is more likely for the enterprises to be operating in urban areas. While the solutions the enterprise offers are not restricted to high- and middle-income end-users as such, the business clients of the enterprise are more likely to target segments with higher purchasing power. Nevertheless, some enterprises offer specific solutions targeting low income and BoP markets and cooperate with NGOs and government agencies for disaster relief, for instance.
Impact	Many enterprises in this typology offer products, especially in water treatment or distribution, that can be used to extend services or generate impact. Some of them are partners or suppliers of government agencies and NGOs that generate high impact. However, their impact is indirect and realized only through their partners, which makes the additionality and intentionality of the impact difficult to establish. Relevant SDG Targets SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management. SDG 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

Team and experience	An enterprise in this typology offers solutions primarily to business customers, which requires technical expertise. It has invested R&D efforts into the development of its products and has technical and production expertise within the team. At the same time, the operation is also designed to provide flexibility and meet surging demands. The team has more than five years of professional experience in relevant areas, such as financial management, sales and marketing.
Financial aspects	Enterprises in this typology commonly offer products based on new technologies, the development and production of which can be costly. Thus, they face higher capital expenditure at the beginning, but the solutions they offer are targeting affluent customers with a higher willingness to pay, resulting in higher profitability. Since they offer solutions for situations with a surge in need or demand, the customers tend to buy the product or use their service only once. Unlike other B2B-focused enterprises, they do not rely on recurring revenues. Despite the fact that most enterprises have a low revenue at the funding stage, they compensate by having a high level of profitability. With time, they show revenue growth and demonstrate that the break-even point will be reached in the next two to three years. Overall, this profile attracts more equity investors than debt investors.
Financing	Grants For enterprises offering technology-based solutions, receiving a grant for R&D is a viable option. Given that the impact is realized indirectly through their business customers, receiving a grant or applying for results-based finance for impact is not a fitting option. Equity or alike (common stock, preferred equity, SAFE) The business model of the enterprise and its value proposition are simple and clear. The revenue growth and profitability, combined with the competitive edge, is likely to appeal to equity or equity-like investors. Nevertheless, to secure equity (or alike), the enterprise needs to have professional financial expertise within the team that allows them to speak the language of investors. Debt (venture debt, revenue-based loan) The fact that the enterprise has low revenues and no recurring revenue stream makes it a higher risk investment and less appealing to debt providers at early enterprise development stages, despite its promising potential. Nevertheless, venture debt can be interesting for enterprises that have already received venture capital funding, and the fact that their solutions respond to flexible market demands also makes them a good fit for revenue-based loans.

Growth & Later Stage

The Government Substitute for Urban Services

This type of enterprise focuses on offering products and services that are usually offered directly by the government. It provides them to end-beneficiaries while being commissioned by governmental agencies. It predominantly operates in urban areas, where the need and willingness to pay for a government agency is highest.

Business model defining features	The enterprise offers products and/or services to end-beneficiaries that should be offered directly by the government, usually in sectors related to the treatment or purification of water on a larger scale. The enterprise is thus commissioned by government agencies that are unable to provide these products or services. While the enterprise can also target end-users (B2C) or businesses (B2B), its primary focus is on federal, state or local agencies, operating as a B2G business. The enterprise is often publicly commissioned following a successful application and contracting process to an official request for proposal. Similar to B2B enterprises, B2G enterprises are attractive for investors due to their higher and steady order volume. Yet, the contracting process is usually slow and tedious. As the needs of governmental agencies are very specific, it is crucial for the enterprise to understand the needs and requirements of its clients.
Context	Since these enterprises are usually publicly commissioned, their area of operation is predefined by the contracting government institution. As a consequence, their focus is usually in urban areas, where the majority of the population and end-beneficiaries live. Target markets can include customers from both developed as well as developing countries as this depends more on the enterprise's home and network than anything else. However, in order to ensure functional operation and collaboration with the government agency, the market needs to be in a relatively stable or conflict-free country.
Impact	Due to the enterprise's B2G business model, it typically has an indirect impact on end-beneficiaries. The products and services of the enterprise are aimed at improving water treatment and distribution or providing hygiene and sanitation solutions. However, the potential to create impact for BoP communities and other marginalized groups depends largely on the government's willingness to serve remote and low-income regions within the country. Thus, the impact generated is often indirect and it is challenging to prove its additionality and intentionality. Relevant SDG Targets SDG 6.1 Achieve universal and equitable access to safe and affordable drinking water for all. SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. SDG 6.b Support and strengthen the participation of local communities in improving water and sanitation management.

	Environmental impact SDG 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. SDG 8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. SDG 8.6 Substantially reduce the proportion of youth not in employment, education or training. SDG 8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment. SDG 14.1 Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
Team and experience	Given that the enterprise targets government agencies, which are not fond of risk-taking, the team exhibits extensive knowledge across all relevant areas, such as technology, production, financial management, and sales/marketing to assure their clientele. Not only are the products and services backed by in-depth technical and production expertise, but they have been continually revised through R&D efforts. If the enterprise has set its sights beyond B2G projects, the team needs to have at least four years of marketing and sales experience, supplemented by extensive knowledge in financial management.
Financial aspects	This type of enterprise can be diverse in terms of financial requirements and performance. Depending on the solution, some enterprises require high capital expenditure, while others do not. Nevertheless, they all have high profitability and are close to reaching break-even or have already done so. The fact that they have the government as a client is the biggest indication of the enterprise's financial viability in terms of attracting commercial equity and debt investors.
Financing	Grants Given the technical and operational requirements of the government agency, these enterprises have been recipients of grants for R&D or operationalizing their business model. In case of further financing needs for new product and service development, grants (especially government grants) should be of interest. The fact that the enterprise creates mostly indirect impact and will face difficulty proving the additionality and intentionality of its impact means other results-based financing instruments are not suitable. Equity, debt, or alike (common stock, preferred equity, convertible note; debt, venture debt, subordinated loan, revenue-based loan) The enterprise's ability to service the government proves to the investor that it has a reliable future cash flow, a proven and scalable business model, and a strong team that has operational and technical expertise. Having other channels besides the government to achieve financial viability and impact will add to the likelihood of receiving financing. If the enterprise needs more operating cash flow before it enters the next fundraising round, venture debt will be a suitable option. Another instrument of interest could be revenue-based loans, which can benefit companies whose revenue is highly dependent on seasonal demand.

Overview of Types and Matching Instruments

A summary of instruments appropriate for each type of enterprise can be found in the table below. Keep in mind that there are different requirements for each instrument. Further details, refer to the description of each water enterprise type.

		Grant or alike	Debt or alike	Equity or alike
Pre-Seed & Seed	**The Water World's Technology Lab**	R&D grant	Debt (loan, credit, bond), venture debt, subordinated loan	Common stock, preferred equity, convertible note
Pre-Seed & Seed	**The Cutting-Edge Tech Provider for Large Clients**	R&D grant, Impact bond, SIINC, performance-based loan, performance-based contract	Debt (loan, credit, bond), venture debt, subordinated loan	Common stock, preferred equity, convertible note
Pre-Seed & Seed	**The Urbanite Consumer Goods Enterprise**	Grant for incubation or acceleration	–	Common stock, convertible note, preferred equity, SAFE
Pre-Seed & Seed	**The Hippie Seeking Rural Impact**	Impact bond, SIINC, performance-based loan, performance-based contract	–	–
Pre-Seed & Seed	**The Master Orchestrator Across the Value Chain**	Grant, Impact bond, SIINC, performance-based loan, performance-based contract	Debt (Loan, credit, bond) subordinated loan, venture debt, revenue-based loan	Common stock, preferred equity, convertible note
Pre-Seed & Seed	**The Solution Finder for the Tech-Savvy**	R&D grant, carbon credit	–	Common stock, preferred equity, convertible note
Growth & Later Stage	**The Wizard for Inclusive Impact**	Grant, Impact bond, SIINC, performance-based loan, performance-based contract	Debt (Loan, credit, bond) subordinated loan, revenue-based loan	Common stock, preferred equity, convertible note
Growth & Later Stage	**The Impact-for-All Producer**	Grant, Impact bond, SIINC, performance-based loan, performance-based contract	Debt (Loan, credit, bond) subordinated loan, venture debt, revenue-based loan	Common stock, convertible note, preferred equity, SAFE
Growth & Later Stage	**The 911 for Water Needs**	R&D Grant	Venture debt, revenue-based loan	Common stock, preferred equity, SAFE
Growth & Later Stage	**The Government Substitute for Urban Services**	R&D Grant	Debt (loan, credit, bond), venture debt, subordinated loan, revenue-based loan	Common stock, preferred equity, convertible note

IV. Financing Instruments

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Overview of Instruments

In this study, we look at the entire suite of financing instruments available for water enterprises. Knowing that water enterprises can be challenging to finance and have sector-specific features, we explore investment instruments, both traditional as well as innovative ones, and look at their suitability to funding water enterprises.

The main financing instruments for water enterprises have traditionally been grants, debt, and equity, but diverse investors with different interests are starting to make use of more innovative financing instruments. The instruments explored are clustered into three groups: quasi-equity, results-based finance, and blended finance.

These groups are not meant to be mutually exclusive and collectively exhaustive. There are overlaps between each group—for instance, convertible notes can also be considered as results-based financing if there are clauses attached to impact. The instruments have been grouped in order to make the objective of each group clearer and aid in navigating among these instruments. For examples, see Figure 4.

Quasi-equity Quasi-equity instruments are hybrid forms of financing with both debt and equity features. Many of them, such as mezzanine, convertible notes, and preferred equity, have been used in the traditional venture capital space. Other instruments, such as SAFE or revenue-based loans, have existed mostly as a concept but are being considered more and more by investors who are looking for instruments that are friendlier toward the entrepreneur.

Results-based finance The term results-based finance (RBF) can often cause confusion due to the various terminologies used interchangeably. Some of the terms used are results-based funding, pay for results, results-based financing, and pay for performance, but they do not always mean the same thing. For our study, we lean on the example of the Swedish International Development Cooperation Agency (Sida) and use results-based finance approaches (RBFAs) as an all-inclusive term to avoid confusion[24].

As the name implies, RBFs have their core focus on results. The World Bank Group defines results as those elements that occur in a process chain after the input stage, which means that results can be outputs, intermediate outcomes or final outcomes[25].

RBFs all have a similar structure but differ when it comes to the funding source and the contract arrangements[26]. There is always a resource funder who provides payment and an implementing partner who receives this payment under the condition of achieving predefined results[27]. The main premise of using an RBF is to mitigate the principal-agent problem, where the government or donor (outcome funder) is the principal and the agent is the service provider (outcome provider). In aid financing, the payment is not linked to results, meaning that the principal bears the whole risk, since the agent can capitalize on its advantageous knowledge. With the RBF, the agent is incentivized to achieve the desired results of the principal and the risk is shifted—fully or partially, depending on the structure—to the agent[28].

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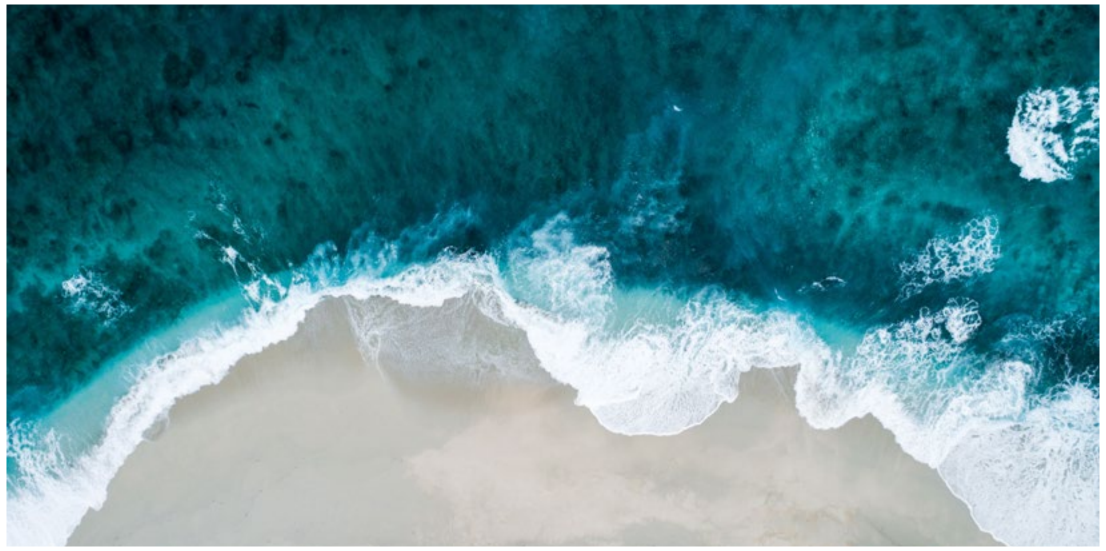
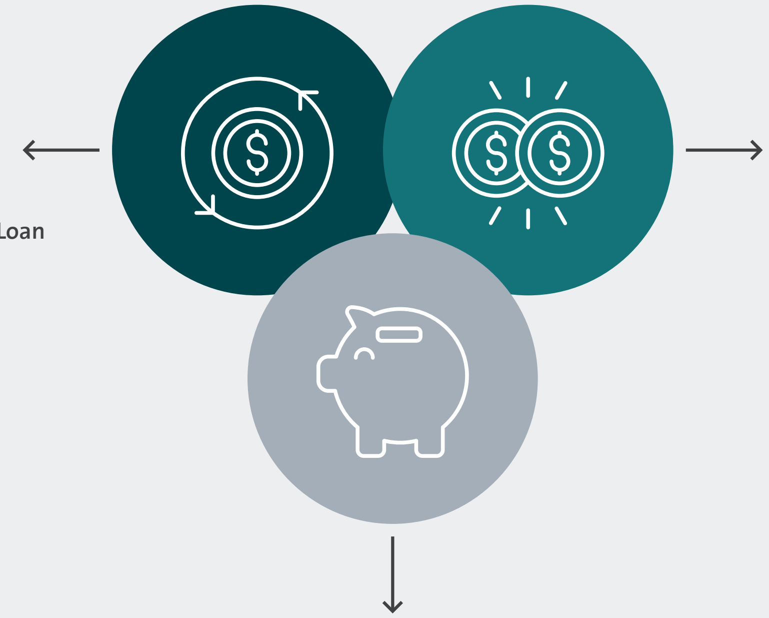
24 Sida (2015). Results-Based Financing Approaches (RBFA) – what are they?
25 World Bank Group (2017). Results-based financing in education: financing results to strengthen systems, Working Paper.
26 DFID (2010). Review of major Results-Based Aid (RBA) and Results-Based Financing (RBF) schemes, final report.
27 HLSP Institute (2011). Results-based aid and results-based financing: What are they? Have they delivered results?
28 DFID (2010). Review of major Results-Based Aid (RBA) and Results-Based Financing (RBF) schemes, final report.

Blended finance Blended finance can be defined as “the strategic use of development finance for the mobilization of additional commercial finance in developing countries to realize the Sustainable Development Goals[29]”. Typically, a blended finance instrument aims to lower the (perceived) risk of investments to attract commercial investors by making use of first-loss, concessional debt, subordinated debt or equity, guarantees, and technical assistance. Despite the fact that blended finance is a trending topic among development actors at the moment, we do not focus on blended finance instruments for this report. Our study explores financing on the enterprise level, and most blended finance transactions happen on a facility or fund level, not enterprise level. The facilities and funds make use of debt or equity, but the concessionality is often not extended to the enterprise (or not up to the enterprise). This is why blended finance has been ruled out of the scope of this research.



[29] OECD (2018), Making Blended Finance Work for the Sustainable Development Goals, OECD Publishing, Paris.

Figure 4: Innovative Financing Instruments



Quasi Equity

- SAFE
- Revenue-based Finance Loan
- Convertible Note
- Mezzanine
- Venture Debt
- Preferred Equity

Blended Finance

- First Loss Capital
- Concessional Debt
- Subordinated Debt
- Technical Assistance Facility
- Guarantee

Results-based Finance

- Impact Bond
- Performance-based contract
- SIINC
- Performance-based Loan
- Carbon Credits

Financing Instruments and Structures

In the following section, we introduce various financing instruments, ranging from traditional to more innovative financing tools that can potentially be deployed by water enterprises. Detailed descriptions of each instrument can be found at: www.swwm.info/financing-water-impact/financing-instruments.

1. Grants

Description

Grants are non-repayable funds provided by donor agencies, public institutions or charitable organizations. Grant recipients are often non-profit entities but can also be businesses or other types of organizations. The contributions are considered an investment to achieve overarching goals, such as "SDG 6: Clean water and sanitation for all" or other development goals, such as to foster innovation, to increase employment, or to support of the local economy. While grant providers usually do not expect to be repaid or receive any financial return, the use of grants is typically restricted to the implementation of a specific project rather than general operating costs or capital expenditures. In this sense, grant providers tend to monitor the impact of their grant funding closely[30].

There is a multitude of grants available, including many types that are particularly interesting for the financing and development of enterprises, such as research and development (R&D) grants, catalytic (enterprise development) grants, or grant windows for the implementation of projects. For these, enterprises specifically qualify as recipients.

Grants are usually awarded through an application or proposal process. To ensure the selection of suitable recipients, grant providers establish funding objectives, as well as eligibility and selection criteria, against which they evaluate and compare applicants.

[30] GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.

Characteristics	Implications for the water business
Grants are usually provided as a way to achieve overarching goals	**The implications of this are threefold:** 1. a clear impact logic is a prerequisite for grant funding, 2. a grant will come with specific conditions, and 3. it is necessary to understand and align with the goals and objectives of the grant provider to successfully access their funding.
Competitive awarding	Grants, in a way, are free money. Since they are usually awarded on a competitive basis, there tends to be (significantly) more applicants than available funding. This means that the application or proposal needs to be competitive and meet all eligibility criteria.
No dilution of ownership, repayment or interest, but...	While there is no requirement to pay grant money back, the recipient needs to comply with grant conditions and reporting requirements. In the case of more substantial grants, it is also common practice to establish a supervisory board that oversees (and sometimes influences) the use of funding.
Grants as (partial) contribution	Grants often do not cover the full amount of funding. If this is the case, the recipient needs to pay part of the costs or find other sources of co-financing.
Different grants for different purposes	With countless different grant opportunities, it is easy to lose sight of the forest for the trees. Mapping, analyzing, and identifying suitable grant opportunities can end up consuming significant resources.

Case Study

An example of generic initiatives that provide funding is enpact's founder scholarships. These and similar scholarships provide non-repayable financial support (grants) and mentoring for entrepreneurs over a specific period of time, allowing founders to fully concentrate their time and energy on their business venture. Aside from these examples, there are a lot of other types of grants that may be relevant for water businesses. Platforms like WASHfunders have mapped foundations and grant providers in the water sector. Moreover, many entrepreneurship support organizations and development programs share grant opportunities via their social media channels.

2. Debt

Description

Debt financing is a common way of raising capital by borrowing money from creditors, such as banks, financial institutions, or other investors. The enterprise is obliged to repay the amount borrowed, also called the principal, at a predefined date in the future and pay some form of interest. In return, the creditor grants the money to the company to pay for capital expenditures or finance its working capital. In case the company goes bankrupt, creditors have a higher claim than shareholders in getting their money back.

Debt financing can be divided into secured or unsecured debt. The former generally requires assets as collateral to be deposited, while the latter does not. Given that debt investors are more risk-averse than equity investors, secured debt is much more common. Thus, debt financing usually requires some form of collateral and a clear future revenue stream. The most common forms of debt financing are bank loans or bonds.

In developing markets, many development actors support early-stage enterprises to access debt financing more easily. These actors provide subordinated loans or guarantees to local banks or funds to incentivize private actors to do the same and foster development. This means that enterprises can leverage their impact potential, in addition to their financial track record, to access debt financing in such markets.

Characteristics	Implications for the water business
There is no dilution of ownership	This means that the founder remains in control of the enterprise. Debt lenders have no say in the business and are not given any company shares.
Debt allows for flexibility within overall terms	Debt options are usually flexible and can be adjusted to the enterprise's needs. They are also less time-consuming and less complex to arrange compared to equity. The latter often requires more negotiation and work on due diligence.
Debt financing instruments are senior in case of bankruptcy than equity instruments	Loans or bonds are repaid first in case of bankruptcy or default. In later financing rounds, equity investors may look at existing debt as a liability that increases the risk of their investment.
Debt usually allows for tax deductioan	An enterprise can deduct its interest payments as a business expense. Interest payments are therefore fully tax-deductible, which decreases the company's tax liability and overall costs for debt financing.
Debt can be a financial burden for the enterprise	The founder(s) needs to keep in mind that they need to repay not only the loan, but also the regular interest, which ultimately lowers the amount available for other purposes. This can be a large financial burden if the enterprise has a low revenue flow.
Debt financing can be secured or unsecured	Secured debt generally requires assets such as equipment or machines to be deposited as collateral in order to act as security in case of bankruptcy. Unsecured debt does not include collateral.

Key Terms

- **Bank loan:** A bank (lender/creditor) grants a sum of money (loan) to a third party (borrower) in exchange for the payment of interest. The bank offers different loan sizes and interest rates according to the individual financial situation of the business. Young companies are usually unable to access unsecured bank loans due to their lack of a financial track record and revenue.

- **Bond:** A bond is a debt instrument issued by a company or public administration and sold to investors in the financial market (creditor/purchaser) in order to secure resources. The issuer has to return the money plus pre-agreed interest payments (coupon) to the purchaser of the bond after a certain predefined period. A bond is typically held on a long-term basis and the repayment of the principal takes place at the end of the maturity term. Issuers of bonds are usually only large public limited companies or cooperatives.

- **Green bond:** A green bond is a type of fixed income that finances investments with environmental or climate-related benefits[31]. As with a traditional loan, the issuer (can be the government or a company) receives a certain amount of money in exchange for regular interest payments. However, the money has to be used in order to implement a specific climate or environmental project.

- **Crowdlending:** Crowdlending (or peer-to-peer lending) is a form of crowdfunding through loans that involves a large number of lenders but no intermediaries, such as banks. As with traditional loans, the lenders expect the company to repay the principal and provide appropriate interest payments as compensation. The borrowing amount and interest rate are usually dependent on the risks associated with the loan, but the conditions often prove more advantageous than in the case of traditional loans.

Case Study

WaterEquity is one prominent example of an investor that focuses on deploying capital in the form of microloans for water and sanitation enterprises. Its main goal is to contribute to the achievement of SDG6 and accelerate universal access to safe water and sanitation. The fund focuses on providing investments to microfinance institutions, micro-utilities, toilet manufacturers and water purification and sales kiosks at concessionary rates. The provision of "patient capital" is not the only thing that sets WaterEquity's approach apart from other debt providers. Together with the investee, they set specific impact targets that should be fulfilled along with the debt requirements at the end of the term, making sure that the interests of both parties are aligned. The impact performance will be tracked and evaluated by a third party.

[31] Ehlers, T. and Packer, F. (2017). "Green Bond Finance and Certification". BIS Quarterly Review September 2017.

3. Equity

Description

Equity investment is financing provided by an investor in exchange for shares in the company. The investor therefore becomes a shareholder of the company, meaning that they acquire partial or full ownership of the enterprise. This allows the investor to vote on certain company matters and, in some cases, benefit from dividend disbursements or a board seat. Equity financing can be an interesting mode of financing, particularly for businesses in their initial startup phase with a model that has potential for scaling.

Compared to debt financing, early-stage enterprises can access equity investments without showing a solid track record of success if the enterprise meets the investor's criteria. As enterprises mature, the risk investors take and the share they receive for their investment go down.

Equity investors realize gains either by selling their shares to another investor, selling them back to the entrepreneur, or by collecting dividends on their investment once the enterprise has matured and is generating significant profits. However, equity investments are associated with high risk, which means the investor is last in line to receive any compensation in case of default or bankruptcy. Given the risky nature of equity financing, investors typically expect potential for higher return as compensation for the high-risk investment.

If an investor seeks equity investments, the enterprise consequently has to make a very strong case for the expected return on investment (RoI). With traditional equity investors that seek financial returns, the market potential and business model are sector-specific components to build an investment case. When it comes to investors who equally consider impact as a form of RoI, the specific sub-sector, customer segments, and type of service or products offered play an important role.

Characteristics	Implications for the water business
The higher the company's financial valuation, the lower the portion of shares it gives to the investor in exchange for capital	This implies that the entrepreneur needs to consider whether the company is at a good point to yield a high valuation. Several factors influence the company valuation. Details on understanding company valuation methods and factors that influence the valuation result can be found here: https://sswm.info/financing-water-impact/financing-101/company-valuation
Investors do not get repaid, but potentially generate a return following the resale of shares (based on the differences in share prices)	The envisaged enterprise growth plan should be aligned with the exit strategy of the investor. The conditions for resale of shares can limit the influence that the entrepreneur has on future investors, who will have a direct say in the management of the enterprise.

Characteristics	Implications for the water business
The exchange of company shares for capital is usually followed by a seat on the board for the investors	With an equity investment, the entrepreneur also gives away the freedom to run the company on their own terms. This can be for better or for worse, depending on the alignment and level of involvement between the entrepreneur and the equity investors. When handing over some control to an investor, conflicts might arise between the entrepreneur and the investor when it comes to the mission of the business, the management style, or ways of operating the business. Overly engaged investors might also absorb a lot of resources for reporting and responding, taking up time the entrepreneur needs to manage the business.
Equity investments come with an expectation of a return on investment	Equity financing might cause the business to lose sight of its initial mission due to the influence of the investors on the direction of the business. This may lead to an increased focus on generating returns over generating water-related impact (mission drift risk).
Since investors own part of the company, the entrepreneur will have to share part of the (future) profits	This has implications that the entrepreneur may initially neglect; however, the entrepreneur should always be aware that the shares will be diluted with each new investment round. It is therefore recommended to project how the shares in the company will likely be reduced in subsequent investment rounds and establish clarity around the amount of shares the entrepreneur wants to maintain over time to ensure motivation and the right mindset to drive the enterprise to success in the long run.
The above are just a few implications of equity investments	To manage an equity investment round, it is highly recommended that the entrepreneur involve an experienced financial advisor who can help them navigate the investment world and can clarify the implications of a wide range of important details. Tip: many financial advisors work on a success fee basis (2%-3% is reasonable), which is only paid if the entrepreneur closes a successful round.

Key Terms[32]

- **Dividends:** As a shareholder of the enterprise, the investor will benefit from dividends from those shares. They are usually paid out only with large and established companies, mostly listed in the public market, meaning for investment in private companies, the return is mostly realized through the resale of shares.
- **Exit:** Investors can realize a potential return through the resale of their shares (also called an "exit"). Financial markets in developing countries often have low liquidity and depth, making it difficult for investors to exit their equity investments. The entrepreneur can also have an exit strategy whereby company founders plan to transition the ownership to another company.
- **IPO:** Businesses that have profitable operations, management stability and strong demand for their products or services might want to carry out an IPO (initial public offering). This means that a private company sells its shares to the general public.
- **Common stock:** If an investor has common stock, they have a claim on the enterprise's earnings (or dividends) and have voting rights. An enterprise can also issue different classes of common stock to shareholders. For instance,

[32] GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.

shareholders with A-class shares might have voting rights and dividends, but those with B-class shares have no voting rights and no dividends.

- **Preferred stock:** Preferred stocks, on the other hand, have dividends but no voting rights. Preferred shareholders have a higher claim on the enterprise's assets than regular shareholders with common stock. This means that, in the event of liquidation, preferred shareholders are paid off before other shareholders.
- **Performance:** While the provider may have return expectations based on ex-ante assumptions, actual performance may turn out very different. Returns associated with equity investments are often non-uniform due to the finance recipient's fluctuating performance.

Case Study

AXA Impact Fund – Climate and Biodiversity is an example of an impact-oriented impact fund that will invest in impact-oriented businesses targeting climate change and preventing the loss of biodiversity. The fund deploys capital through not only private equity and venture capital, but also through private debt and project finance. The success of the fund will be measured according to two criteria: financial and impact return. The investments are expected to generate market-rate financial returns. In addition, the fund identified key performance indicators and expects investments to contribute at significant scale to CO2 emissions reduction, healthier ecosystems, habitat conservation, and empowerment of vulnerable people and communities.

Under the umbrella of this impact investing strategy, AXA IM has co-invested in Sanergy. Sanergy collects organic and sanitation waste, then processes these waste streams into insect-based proteins derived from black soldier flies for animal feed, soil-restorative organic fertilizer for sustainable agriculture, and biomass fuel, thus replacing unsustainable firewood and heavy fuel oil in industrial boilers.

The Sustainable Water Impact Fund is the result of a partnership between Renewable Resource Group and The Nature Conservancy (TNC). This institutional-scale framework is focused on investing in land and water assets. This makes the fund less relevant for early-stage enterprises, yet it reflects an emerging trend to move mainstream financial markets toward impact-oriented investments in water-related areas. The fund aims to advance the management of surface water and groundwater, transition farms to more sustainably managed water resources, and improve the environment and the agricultural economy, while at the same time fulfilling its fiduciary responsibilities to investors. According to TNC, this includes investing in and operating agricultural assets that sustain the economic livelihoods of farmers and the communities that depend on a vibrant agricultural sector, while at the same time protecting farmland and achieving real conservation benefits like building seasonal wetlands and making water available in streams at critical times for wildlife.

4. Quasi-Equity

Description

Issuing equity is a well-established way for companies to raise capital. It means that the company is selling part of its ownership—so-called shares which come at a predefined price—to an investor. Quasi-equity, on the other hand, is a hybrid mechanism for a company to raise funds, meaning that it has characteristics of equity as well as debt. Technically, quasi-equity is often considered as debt, yet it has some equity-like features, such as flexible repayment options or lack of collateral requirements[33]. While being structured as debt, quasi-equity can, in some cases, be converted into equity or preferred equity[34].

Quasi-equity instruments are ranked between senior debt and equity in terms of liquidation priority. Thus, in case of bankruptcy, quasi-equity is considered junior to bank debt but senior to equity shareholders. As the risk with quasi-equity is considered to be higher than with traditional loans, it usually comes with higher returns. Repayment and returns depend largely on the design of the instrument and the performance of the recipient[35]. Quasi-equity is also frequently referred to as mezzanine finance.

33 GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.

34 Interreg Europe (2019). What are financial Instruments? https://www.interregeurope.eu/news-and-events/news/5490/what-are-financial-instruments/?no_cache=1&cHash=b0677f9a3c6f5dda6987f7a5543260cb

35 GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.

Overview of Quasi-Equity Instruments

	Purpose	Key Feature	Involved Parties	Requirements	Enterprise	Investor/ Lender/ Outcome funder	Maturity	Collateral	Evidence of Impact	Complexity	Stage	Can Replace
Revenue-based Loan	Creditors lend flexible capital which interest rate depend on the revenue generated	Ability to accommodate seasonality o market conditions	- Lender - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus)	Interest is calculated and paid as a percentage of revenue	Investor shares risk with the enterprise	Flexible	Usually unsecured	No	Low	Early-growth to Later stage	Equity, Debt
Subordinated Loan	Public investors or donors provide junior capital as a way to attract private debt capital	De-risking investments by taking first loss	- Public lender (e.g., DFI, MDB) - Private lender (e.g., bank, fund) - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus)	Interest payments necessary	- Public lender (subordinated loan) takes higher risk, - Compensated by higher interest payments	Varies	Secured or unsecured	No	Low	Early-growth to Later stage	Grants, Equity, Guarantees
Venture Debt	Creditor provides debt capital in exchange for regular interest payments and warrants right after equity financing round	- Option to convert to equity through warrant - Raised right after VC equity financing round - Used as cash runaway	- Lender (e.g., venture debt firm) - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus) - Backed by equity funding - Strong growth trajectory	- Strengthens balance sheet - No valuation of the business necessary - interest payments necessary	- Lender holds medium risk - Compensated by high interest payments - Can be converted to equity (warrant)	3 -4 years	Yes	No	Medium	Early-growth to Later stage	Convertible note
Convertible Note	Simple & flexible source of capital that allows investor to convert loan into discounted future equity upon triggering event in unpriced seed round	- Option to convert to equity - Unpriced seed round - Used as bridge financing - Has interest rate and maturity date	- Investor - Investee	- Proven model, - Ability to service debt (recurring revenue is a plus) - Growth potential	- Equity dilution in case of conversion - Flexible terms - Interest payments necessary	- Investor holds high risk for potential high return - Can be converted to equity	Varies	Usually unsecured	No	Medium	Seed stage	Equity, SAFE, Debt
SAFE	Simple, quick, flexible source of funding that allows investor to convert capital into discounted future equity in unpriced seed round	- Option to convert to equity through warrant - Unpriced seed round - Used as bridge financing - Has no interest rate and maturity rate	- Investor - Investee	- Product-market-fit - No revenue necessary but clear plan on how to reach revenue in the short-term	- Equity dilution in case of conversion - Flexible terms	- Investor holds significantly high risk for potential high return - Can be converted to equity (warrant)	No fixed maturity; Conversion at triggering event	Usually unsecured	No	Low - Medium	Seed stage	Equity, Convertible note
Preferred Equity	Investor provides capital in exchange for dividends and shares in the company	- Equity with dividends - No voting rights	- Investor - Investee	- Promising BM & Product-market-fit - Growth potential - No revenue necessary but clear plan on how to generate revenue in the short-term	- Equity dilution - Costly - Can be called by the business at any time - Have to pay dividends	Investor holds full risk for potential high return	Perpetual	No	No	High	Seed to Later stage	Common Stock

4.a. Quasi-Equity
Revenue-Based Loan

Description

A revenue-based loan or revenue share agreement (RSA) can offer a range of benefits to enterprises in their early or growth stages. The investor gives the company a loan in exchange for a share of the company's future revenues. A revenue-based loan acts both like debt and equity, but it offers more flexibility to both parties as the debt does not accrue interest and has more flexible repayment terms. The company gives a percentage of its future revenues (much like equity) to the investor until the agreed-upon amount is paid back without having to give away company ownership. Payments for a revenue-based loan are therefore not tied to a fixed amount or interest rate, but rather to the sales of the company at the time, allowing the investors to grow with the company. This incentivizes both investors and founders to better align their interests.

Characteristics	Implications for the water business
Low financial burden for the company	The entrepreneur is not obliged to make periodic fixed payments, nor is there a requirement for collateral.
The implementation of a revenue-based loan is relatively simple and does not require a notary	This will result in lower costs for the entrepreneur. At such an early stage in the business, the entrepreneur will need to find cheap ways to finance business activities. A revenue-based loan is a straightforward option.
The investor is largely dependent on the company's future sales	The relationship the entrepreneur has with the revenue-based loan holder will be one of mutual interest and collaboration. Since the loan holder can only benefit if the company does well, it is in their interest to help the enterprise succeed.
No collateral and no equity dilution	The entrepreneur maintains control over the company and there is no need to use assets as collateral. In some cases, the entrepreneur might give investors warrants as a substitute.
Early returns for investor	Rather than waiting indefinitely for the exit event, the investor receives early returns. This is something the entrepreneur can play on to make the business case more attractive to investors.
As a result of the revenue-based payments, the company has to forgo crucial cash flow during the scaling phase	This means that with a revenue-based loan, the enterprise will have less cash available. This will reduce the resources necessary for the enterprise to grow.

Characteristics	Implications for the water business
The investor's potential return is limited by the multiple or cap defined ex ante	A multiple or cap represents how many times the initial investment (multiple) or the total amount (cap) the enterprise should repay. This cap is a way for the entrepreneur to put a limit on the amount that the investor can profit from the revenue-based loan. Negotiating a multiple that both the entrepreneur and the investor are happy with should be done with the help of a financial advisor. Depending on the risk associated with the investment and the type of investor (debt or equity), the multiple will vary.
Periodic repayments are not a fixed amount but a fixed percentage	Repayments are based on a fixed percentage of revenues or, alternatively, profit, cash flow, or other financial indicators. The frequency is usually annually or biannually. In order to keep track of these repayments, the entrepreneur will need to have a good bookkeeping system in place. Staying consistent with the repayments is crucial for the enterprise to maintain a healthy relationship with its revenue-based loan holders.

Case Study

To scale their business model and provide safe drinking water to more people, Jibu has raised revenue-based loans. The venture capitalist and private equity organization Total Impact Capital (TIC) has issued several revenue-based loans to Jibu that are entirely secured (through assets owned by Jibu) and therefore offer investors peace of mind when investing in what would otherwise be high-risk and potentially low-return markets. Total Impact Capital has partnered with Jibu based on validated pro forma assumptions in terms of pricing, volume of water sold, expenses and other key drivers. The partnership has also been built with the aid of the innovative business model, which minimizes investor risks and unlocks private financing for franchises—an approach that has been proven profitable.

The strong evidence of Jibu's impact across different scales, coupled with the prospect that revenue-based loans can accelerate the growth of existing franchises, have contributed to the provision of this type of capital[36].

[36] Another example of a revenue-based loan is the Cambodia Revenue Finance Facility, which was established by the Stone Family Foundation. Find out more about this structure https://www.thesff.com/system/wp-content/uploads/2020/01/Cambodia-Revenue-Finance-Model.pdf

4.b. Quasi-Equity
Subordinated Loan

Description

A subordinated loan (subordinated or junior debt) is a form of debt capital that the enterprise pays back to the creditor. What makes subordinated loans special is that the creditors are set up to take higher risk compared to other loan providers. If the enterprise goes bankrupt, the subordinated loan providers will only receive their payments once senior creditors have been fully paid back. Thus, subordinated loans make it less risky for other creditors, such as banks, financial institutions, or other companies, to lend the enterprise money. Subordinated loans are, however, paid back before preferred and common shareholders, which means that equity investors will consider the subordinated loan in their risk assessment and investment decision, just like any other loan[37].

Characteristics	Implications for the water business
A sub-ordinated loan is a form of debt capital	The enterprise needs enough cash flow to service the debt. The financial pressure to pay back the loan may lead to decisions that prioritize revenues over the envisaged impact (mission drift).
It provides debt capital that takes junior positions	It provides an additional layer of security to other debt providers that take a senior position, allowing the enterprise to unlock further debt to scale.
It adds a long-term liability with second payment priority after senior debt	If the enterprise plans to raise equity investments at a later stage, it will have to use the subordinated loan in a way that outweighs the additional risk for future equity investors.
No equity is acquired and there is no board representation	An enterprise can continue to manage operations without having to engage and manage a(nother) shareholder.

Key Terms

Roots of Impact[38] have established a number of features and considerations related to subordinated loans that are important to understand:

- **Priority:** Priority of liquidation indicates which investor or creditor is first in line to receive payments in case of bankruptcy of the enterprise. A subordinated loan is considered lower in priority than a senior loan and thus will be paid after all senior creditors have been paid out in full. On the other hand, the subordinated lender will receive payments prior to the shareholders. Should the company have insufficient capital to pay off the subordinated loan, a pro-rata percentage of the remaining assets or proceeds should be distributed.

- **Catalytic effect:** The goal of the subordinated loan is to attract investors who would otherwise not have provided capital and to mobilize a volume of capital that would not have been obtained. This defines its catalytic nature and is also called "financial additionality".

[37] Roots of Impact (2020). Innovative Finance Toolkit: Alternative structures for financing early stage impact enterprises in Bangladesh. https://www.sie-b.org/expand-your-skills/innovative-finance-toolkit/

[38] Roots of Impact (2020). Innovative Finance Toolkit: Alternative structures for financing early stage impact enterprises in Bangladesh. https://www.sie-b.org/expand-your-skills/innovative-finance-toolkit/

4.c. Quasi-Equity
Venture Debt

Description

Venture debt is a quasi-equity financing instrument for raising capital in the form of debt. It can be used to supplement existing venture capital - or finance-specific opportunities (such as acquisitions) in the early growth stage of an enterprise. Venture debt providers offer loans to promising enterprises and, in exchange, receive warrants (rights to purchase future equity at a certain price) to compensate for taking on a higher risk of default. What makes venture debt an attractive option for entrepreneurs is its ability to minimize equity dilution[39]. With venture debt, the enterprise benefits from more favorable conditions, such as more flexibility and lower interest rates. In return, the lender receives warrants on the company's common equity.

Characteristics	Implications for the water business
Venture debt is usually raised to extend the cash runaway of a company (e.g., the amount of time a business has until cash runs out)	The main benefit is that this provides additional time for reaching major milestones via a cash buffer to put off further equity rounds until the enterprise receives a higher valuation score for future investors. Venture debt can thereby help to avoid or reduce further dilution[40].
The lender receives warrants in exchange for accepting higher risk and more flexibility	Warrants can be converted into common shares at the pre-agreed price in a future equity round. This means the entrepreneur has to consider the venture debt provider as a potential investor for the next investment round.
Venture debt could be a cheaper way to finance equipment in a company	When venture debt is used to finance equipment (such as a water tank), more favorable terms, including lower interest rates or no covenants, can be agreed on, since the equipment itself acts as collateral in case of default.
Unsecured - no collaterals and no positive cash flow needed	Unlike debt, in cases when quasi-equity is used, it is unlikely that enterprises will be asked for collateral or positive cash flow. This can be useful if the enterprise is relatively young and still lacking the two. The entrepreneur is, however, expected to pay interest and have restrictive covenants.
Minimizes equity dilution	This is one of the main drivers behind venture debt. Reducing dilution can allow the entrepreneur to retain more control over the trajectory of the company, since there are no new investors who accumulate shares and want a say in the company strategy or operations.
Adding a long-term liability with second payment priority after senior debt	This is something to be aware of for future equity rounds. Future investors might be put off by the presence of too much debt in the company.

[39] Dilution refers to the reduction of ownership percentage of the previous shareholders when capital is raised by issuing new shares.

[40] CBInsights (2019). "What is Venture debt?". https://www.cbinsights.com/research/report/what-is-venture-debt/

Characteristics	Implications for the water business
No equity is acquired and there is usually no board representation	The entrepreneur can continue to manage the enterprise without having to engage and manage another shareholder.
Structuring venture debt tends to be a complex process	The terms of the venture debt should be considered carefully by both parties. Structuring venture debt can be complex and might require hiring a financial advisor, making the process more costly.
Venture debt allows flexible structuring and repayment schedule meaning that every venture debt contract will have its unique terms and characteristics.	It is up to the entrepreneur (and the financial advisor) to strike the right balance with the investor. It is important to make sure all stakeholders are happy with the terms, but not take too much time negotiating, since that drives up the costs and uses resources.

Key Terms

- **Level of funding:** The amount of venture debt raised is usually 20-35% of the company's most recent equity financing round. It is usually raised alongside an equity round because the company's creditworthiness and bargaining leverage are likely to be strongest at that point[41].
- **Warrant:** A warrant gives the lender the right (but not the obligation) to buy shares at a certain price before a predefined expiry date. It can be converted into common shares at the pre-agreed price in a future equity round. Warrant coverage typically ranges between 10-20% of the loan.
- **Cash runaway:** Cash runway refers to the amount of time a business has until cash runs out. Venture debt is usually raised to extend the cash runway of a company. Thus, if there are delays, it can provide additional time without increasing dilution.
- **Perceived risk:** Although venture debt providers will usually be willing to accept a higher risk in exchange for warrants and interest, it is critical to ensure that entrepreneurs have cross-checked their investor's risk assessment. There is a difference between the actual risk and the perceived risk of a company. Unfortunately, in cases where data is neither readily available nor the context of the company properly understood, financial providers will base their assessment on perceived risk. This means that providers can often overestimate the risk levels of a company, resulting in less favorable conditions for the recipient of finance when an investment is made[42].

Case Study

EquaLife Capital is one of several emerging private credit funds that provide alternative debt financing, including venture debt. EquaLife offers debt to companies with strong business fundamentals, including existing positive cash flows, high growth potential, and innovative business models. EquaLife has raised a fund that is geared toward businesses that are seeing a temporary loss of revenue due to the COVID-19 crisis. Examples of appropriate businesses include: agriculture businesses that pay farmers upfront before going to market or wholesale distributors that buy from farmers and sell to hospitality markets, adding value to the vegetables by cleaning and packaging them[43]. In this line of thinking, technological solutions that require capital to facilitate end-user financing could benefit from venture debt.

41 CBInsights (2019). "What is venture debt?". https://www.cbinsights.com/research/report/what-is-venture-debt/
42 GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.
43 Finding Impact (2020). FIP 125: Venture Debt Fund for revenue-generating businesses during COVID-19 with Amanda Cotterman. https://findingimpact.com/fip-125-venture-debt-fund-for-revenue-generating-businesses-during-covid-19-with-amanda-cotterman/

4.d. Quasi-Equity
Convertible Note

Description

A convertible note is an innovative financing instrument in the form of a loan, which the investor can later convert into company shares. Early-stage enterprises can use convertible notes to raise capital when they want to delay company valuation or when they need a faster way to access capital. Thanks to their relative simplicity, convertible notes tend to need less negotiation time. This means capital can move from investor to recipient at a much faster rate, as opposed to other more complex financing instruments. Investors use convertible notes when they see that a young enterprise has a lot of potential and their investment could act as a catalyst for the company to achieve its goals, knowing that at the next priced round, they would get a slice of the cake by receiving shares. The terms of a convertible loan vary depending on what has been agreed on between an enterprise and an investor, but to compensate for the high risk accepted early on, the investor receives an interest rate together with a discount on company equity after its valuation round.

Characteristics	Implications for the water business
No company valuation is required	The main benefit of the convertible note—which acts as debt—is that both the enterprise and the investor can avoid lengthy negotiations regarding company valuation (assessment of the company's worth) at the beginning. This will not only reduce the time needed for getting the financing, but it will also delay the valuation until the enterprise is in a stronger position.
Flexible and simple set-up period	Due to its inherent simplicity, convertible notes require less negotiation time, less legal and administrative fees, and entrepreneurs typically receive the investment within 2-6 weeks (as opposed to equity, which can take much longer).
Company equity substitutes assets as collateral	Since a young enterprise usually does not have enough assets to act as collateral, the company equity acts as collateral for the convertible note investors.
Valuation cap - understood as a defined valuation amount at which a convertible note can be transformed into equity	In order to compensate the investor for having taken on the risk of investing early, the convertible note includes a valuation cap, which determines the conversion price. This means that the convertible note holder can either calculate the share percentage from the valuation cap amount or the actual valuation amount of the financing round. It prevents misalignment between the investor and entrepreneur, since without it, the investor would not want a higher valuation.
Discount rate for the investor is applied to equity	Upon maturity, or when triggered, a convertible note allows the investor to convert the principal and the interest into shares, for which they receive a discount. This means that in the subsequent priced round, the investor will get shares in the company at a discounted rate. In contrast, new investors will have to pay the full amount, in accordance with the outcome of the company valuation.

Characteristics	Implications for the water business
Convertible notes come with an interest rate relevant to the amount of money lent	The convertible note is a hybrid debt instrument and has an interest rate. Unlike a traditional loan, however, the interest is typically not paid until the pre-agreed maturity date (date when loan has to be paid back). Furthermore, in the majority of cases, the interest converts into equity instead of being paid out in cash[44].
While the debt is outstanding, investors have little say in company trajectory since they do not have voting rights	This is a key factor driving young enterprises to consider convertible notes as a funding instrument. By delaying the dilution of company ownership, the entrepreneur can have more control over the company trajectory while it is still in its premature stage (at least before the convertible note reaches its maturity and is converted into equity).

Key Terms

- **Triggering events:** Convertible notes tend to have a triggering event, understood as the moment in which the note can be converted into equity or cash. These triggering events will be predefined by both parties in the terms and conditions. Usually, they include reaching the valuation cap in the subsequent funding round or if the company is being bought. It is crucial that you, as the founder, are absolutely clear on what these triggering events are and have an idea of when and how they could take place, ensuring that they are clearly described in the terms and conditions to avoid potential misunderstandings.

Case Study

CityTaps is a private limited liability company, incorporated and operating in Paris, Niger, Kenya, Burkina Faso, Senegal, and Ecuador. CityTaps develops a prepayment service and smart water metering solutions for water utilities to better serve their subscribers, especially the urban poor. The solution CityTaps provides is a win-win for both water utilities and their subscribers. Subscribers can easily use mobile money to prepay for running water with any mobile phone at any time. Meanwhile, utilities always get paid and debts can be recovered over time. This allows utilities to expand their services and guarantee the right to water for everyone[45].

For this innovative solution, CityTaps received $500,000 in convertible notes in 2018 from the Global Innovation Fund as part of pre-series A and series A rounds, which allowed the enterprise to expand operations to multiple water utilities, reduce non-revenue water for utilities, and reliably deliver piped water to end-users[46].

[44] Roots of Impact (2020). Innovative Finance Toolkit: Alternative structures for financing early stage impact enterprises in Bangladesh. https://www.sie-b.org/expand-your-skills/innovative-finance-toolkit/

[45] Impactalpha (2020). CityTaps raises funding to increase clean water access. https://impactalpha.com/citytaps-raises-funding-to-increase-clean-water-access/

[46] Global Innovation Fund. Investments: CityTaps. https://www.globalinnovation.fund/investments/citytaps/

4.e. Quasi-Equity
SAFE

Description

Simple Agreement for Future Equity (SAFE) is a financing instrument for seed-stage enterprises that allows investors to buy future company shares. Similar to a convertible note, it acts as a short-term buffer, allowing the company to gain traction and grow before it carries out its next round of funding. Unlike a convertible note, however, a SAFE is not a debt instrument. Instead, it works as a warrant on future equity. It is, therefore, not tied to a maturity date or interest. This makes SAFE a much easier and more straightforward financing tool for an entrepreneur.

Depending on what has been agreed on between both parties, to compensate investors for taking a high risk so early on, SAFE can include discounts for purchasing future equity and a valuation cap (the company valuation amount that will be used to calculate the investor's percentage of company shares, regardless of whether the actual price per share is higher).

Characteristics	Implications for the water business
Because of its relative simplicity, SAFE has fewer legal and administrative costs than other financing tools	SAFE is one of the cheapest financing options for early-stage companies. Since it does not function as debt, there is no accrued interest, making it an attractive alternative for an entrepreneur who is not ready to sell shares and does not qualify for traditional debt.
A SAFE typically has no maturity and no fixed deadline for conversion. It also does not have an interest rate because it is not debt	This enables the company to be much more flexible than using a convertible note, for example. However, with SAFE, the investor accepts a higher risk and is not as protected against default. This means that the entrepreneur might need to include better perks, such as a higher discount rate on future equity, to attract investor interest.
Compared to priced rounds or other financing instruments, SAFE comes with minimal negotiation	Given the simplicity of SAFE, stakeholders only have to agree on key aspects, like the amount to be invested, the valuation cap, and the potential discount on future equity. Nevertheless, in the terms and conditions, all stakeholders should align on vital terms that protect both the entrepreneur and the investor. This can be done by thinking of scenarios for company dissolution or company acquisition when there is an equity round. If these terms have not been laid out properly or fully understood by both parties, there could be a misalignment of interests, which could lead to unexpected negative outcomes for either of the parties.
Pro-rata rights or participation	When issuing pro-rata rights, it is important to consider whether future investors are going to be put off by the number of pro-rata rights issued. Understanding how these rights will affect their future investment portfolio will help the entrepreneur make more informed decisions when issuing SAFEs.

Characteristics	Implications for the water business
Investors are not remunerated for the early-stage risk they are taking. They get paid only when the company raises additional funding[47]	This allows the company to have more flexibility and not be tied down by strict repayment schedules and interest rates.
Convertible instruments like SAFE postpone equity dilution	Entrepreneurs living too much in the here and now risk forgetting about future promises, including any responsibilities or consequences associated with equity dilution. Entrepreneurs need to make sure they do not lose track of how much of the future company ownership (equity) has already been sold and what that means for the future of the company.

Key Terms

- **Valuation cap:** SAFEs are likely to include a valuation cap. The valuation cap works as a ceiling on the company valuation that will be used to calculate the conversion price for SAFE investors. The valuation cap can be applied to pre-money (which refers to the company value prior to the latest round of financing) or post-money valuation (which refers to the company value right after a financing round). When the valuation cap is higher than the valuation of the next priced round, SAFE investor shares are usually calculated using the priced round valuation instead.
- **Discount rate:** SAFEs can include a discount (typically ranging between 10% and 25%) on the future equity. The higher the discount rate, the more ownership dilution the company is causing.
- **Dilution waterfall:** If you take out multiple SAFEs or convertible notes, you could risk what is called a "dilution waterfall," meaning that future priced rounds are negatively impacted, since both founders and early investors will get less equity percentage than initially expected. A dilution waterfall can also discourage new lead investors from investing in a future priced round.

[47] Roots of Impact (2020). Innovative Finance Toolkit: Alternative structures for financing early stage impact enterprises in Bangladesh. https://www.sie-b.org/expand-your-skills/innovative-finance-toolkit/

5. Results-based Financing

Description

Results-based financing (RBF) is used to provide incentives for an enterprise in exchange for the delivery of pre-agreed and verified results. This method of financing was initially used as a way to improve the effectiveness and cost-efficiency of aid projects.

RBFs can take many forms, yet all modes aim to create development outcomes and drive innovations by mobilizing additional financing from investors. Traditional investors would otherwise not consider investing in the social sector due to the perceived low return, but the framework and backing provided by results-based financing mechanisms may significantly increase an investor's appetite[48].

[48] GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.

Overview of Results-based Financing Instruments

	Purpose	Key Feature	Involved Parties	Requirements	Enterprise	Investor/ Lender/ Outcome funder	Maturity	Collateral	Evidence of Impact	Complexity	Stage	Can Replace
Impact Bond	Investors provide pre-financing for social or environmental projects while return and principal is paid back when predefined impact targets are met	- Improve risk/ return profile of the investee - Improve effectiveness of the project - Concessionary capital - Outcome focus	- Investor - Investee (e.g., enterprise, NGO) - Outcome funder (e.g., dev. Agency, DFI)	- Proven model, - Track record - Ability to deliver measurable outcomes within short timeframe	- Low risk for the business: receives upfront capital with no return obligation - Concessionary capital for impact	- Investor provides upfront capital therefore holds main risk - Compensation by outcome funder according to impact performance	3 -4 years	No	Yes	High	Early-growth to Later stage	Grants, Public contracts
Social Impact Incentives	Private investment backed enterprise receives premium payments from outcome funder for achieving impact targets	- Concessionary capital - Outcome focus	- Outcome funder (e.g., develop-ment agency, foundation) - Investee	- Proven model, - Track record, - Ability to scale, - Backed by repayable funding, - Ability to deliver measurable outcomes	- Payment according to impact performance (no mission drift) - Needs to be backed by repayable investment (equity or debt)	- No upfront capital paid by the outcome funder - Improved risk/return profile for investors	2-4 years	No	Yes	High	Early to Growth stage	Grants, catalyt-ic capital
Performance-based Loan	Investee receives loan conditional to achiev-ing impact while terms can improve depending on the impact performance	- Concessionary capital - Outcome focus	- Investor (e.g., Impact fund) - Outcome funder (e.g., develop-ment agency) - Investee	- Proven model, - Track record, - Ability to service debt, - Ability to deliver measurable outcomes	- Better terms for better impact: incentivized to maximize impact - No mission drift - Concessionary capital for impact	- Investor holds high risk due to upfront capital - Impact first investors	Varies	No	Yes	High	Seed-early to Later stage	Traditional debt, grants
Performance-based Contract	Outcome funder provides capital when impact targets are met. Possibility to receive benefits if investee outperforms on impact	- Improve effectiveness of the project - Concessionary capital - Outcome focus	- Outcome funder (e.g., develop-ment agency, foundation) - Implementer	- Ability to deliver measurable outcomes	- Enterprise pre-finances the intervention (full risk) - Receives payments upon reaching impact targets	Outcome funder only pays if impact targets are met (no risk)	Varies	No	No, but clear plan on how to create impact	Medium - High	Seed to Later stage	Impact bond, grants, public contracts
Carbon Credit	Enable businesses to offset their emissions by buying measurable emission reductions from certified climate action projects	- Additional revenue stream - Outcome focus	- Emitter (e.g., MNCs) - Carbon off setter (e.g., enterprise) - Verifier (e.g., gold standard)	- Proven model - Track record - Ability to deliver measurable outcomes, - Independent verification	- Carbon off setter needs to carefully measure emissions reduction - Gets paid by emit-ting company	Emitter can offset its carbon emissions by purchasing carbon offset certificate	Credit is permanently retired	No	Yes	High	Growth to Later stage	

5.a. Results-based Financing

Impact Bonds

Description

An impact bond typically involves a private investor, a service provider, and an outcome funder, who is usually a governmental agency. The private investors provide upfront capital to enterprises for social services and are repaid by the outcome funder if the agreed-upon outcomes have been achieved[49]. This way, the outcome funder pays only for the desired outcomes instead of focusing on activities and input, while the private capital bears the risk.

When applied as an instrument to finance enterprises, impact bonds allow an entrepreneur to receive investments to create impact during a transitory period and attract investors that are impact-driven. Since the investor's financial return is tied to the created impact, the investor's incentives are aligned with the enterprise's social mission. For investors, the enterprise's ability to effectively deliver on the desired impact is therefore of key importance for this investment instrument, even if they are not meeting financial return expectations.

Characteristics	Implications for the water business
Impact bonds allow more flexibility in terms of activities than traditional (grant) contracts	All parties entering into an impact bond accept that unforeseen circumstances may influence the journey toward the desired outcome, and that the outcome matters more than the activities. This grants the enterprise more freedom to pivot and adjust activities.
An investment is only recovered if the outcome proves successful	The entrepreneur can access donor capital that would otherwise remain out of reach because the investor bears the initial risk and the outcome funder will only be required to pay if all goals have been met. Since funding and repayment are tied to outcomes, the enterprise needs to deliver top-level social services to convince the investor of its potential success.
Outcomes and their measurement mechanisms need to be clearly defined	It is not always easy to measure whether a desired outcome has been reached, especially with projects focused on behavioral change (e.g., tackling open defecation). There needs to be a mutual agreement between all parties on how outcomes will be measured and evaluated, and how activities are bundled in order to create solid outputs. This is often referred to as the "theory of change".
No equity is acquired and there is no board representation	You can continue to manage your enterprise without having to engage and manage a(nother) shareholder.

[49] GIZ (2020). The GIZ Finance Guide: Navigating the world of finance.

Case Study

The Cambodia Rural Sanitation Impact Bond is the first impact bond for water, sanitation and hygiene (WASH). It aims to eradicate the high rates of open defecation in Cambodia, while contributing to the Cambodian government's efforts to reach universal sanitation and eliminate open defecation by 2025.

The bond was launched in November 2019 after all players agreed on clearly set target outcomes. The Stone Family Foundation (SFF) has a track record of financing the water sector, especially in Cambodia, and drove the transaction as the impact investor. iDE, the service provider, is a water enterprise that addresses the issues of open defecation in rural areas of Cambodia by providing each household with access to or improved sanitation in their home or a shared latrine. USAID, an international development agency, joined the transaction as the outcomes funder interested in paying for the development impact.

The Stone Family Foundation (SFF) provided the upfront capital to iDE, while taking on the full risk of the transaction. USAID provides the outcome payment. The payment includes a premium that reflects the risk taken by SFF, in addition to the repayment of the principal. However, if iDE fails to achieve the outcomes, USAID is under no obligation to make any payouts. In order to further align the incentives for both investor and implementer, the SFF and iDE agreed on a shared return should the outcomes be achieved. The outcomes are self-assessed by each village where iDE is active and iDE, which removes the need for a third-party impact verifier, thereby reducing the effort and cutting costs significantly[50].

[50] The SFF (2019). Factsheet: Cambodia Rural Sanitation Development Impact Bond. Retrieved from: https://www.thesff.com/system/wp-content/uploads/2019/11/Cambodia-rural-san-DIB-long-fact-sheet.pdf

5.b. Results-based Financing
Social Impact Incentives (SIINC)

Description

Social impact incentives (SIINC) are a financing instrument designed to incentivize impact-oriented enterprises to go the extra mile to make their products or services accessible for beneficiaries, particularly for the bottom of the pyramid (BoP) population. For this purpose, SIINC rewards high-impact enterprises with premium payments for achieving impact. Enterprises, especially in the WASH sector, face pressure from investors to fully commercialize and discard their impact mission in favor of financial sustainability. SIINC, however, enables them to do both. It provides additional financing to attract investors and offers the enterprise a non-repayable premium for reaching predefined social and/or environmental outcomes.

A SIINC constellation typically features two parties: 1) an impact enterprise that is in negotiations with an investor already and 2) an outcome payer who pays an additional premium for impact once certain impact milestones are achieved.

The outcome payer usually comes from a philanthropic or development-focused background, such as a foundation or a governmental institution, and encourages the enterprise to exceed its growth curve by creating additional impact. The premium payments are linked to a verification of outcomes by a third party.

Unlike impact bonds, the investor is not involved in the negotiations. However, one of the conditions to be eligible for SIINC outcomes payments is finding external investments, which means investors do play a role. It is important that the investor is on board with the impact-oriented approach of the enterprise to avoid mission drift.

Characteristics	Implications for the water business
SIINCs are not for early-stage enterprises.	In order to secure a SIINC contract, the enterprise should be able to demonstrate that it already has a proven business model, as well as a tangible impact. SIINC is designed for growing enterprises that already have experience with soft-term investments (e.g., soft loans, equity injections, or grants) and genuinely care about impact while scaling.
SIINC is tied to another investment stream	SIINC funders want to see proof that the enterprise is currently in conversation with—or about to close—another investor. They are not interested in funding day-to-day activities and operations. Rather, it provides an extra revenue stream linked to the impact that will allow the enterprise to grow.
While operations and financials matter, impact is key	It is not enough to claim that the enterprise is socially or environmentally oriented. It needs to be able to back this up with systematic evidence.
SIINC can help the enterprise avoid mission drift	SIINCs want to make it possible for the enterprise to become financially sustainable while sticking to its impact goals. The premium payments are designed to incentivize the enterprise to go one step further toward generating impact. Thus, it is important that the third-party investor also has an interest in achieving impact and will not try to push the enterprise in a purely commercial direction.
A monitoring process is required	The enterprise will go through an (bi)annual monitoring and evaluation process with an external third party to measure its impact. Based on those findings, the outcome payer releases the premium payments tied to the SIINC contract.
No equity is acquired and there is no board representation	You can continue to manage your enterprise without having to engage and manage a(nother) shareholder.

5.c. Results-based Financing
Performance-based Loan

Description

As with traditional loans, a performance-based loan is debt but with a set of terms and conditions concerning interest, fees, and repayment. It involves a lender—in this case, an impact-minded investor—and a borrower, which would be a water enterprise as the service provider. Sometimes, an outcome funder who would cover the repayment and return can get involved, such as in the case of positive outcomes to the intervention.

What makes a performance-based loan special is the fact that the terms of the loan are directly linked to impact, which is why it is also often referred to as an "impact-linked loan" or a "social success note"[51]. The better the performance in terms of predefined social and environmental criteria, the more favorable the loan terms will be for the borrower. In some cases, if the activities lead to exceptional results, the interest and debt can even be forgiven. In other words, the enterprise is incentivized to maximize its impact by receiving financial rewards. These can range from discounted interest payments to partial or even full remission of the loan repayment.

Characteristics	Implications for the water business
The higher the impact, the better the rewards	If the service provider achieves high impact, the loan conditions, repayment terms, or interest rates can be designed to reflect that, providing further incentive for outstanding results.
Profit is not the primary goal of the investor	If all goes to plan, the return for investors is lower, which means that impact-oriented investors should be a first go-to, rather than those who value return over impact. However, investors who prioritize impact over return can still be hard to come by.
Impact is verified independently	An external party will be put in charge of measuring and verifying the enterprise's impact and outcomes. The enterprise needs to make sure that it has a full grasp on the metrics.
High risk/low return for the investor	An investor who supports an impact-linked or performance-based loan may not prioritize financial return, yet the risk may be relatively high. An outcome funder and/or blended finance approach can alleviate this risk and make an investment more worthwhile for the lender.
No mission drift	The enterprise will not be forced into a situation where it needs to change its values or mission in order to generate revenue to repay the loan.
No equity is acquired and there is no board representation	The entrepreneur can continue to manage the enterprise without having to engage and manage a(nother) shareholder.

[51] Term coined by Yunus Social Business.

Key Terms & Variations

- **(Optional) outcome funder:** As a variant, performance-based loans open up the option for an outcome funder, such as a philanthropic organization, government entity or aid agency, to get involved by paying back the financial investment and potential interest to the lender on the enterprise's behalf. This is especially relevant if the intervention overlaps with the potential funder's priorities. This involvement also lowers the risk for commercial investors who may be put off by the lower return once all impact targets have been achieved.

- **(Optional) blended finance:** It is also possible to incentivize investors by going for a blended finance approach, such as grants designed to cover initial loss and other (partial) credit guarantees, which will help de-risk an initial investment. Also, if the enterprise is the recipient of zero-interest capital that can be coupled with an interest-based investment, the total interest rate will be lower than in the case of only a traditional loan.

- **Convertible loans, revenue-share agreements:** Enterprises should consider performance-based convertible loans and performance-based revenue share agreements. In the case of the former, the loan will convert into equity once predefined milestones are unlocked. The discount a lender receives will depend on the achieved impact and again be tilted in the enterprise's favor in case the impact is higher. The latter implies that within a predefined range (regular rule-based adjustment), the level of revenue share is linked to the impact performance of the social enterprise: the greater the social outcomes, the lower the revenue share or the total amount to be paid back by the enterprise[52].

Case Study

A performance-based loan or social success note was launched in 2018 by Yunus Social Business and the Rockefeller Foundation in partnership with the UBS Optimus Foundation and Impact Water. The loan aims to provide access to new sources of debt to social businesses in order to increase safe sanitation services in Ugandan schools. The UBS Optimus Foundation (investor) provided the upfront capital in the amount of $500,000 to Impact Water (social business) in the form of a working capital loan. This allows Impact Water to continue to sell, install and maintain affordable water filtration systems in schools in Uganda[53]. In return, Impact Water has to repay the loan and provide an annual interest rate of 5% to the investor. If the targets are met, the Rockefeller Foundation (outcome payer) will provide the investor and the social enterprise with a predefined outcome payment of max. $200,000 at a cumulative target of 3,600 performing water systems over five years[54]. These payments are made annually and depend on how many functional water purification systems have been installed. Both the investor and the business benefit from the payments, thereby creating positive incentives to reach the pre-agreed outcome. In this way, the Rockefeller Foundation will only fund business models that are effective and create significant social impact.

For more details on performance-based loans in the water sector, go to https://sswm.info/financing-water-impact/financing-instruments/rbf:-performance-based-loan.

[52] Roots of Impact (2020). Innovative Finance Toolkit: Alternative structures for financing early stage impact enterprises in Bangladesh. https://www.sie-b.org/expand-your-skills/innovative-finance-toolkit/

[53] Yunus Social Business (2018). Social Success Note. https://www.yunussb.com/the-social-success-note

[54] ANDE India (2020). Social Success Note Playbook. https://cdn.ymaws.com/ande.site-ym.com/resource/resmgr/publications/final_ssn_playbook11.9.2020.pdf

5.d. Results-based Financing

Performance-based contract (PBC)

Description

A performance-based contract is a mechanism that allows a financier, usually a philanthropic or governmental/public entity, to hire and pay for the services of a service provider, such as an impact-oriented enterprise or NGO, to execute a socially or environmentally beneficial initiative during an agreed-upon timeline. Contrary to traditional development funding, the donor is not paying for activities. Rather, a goal (output or outcome) is articulated and the service provider is given relative flexibility in terms of how this goal will be achieved. In the water sector, such goals can be linked to, e.g., non-revenue water reduction or extension of services. Notably, the enterprise that provides the service will only receive payment once the indicators for success have been met. Pay-out will accordingly often be broken down into several installments that are tied to concrete milestones.

Characteristics	Implications for the water business
Risk is shifted to the service provider	If the enterprise does not reach the outputs or outcomes that were set out to be met, it will not be reimbursed. Contrary to other results-based financing approaches, the main risk lies with the service provider rather than with an investor who has put upfront financing into the solution. This means that the enterprise also needs to have a strategy in place to absorb the risk if it cannot deliver on the contractual terms.
Input and activities are flexible	The destination matters here, not the journey. In other words, how certain outcomes are achieved is less relevant than the quantifiable results of the project. Of course, project goals should not be reached through unethical means. Thorough monitoring and reporting will still be a prerequisite to make sure milestones are achieved.
Results are verified independently.	An external party will be put in charge of measuring and verifying your intervention's output or outcomes. The enterprise needs to have a full grasp on the metrics that will be applied.
Relationship management is less complex	When only the service provider and outcome funder are involved in a PBC, partnership management is much less strenuous on the service provider. Sometimes, multiple service providers may be involved, but coordination with them is still less resource-heavy than with multiple financiers.
Potentially long payment period	It takes some time before outcomes to the intervention are visible and measurable. This means that the last installments could be coming in months after the project-related activities have concluded. The enterprise needs to make sure to account for this in its organizational budgeting.

Variation

- While the service provider is often expected to cover the cost for the first project phase, a PBC can also be hybrid, thus making it suitable for NGOs and younger enterprises that do not possess the capital to cover an initial round of activities/input until the first installment comes in. This means that the compensation is partly paid upfront in good faith and then partly upon the delivery of certain agreed-upon outputs or outcomes.

Case Study

Uptime is a global consortium aimed at delivering drinking water services to millions of rural people through long-term, performance-based funding contracts. The "Uptime framework" tracks verifiable performance metrics that form the foundation for the contracts, thereby ensuring that rural water services are reliable, equitable, and sustainable for all.

These complementary metrics can objectively and comparatively assess and reward service performance by considering scale, multiple uses of water, and perceived user value. In combination, these metrics provide a proxy for the population reached and progress toward universally available services. The components of the "Uptime framework" are:

- **Reliable waterpoints:** The number of waterpoints with operational rates satisfying the need for daily water access, measured by Uptime as a metric of the % of days a waterpoint is operating when needed.
- **Water volume:** Independent, objective and verifiable measure of the volume of water provided using meters or sensors.
- **Local revenue:** Payment from waterpoint users as a measure of financial performance and perceived user value.

The contract would disburse non-repayable funding to service providers based on their performance. The framework is planned to be piloted in 2021. The contract design has been applied and tested with the 2019 performance data of five service providers in four African countries. According to the data from 2,800 waterpoints, the results-based contracts would have funded services for about 1.2 million people with an external subsidy of $876,000 USD or approximately $0.69 USD per person. The results further show that infrastructure maintained by these service providers is functional 94% of the time and users pay 30% of the total service cost. It also suggests that verifiable results can be linked to a uniform multi-country funding approach modality for services, which could address information asymmetries and unlock new resources for SDG outcomes at scale. These contracts can accelerate progress toward ending external aid subsidies whereby water services are increasingly financed by consumer tariffs and internal country subsidies[55].

For more details on performance-based contracts in the water sector, go to https://sswm.info/financing-water-impact/financing-instruments/rbf:-performance-based-contract.

[55] "Results-Based Contracts for Rural Water Services." Uptime, July 2020. https://static1.squarespace.com/static/5d5fc19961d87c00011689d2/t/5f1759127e30ed-322cd5dba0/1595365662058/Results-Based+Contracts+for+Rural+Water+Services.pdf.

5.e. Results-based Financing
Carbon credits

Description

Carbon credits are a tradable commodity that allows an emitter to compensate for carbon emissions. They are equivalent to 1 ton of carbon dioxide (CO2) or another type of greenhouse gas. Water-related enterprises can obtain carbon credits by monitoring and certifying the positive environmental impact of relevant solutions in terms of CO2 reduction—for instance, through more sustainable wastewater treatment solutions or providing safe water that allows consumption without prior boiling with charcoal or wood to make water safe for consumption, which is still the standard in many developing countries. The tons of carbon dioxide emissions that have been saved through the use of one intervention will then be sold on the global carbon market, and the buyer—often a large manufacturing company—will be permitted to emit an equivalent amount of carbon dioxide. Carbon credits, therefore, provide a mechanism that allows enterprises to finance their work by capitalizing on their climate change mitigation impacts.

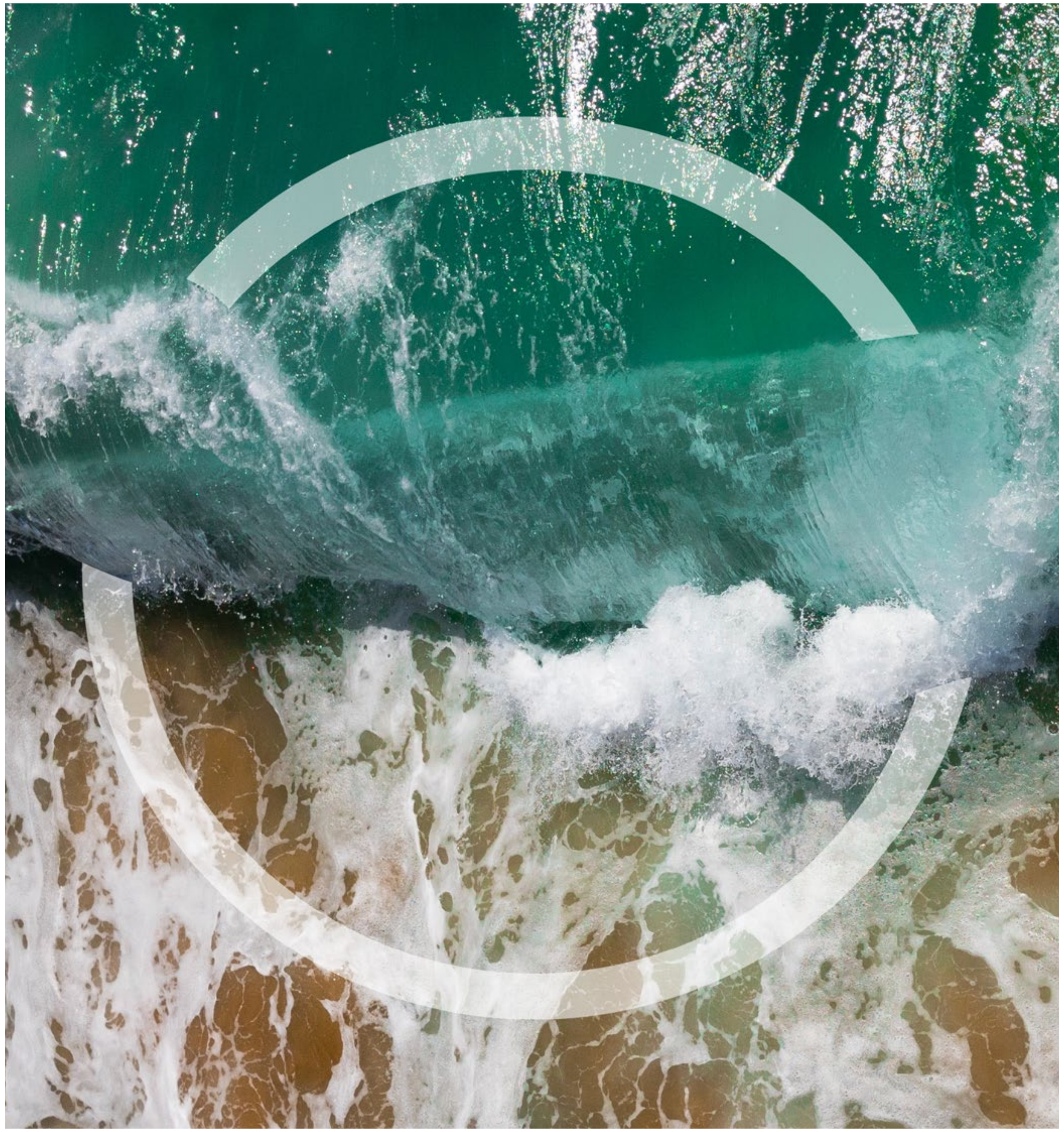
Characteristics	Implications for the water business
Projects need to be certified to qualify for carbon credits.	The enterprise needs to acquire the appropriate certifications via the United Nations or an internationally accepted certification body (e.g., Gold Standard). This certification can cost tens of thousands of dollars, plus regular monitoring expenses. One option to deal with this is to engage with intermediary organizations that certify emission reductions of projects and or enterprises.
Expect rigorous monitoring and multiple check-ups.	Carbon credits are not based on assumptions but on meticulous science to assess how much CO2 has really been saved through the project. Everything will be measured, added, and subtracted by independent experts, from the amount of wood saved via the quality of water, all the way to the emissions of the transportation and delivery system.
Selling relevant impact of the enterprise	By selling the emissions reduction that has been created through the enterprise, it is selling off a key impact generated through the business. This should be taken into consideration if the entrepreneur plans to raise funds from impact investors.
Buyers can sell on unused carbon credits.	Buyers of carbon credits are permitted an equivalent release of CO2. If they do not meet this cap, they can sell unused carbon credits, thus creating an additional incentive for them to reduce their emissions.

For more details on carbon credits in the water sector, go to https://sswm.info/financing-water-impact/financing-instruments/rbf:-carbon-credits.

Overview of All Instruments

	Purpose	Key Feature	Involved Parties	Requirements	Enterprise	Investor/ Lender/ Outcome funder	Maturity	Collateral	Evidence of Impact	Complexity	Stage	Can Replace
Debt	Creditors lend money in exchange for interest payments over a predefined time frame	Highest protection in case of bankruptcy = Senior debt	- Lender (e.g., bank) - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus)	Interest payments necessary	- Lender holds low risk, - Is compensated by interest payments and collateral, - Highest liquidation priority	Up to 30 years	Yes	No	Low	Early-growth to Later stage	Equity, Quasi-equity
Revenue-based Loan	Creditors lend flexible capital which interest rate depend on the revenue generated	Ability to accommodate seasonality or market conditions	- Lender - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus)	Interest is calculated and paid as a percentage of revenue	Investor shares risk with the enterprise	Flexible	Usually unsecured	No	Low	Early-growth to Later stage	Equity, Debt
Subordinated Loan	Public investors or donors provide junior capital as a way to attract private debt capital	De-risking investments by taking first loss	- Public lender (e.g., DFI, MDB) - Private lender (e.g., bank, fund) - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus)	Interest payments necessary	- Public lender (subordinated loan) takes higher risk - Compensated by higher interest payments	Varies	Secured or unsecured	No	Low	Early-growth to Later stage	Grants, Equity, Guarantees
Venture Debt	Creditor provides debt capital in exchange for regular interest payments and warrants right after equity financing round	- Option to convert to equity through warrant - Raised right after VC equity financing round - Used as cash runaway	- Lender (e.g., venture debt firm) - Borrower	- Proven model, - Ability to service debt (recurring revenue is a plus), - Backed by equity funding, - Strong growth trajectory	- Strengthens balance sheet - No valuation of the business necessary - Interest payments necessary	- Lender holds medium risk - Compensated by high interest payments - Can be converted to equity (warrant)	3 -4 years	Yes	No	Medium	Early-growth to Later stage	Convertible note
Convertible Note	Simple & flexible source of capital that allows investor to convert loan into discounted future equity upon triggering event in unpriced seed round	- Option to convert to equity - Unpriced seed round - Used as bridge financing - Has interest rate and maturity date	- Investor - Investee	- Proven model, - Ability to service debt (recurring revenue is a plus) - Growth potential	- Equity dilution in case of conversion - Flexible terms - Interest payments necessary	- Investor holds high risk for potential high return - Can be converted to equity	Varies	Usually unsecured	No	Medium	Seed stage	Equity, SAFE, Debt
SAFE	Simple, quick, flexible source of funding that allows investor to convert capital into discounted future equity in unpriced seed round	- Option to convert to equity through warrant - Unpriced seed round - Used as bridge financing - Has no interest rate and maturity rate	- Investor - Investee	- Product-market-fit - No revenue necessary but clear plan on how to reach revenue in the short-term	- Equity dilution in case of conversion - Flexible terms	- Investor holds significantly high risk for potential high return - Can be converted to equity (warrant)	No fixed maturity; Conversion at triggering event	Usually unsecured	No	Low - Medium	Seed stage	Equity, Convertible note
Preferred Equity	Investor provides capital in exchange for dividends and shares in the company	- Equity with dividends - No voting rights	- Investor - Investee	- Promising BM & Product-market-fit, - Growth potential - No revenue necessary but clear plan on how to generate revenue in the short-term	- Equity dilution - Costly - Can be called by the business at any time - Have to pay dividends	Investor holds full risk for potential high return	Perpetual	No	No	High	Seed to Later stage	Common stock
Equity (common stock)	Investor provides capital in exchange for voting rights and shares in the company	- Equity without dividends - Voting rights - Lowest protection in case of bankruptcy	- Investor - Investee	- Promising BM & Product-market-fit, - Growth potential, - No revenue necessary but clear plan on how to generate revenue in the short-term	- Equity dilution - Ownership and control are affected through voting rights - Costly	- Investor holds high risk for potential high return, - Lowest liquidation priority	Perpetual	No	No	High	Seed to Later stage	Preferred stock
Impact Bond	Investors provide pre-financing for social or environmental projects while return and principal is paid back when predefined impact targets are met	- Improve risk/return profile of the investee - Improve effectiveness of the project - Concessionary capital - Outcome focus	- Investor - Investee (e.g., enterprise, NGO) - Outcome funder (e.g., dev. Agency, DFI)	- Proven model, - Track record - Ability to deliver measurable outcomes within short timeframe	- Low risk for the business: receives upfront capital with no return obligation - Concessionary capital for impact	- Investor provides upfront capital therefore holds main risk - Compensation by outcome funder according to impact performance	3 -4 years	No	Yes	High	Early-growth to Later stage	Grants, Public contracts
Social Impact Incentives	Private investment backed enterprise receives premium payments from outcome funder for achieving impact targets	- Concessionary capital - Outcome focus	- Outcome funder (e.g., development agency, foundation) - Investee	- Proven model - Track record - Ability to scale - Backed by repayable funding - Ability to deliver measurable outcomes	- Payment according to impact performance (no mission drift) - Needs to be backed by repayable investment (equity or debt)	- No upfront capital paid by the outcome funder - Improved risk/return profile for investors	2-4 years	No	Yes	High	Early to Growth stage	Grants, catalytic capital
Performance-based Loan	Investee receives loan conditional to achieving impact while terms can improve depending on the impact performance	- Concessionary capital - Outcome focus	- Investor (e.g., Impact fund) - Outcome funder (e.g., development agency) - Investee	- Proven model - Track record - Ability to service debt - Ability to deliver measurable outcomes	- Better terms for better impact: incentivized to maximize impact - No mission drift - Concessionary capital for impact	- Investor holds high risk due to upfront capital - Impact first investors	Varies	No	Yes	High	Seed-early to Later stage	Traditional debt, grants
Performance-based Contract	Outcome funder provides capital when impact targets are met. Possibility to receive benefits if investee outperforms on impact	- Improve effectiveness of the project - Concessionary capital - Outcome focus	- Outcome funder (e.g., development agency, foundation) - Implementer	- Ability to deliver measurable outcomes	- Enterprise pre-finances the intervention (full risk) - Receives payments upon reaching impact targets	Outcome funder only pays if impact targets are met (no risk)	Varies	No	No, but clear plan on how to create impact	Medium - High	Seed to Later stage	Impact bond, grants, public contracts
Carbon Credit	Enable businesses to offset their emissions by buying measurable emission reductions from certified climate action projects	- Additional revenue stream - Outcome focus	- Emitter (e.g., MNCs) - Carbon off setter (e.g., enterprise) - Verifier (e.g., gold standard)	- Proven model - Track record - Ability to deliver measurable outcomes, - Independent verification	- Carbon off setter needs to carefully measure emissions reduction - Gets paid by emitting company	Emitter can offset its carbon emissions by purchasing carbon offset certificate	Credit is permanently retired	No	Yes	High	Growth to Later stage	
Grant	Non-repayable funds provided by the grant funder with the aim to achieve overarching goals (e.g., innovation, sustainability)	- Overarching goal	- Grant funder - Implementer	- Fulfil specific eligibility criteria - Ability to fulfil reporting requirements	- Free capital - no need to repay investment - Eligibility criteria are hard to meet	Grant funder holds the risk that outcome will not be achieved	No	No	No, but clear plan on how to create impact	Low - Medium	**Seed to Early-growth stage**	**Impact bond, performance-based contract**

V. Learnings & Outlook



The challenge in financing water enterprises is as clear as the need for financing them. There is an increasing number of investors interested in the water sector. Throughout our research, one of the key questions we encountered was "What is a water enterprise?" Given that the water sector touches so many other sectors, the scope alone is overwhelming to understand and poses a challenge for investors seeking to navigate the sector.

Through our results—a water enterprise typology and financing instrument list—we hope to help actors understand the different water enterprise types and their characteristics. We also hope that the information on the diverse instruments that can be used for each type of enterprise will allow enterprises and investors with common goals to find each other.

We hope that the use case for each group is clear:

Actor	Use Case
Entrepreneurs	• Use typology to see which models fit their current vision and develop further • Gain information on the different financing instruments that go beyond debt, equity, etc.
Investors	• Use typology to differentiate between diverse water enterprise models and effectively navigate the different investment opportunities • Gain information on which instruments can be used and make use of ones that best fit their investments
Incubators and other eco-system actors	• Use typology to offer coaching and guidance for enterprises • Gain information on different instruments that can be used to match enterprises with the right instruments • Design instruments that can help enterprises get to the next step of their investment round

While the report is an attempt to document the results of our study in a static way, we aim to continuously update the typology. Cewas, as an incubator for early-stage water enterprises, will continue to collect information on different enterprises, which will serve as a basis to add further water enterprise types. Enterprises that would like to get an evaluation of how investment-ready they are and be included in developing the typology further can get in touch with us here: https://sswm.info/perspective/financing-water-impact#investment-readiness.

In addition, in the process of our research, we have encountered diverse ecosystem actors, such as incubators and accelerators, as well as investors. We included key players in the form of an interactive database that can be easily accessed and updated.

For those who would like to see the map and be included, you can go here: https://sswm.info/financing-water-impact/investor-map.

VI. Appendix

List of Contributors

Name	Organization	Name	Organization
Tom Ferguson and Ellie Baker	Imagine H20	Antonella Vagliente	Young water solutions
Justus Raepple	The Nature Conservancy	Nathaniel Mason	ODI Research associate
Paul Gunstensen	The Stone Family Foundation	Natasha Müller	Next Gen impact inves-tor
Gavriel Landau	Charm Impact	Naomi Rosenthal	South Pole
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Constantin Salameh	Berytech Lebanon	Maki Tazawa	CREO
Tarek Zuriekat	Engicon	Ariella Rotenburg	The Impact
Tamer Al Salah	Beyondcapital	Reto Wey	Toilets for all
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Shabana Abbas	Aqua for all	Duncan Mcnicholls	uptime
Raphael Graber	Antenna Foundation	Dina Pons	incofin investment mgmt
Violette Ruppaner	Strategos	Rich Thorsten	water.org
Franck Barroso	Waterpreneurs	Rebecca Mincy	Acumen
Matt Morrison	water.org	Yasmina Zaidman	acumen
Rami Narte	Nord agency	Harriet Jackson	Responsabiity
Andreas Köstler	Fontes AG	Justus Raepple	TNC
Jon shepard	Globaldevincubator	Régis Garandeau	Vitol Foundation
Gillian Winkler	Safe Water networkk	John Robinson	Mazarine Ventures

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cewas

Qualitative Comparative Analysis (QCA)

QCA is a research methodology that investigates combinations of conditions instead of examining independent variables separately. It is meant to address the complexity of causality, which correlation-based methods are unable to account for[56], largely described in three features: conjunction, equifinality, and asymmetry[57].

- **Conjunction** describes that outcome are a result of multiple interrelated conditions rather than a single condition. For instance, one could attempt to explain that the sweetness of a fruit is the strongest factor contributing to its popularity. However, a much better explanation would be that since fruits are so different, they have different reasons for their popularity, and those reasons are a combination of the ease of eating, the texture, and sweetness. This would explain why mangos, strawberries, and apples are all popular, although they all differ in terms of their level of sweetness.

- **Equifinality** means that different combinations of conditions can result in the same outcome. Being sweet and easy to eat makes the banana a popular fruit. However, its watery texture and sweet flavor make the watermelon also popular, despite being more of a hassle to eat.

- **Asymmetry** is the idea that one condition leading to an outcome is not necessarily related to the outcome in another combination. Being sweet contributes to the popularity of the banana, but a pineapple might not be as popular despite being sweet.

  Asymmetry also indicates that the absence of a condition does not necessarily lead to negative results. For instance, avocados are massively popular, despite not being sweet.

In QCA, causal relations are seen as "causal recipes,"[58] and the research is about identifying the combination of relevant conditions instead of the strongest independent effect[59].It also helps identify multiple combinations that lead to a desirable outcome. Thus, QCA is a suitable methodology, especially for cases where the idiosyncrasies are large and the research aims to explore different archetypes.

In fuzzy-set QCA, each case is seen as a collection of conditions that can be calibrated into membership scores between 0 (full non-membership) and 1 (full membership). Calibration differs from using uncalibrated data, such as in regression analysis, when defining a meaningful anchor point that indicates whether a case is conceptually more in or out of the set. Unlike the crisp set approach, which assigns only 0 and 1 as a membership score, the fuzzy set approach enables researchers to assign different degrees of membership[60].This way, fsQCA incorporates the measurement precision of the quantitative research methodology into the qualitative research methodology that calibrates data according to extensive case knowledge and theory[61].

We identified fsQCA as the methodology best suited to this part of the project for several reasons. First, the objective of the project is to identify different enterprise models in successful financing, and fsQCA offers this possibility through accounting for conjunctural causes and equifinality. Second, fsQCA enables us to identify conditions that lead to financing, as well as barriers that lead to a failure to secure financing. In many cases, the mere absence of a success condition does not necessarily lead to negative outcomes, and the methodology shows the relevant condition for negative outcomes by accounting for asymmetry. Lastly, fsQCA allows us to establish causal relationships without neglecting the qualitative insights acquired through deep case knowledge.

[56] Ragin, C. C. (2014). The comparative method: Moving beyond qualitative and quantitative strategies. Univ of California Press.

[57] Misangyi, V. F., et al. (2017). Embracing Causal Complexity: The Emergence of a Neo-Configurational Perspective. Journal of Management, 43(1), 255–282. https://doi.org/10.1177/0149206316679252

[58] Ragin, C. C. (2009). Redesigning Social Inquiry: Fuzzy Sets and Beyond. University of Chicago Press.

[59] Misangyi, V. F., et al. (2017). Embracing Causal Complexity: The Emergence of a Neo-Configurational Perspective. Journal of Management, 43(1), 255–282. https://doi.org/10.1177/0149206316679252

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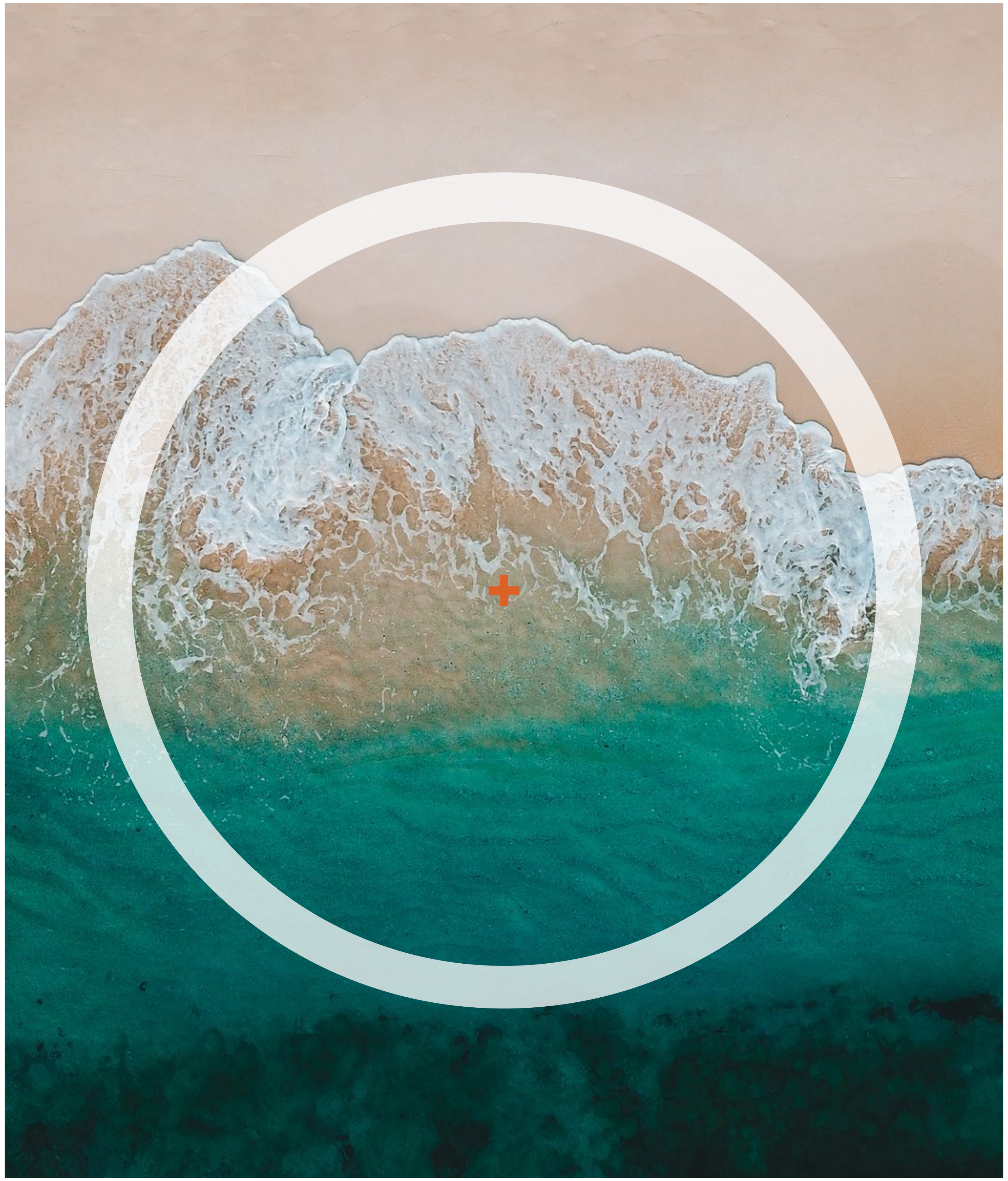

Interview Questions for Investors

Warming up	• Can you briefly introduce yourself—your background, role, relation to investing in water/water enterprises?	• Can you briefly introduce your organization?
Investing	• What kind of investments does your organization conduct? (In terms of sector, region, size/stage, asset class, blending/TA)	• What kind of water investments did your organization conduct?
	• What are the most critical factors that influence your decision to invest in water enterprises?	• How do they differ depending on sub-sectors? (Or other criteria)
	• What are critical factors that influence (not) to invest?	• What are key aspects in terms of financial return you look into?
	• What are key aspects in terms of impact you look into?	• What are key aspects in terms of risk you look into?
	• What barriers do you face when investing in water enterprises? (Also depending on sub-sectors)	• What are gaps in the ecosystem that are missing or not developed enough? (e.g., players developing pipelines, multi-stakeholder platforms, intermediaries specializing in innovative finance)

Water Enterprise Questionnaire

	Criteria	Question
1	**Business**	
1.1	Size of the business	How many people work in your business in total?
1.2	Country of operation	Which countries are you currently operating in?
		Which countries are you planning to operate in?
1.3	Sector of intervention	What is your sector of intervention? Water sources (conservation; IWRM), water distribution, water purification, water use (domestic use, sanitation, hygiene, industrial and agricultural use, energy use), waste (collection, treatment), reuse & recycling.
1.4	Development stage	What development stage is your business currently in?
1.5	Funding stage	What funding stage is your business currently in?
1.6	Funding received	What is the total amount of investment received? (in USD)
		What kind of funding did you receive up until now? (grant, debt and/or equity)
1.7	Offering	Does your business offer products or services?
		How many products or services does your business offer?
1.8	Customer segment	Do you target end-customers (B2C), other businesses (B2B), or organizations (B2P)? (can be multiple)
		Do you operate in urban and/or rural areas? (can be multiple)
1.9	Experience	How many years have you worked on your business model?
		How much practical experience does your management team have related to technological aspects and work in the sector? (in years)
		How much practical experience does your management team have related to financial management? (in years)
		How much practical experience does your management team have related to marketing and sales? (in years)
		How much practical experience does your management team have related to management of production processes? (in years)
1.10	Competitive differentiation	Did you invest more than a year into R&D for the development of your product?
		How easy is it to replicate your product, service, operations, or logistical model?
		How many alternative solutions exist in the market that customers currently pay for?

	Criteria	Question
2	**Return**	
2.1	Financial Sustainability	Please indicate your revenue for the previous year in USD.
		Please indicate your expected revenue for this and the next year in USD.
		Have you reached your break-even point yet?
		Calculated from the date of your first investment - in how many years do / did you plan to break even?
	Profitability	What is your current profit margin per customer (the amount by which revenue from sales exceeds costs in a business) in USD?
2.2	Market size	Please indicate the potential market volume of your business for the next year (in USD)
2.3	Opportunity to Scale/ Scalability	Does your business create a recurring revenue that is predictable, stable and likely to continue in the future?
		Please indicate your customer growth for the last 6 months (in USD)
		Please indicate your expected customer growth for the next 6 months (in USD)
2.4	Capacity	Are you currently operating at full capacity?
2.5	Capital requirements	How much capital expenditure do you (expect to) require until your business reaches the break-even point? (in USD)
2.6	Incubation/ Acceleration programs	How many incubation or acceleration programs did you participate in?

	Criteria	Question
3	**Impact**	
3.1	Women's empowerment	To what extent does your business improve services and/or create employment opportunities for women?
3.2	Youth empowerment	To what extent does your business improve services and/or create employment opportunities for the youth?
3.3	Marginalized community empowerment	To what extent does your business improve services and/or create employment opportunities for marginalized communities like refugees, disabled people and the BoP?
3.4	Number of lives transformed directly	What is the prospective number of beneficiaries that your business is able to reach directly during the next 12 months?
3.5	Number of lives transformed indirectly	What is the prospective number of beneficiaries that your business is able to reach indirectly during the next 12 months?
3.6	Quality of impact	How important is the outcome of your service or product for your beneficiaries?

	Criteria	Question
3.7	Access to safe and affordable drinking water (SDG 6.1.1)	What is the projected number of people that receive new access to safe and affordable drinking water during the next 12 months? What is the projected number of people that receive improved access to safe and affordable drinking water during the next 12 months?
3.8	Access to adequate and equitable sanitation and hygiene (SDG 6.2.1)	What is the projected number of people that receive new access to adequate and equitable sanitation and hygiene during the next 12 months? What is the projected number of people that receive improved access to adequate and EQUITABLE sanitation and hygiene during the next 12 months?
3.9	Water quality (SDG 6.3.1 & .2)	What is the expected amount of newly treated wastewater during the next 12 months that would otherwise have not been treated? (in cubic meters) What is the expected amount of newly treated organic waste during the next 12 months that would otherwise have not been treated? (in tons) What is the expected amount of newly treated inorganic waste during the next 12 months that would otherwise have not been treated? (in tons)
3.10	Water-use efficiency (SDG 6.4.1)	What is the expected amount of water saved during the next 12 months that would otherwise have not been saved? (in cubic meters)
3.11	Water resource management (SDG 6.5.1)	To what extent does your business contribute to water resource management?
3.12	Protection and restoration of water-related ecosystems (SDG 6.6.1)	To what extent does your business contribute to the protection and restoration of water-RELATED ecosystems?
3.13	Green enterprise	Does your business use environmentally friendly materials such as sustainable packaging? Does your business have practices for minimizing waste?
4	**Risk**	
4.1	Economic	Ease of doing business rank Ease of starting a business Ease of getting credit GDP development over the last 5 years
4.2	Political	What role does the government play for your business between customer, partner, CONTRACTOR, regulator, competitor, and facilitator? (can be multiple) What is the level of corruption?

Measuring and Evaluating Impact Data

Question 3.1 Women Empowerment[62]

In order to evaluate enterprises in terms of women's empowerment, we look at the widely accepted measurement framework of 2xchallenge. 2xchallenge aims to raise more capital toward women's development by offering a framework of qualification criteria that measure the enterprise's investments in women's empowerment. These criteria include:

1 **Entrepreneurship**
- Share of women ownership
- Business founded by a woman

2 **Leadership**
- Share of women in senior management
- Share of women on the board

3 **Employment**
- Share of women in the workforce

4 **Consumption**
- Product or service specifically or disproportionately benefits women

For our study, we focus on human capital-related criteria 1, 2 and 3. These criteria are easier to assess since they can be used across all investments and make enterprises comparable. Criteria 4, on the other hand, cannot be applied to all enterprises since most of the products and services are not specifically targeting or benefiting women.

Question 3.2/3.3 Youth and Marginalized Community Empowerment

Same principle applies as for women empowerment.

1 **Entrepreneurship**
- Share of youth or marginalized community member ownership
- Business founded by a youth or marginalized community member

2 **Leadership**
- Share of youth or marginalized community members in senior management
- Share of youth or marginalized community members on the board

3 **Employment**
- Share of youth or marginalized community members in the workforce

4 **Consumption**
- Product or service specifically or disproportionately benefits youth or marginalized community members

[62] Interview with Harriet Jackson and Monya Bassingthaigte from ResponsAbility on the 7.10.2020

Question 3.11 Integrated Water Resources Management (IWRM)[63]

There currently exists no agreed or official framework on how to measure IWRM efforts. We have gathered information and categorized the concept of IWRM into the following two main areas, upon which we have based our performance evaluation:

SDG 6.5.1 Degree of integrated water resources management implementation: Indicator 6.5.1 tracks the degree of integrated water resources management (IWRM) implementation by assessing the four key components of IWRM:

- **Enabling environment** - This includes the policies, laws, plans and strategies that create the "enabling environment" for IWRM;
- **Institutions** - This includes the range and roles of political, social, economic and administrative institutions that help to support the implementation of IWRM;
- **Management Instruments** - The tools and activities that enable decision-makers and users to make rational and informed choices between alternative actions; and
- **Financing** - Budgeting and financing made available and used for water resources development and management from various sources.

SDG 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation: Indicator 6.5.2 tracks the percentage of transboundary basin area within a country that has an operational arrangement for water cooperation (an arrangement for water cooperation is a bilateral or multilateral treaty, convention, agreement or other formal arrangement between riparian countries that provides a framework for cooperation).

Question 3.12 Conservation[64]

There exists no agreed or official framework on how to measure conservation efforts yet. The TNC has developed its own metrics with which it tracks organizational outcomes. The TNC uses an internal table with metrics on conservation, which includes metrics on people, healthy oceans, freshwater, and lands and climate change. We base the performance evaluation of the enterprises on these metrics provided by the TNC.

Another source to measure conservation performance is IRIS+, which includes a metrics catalog sorted by theme or SDG. We also consider some metrics under the SDG 6.6 target, which focuses on water conservation.

[63] Information based on research on https://sdgdata.gov.uk/6-5-1/ ; https://www.sdg6monitoring.org/indicator-651/ ; http://iwrmdataportal.unepdhi.org/abouts-dg651

[64] Interview with Justus Raepple from TNC on 21.10.2020

Resources

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