



Private Sector Engagement: Landscape Assessment – Final Report

USAID CENTRALASIA REGIONAL
WATER AND VULNERABLE
ENVIRONMENT ACTIVITY (WAVE)

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Overview and Findings

Report Rationale and Development

- This report was commissioned by the USAID Regional Water and Vulnerable Environment Activity **to increase private sector engagement in Central Asia's water sector.**
- The Activity contracted CrossBoundary in early 2022 to conduct a comprehensive analysis of the current situation and develop corresponding recommendations for this purpose.
- **CrossBoundary conducted a Landscape Assessment between June-September 2022 to 1) Identify** projects and companies that have a positive impact on more rational water resources management (e.g., drip irrigation); **and 2) develop a map featuring opportunities for capital investment for further development of the water sector in the region.**
- **In October 2022,** CrossBoundary presented its final report and proposed options to engage the private sector in Central Asia, including:
 - Most promising thematic areas for private sector engagement relative to the Activity' objectives.
 - Specific near-term project opportunities and potential financing mechanisms.
 - Recommended next steps with options for different scope/ambition.
 - Financing and contracting considerations for the recommended strategy.
 - A detailed overview of near-term project opportunities to be pursued, including a description, financing type and amount, potential financing partners, feasibility assessment, and next steps for each case.

Executive Summary

- **This Final Report sets out a recommended approach for WAVE to mobilize the private sector in Central Asia together with the most immediate specific projects for implementation**
- The Landscape Assessment and Capital Map revealed a **strong pipeline (>US\$410M) of private sector projects** looking for financing that could have a significant positive impact on water sector outcomes **as well as interested investors**.
- However, **intervention is needed to support capital mobilization** given the low level of investment readiness currently displayed by projects and investors' lack of familiarity with the water sector in Central Asia, among other barriers
- **Recommendations**
 - Leverage an **investment facilitation approach** to provide **targeted transaction advisory** for specific projects and potentially **structure dedicated financing facilities**, with a platform approach recommended.
 - Focus on **regional irrigation projects, farm-level irrigation solutions, SME scaling**, and **select larger-scale infrastructure projects**, and has prioritized a subset of projects for immediate support/implementation with the highest blend of feasibility and impact – these are outlined in detail in the report.
- **Next steps**
 - Confirm the **type and parameters** of investment facilitation support,
 - Design and launch **a tender**
 - Select an **implementing partner** to begin work
- **Also consider...**
 - The potential applicability of **performance-based contracts** (PBCs) that **tie financial incentives or penalties to key performance indicators** (KPIs) to mobilize capital and drive sustainability
 - Greater detail around **potential financing facilities** and how they could be applied to the Central Asia water sector

Five key considerations for PS investment in Central Asia water sector



Water sector is characterized by high irrigation usage and state dominance

The water sector in Central Asia is mostly managed by highly subsidized state utilities due to a lack of cost recovery. Irrigation is the major drain on water resources, comprising 90%+ of usage in most countries



Outdated infrastructure is often inefficient and in need of upgrades

Much of the existing infrastructure stems from Soviet times, requiring significant upgrades hindering service delivery – decentralized private sector provision is thus increasing given the need and potential for improvements



Cost recovery is the main barrier to private sector engagement

The low tariffs that hinder cost recovery in the sector reduce the financial viability of water-related projects – a major barrier to private sector engagement



Regional projects offer scope for innovative approaches to improve service delivery

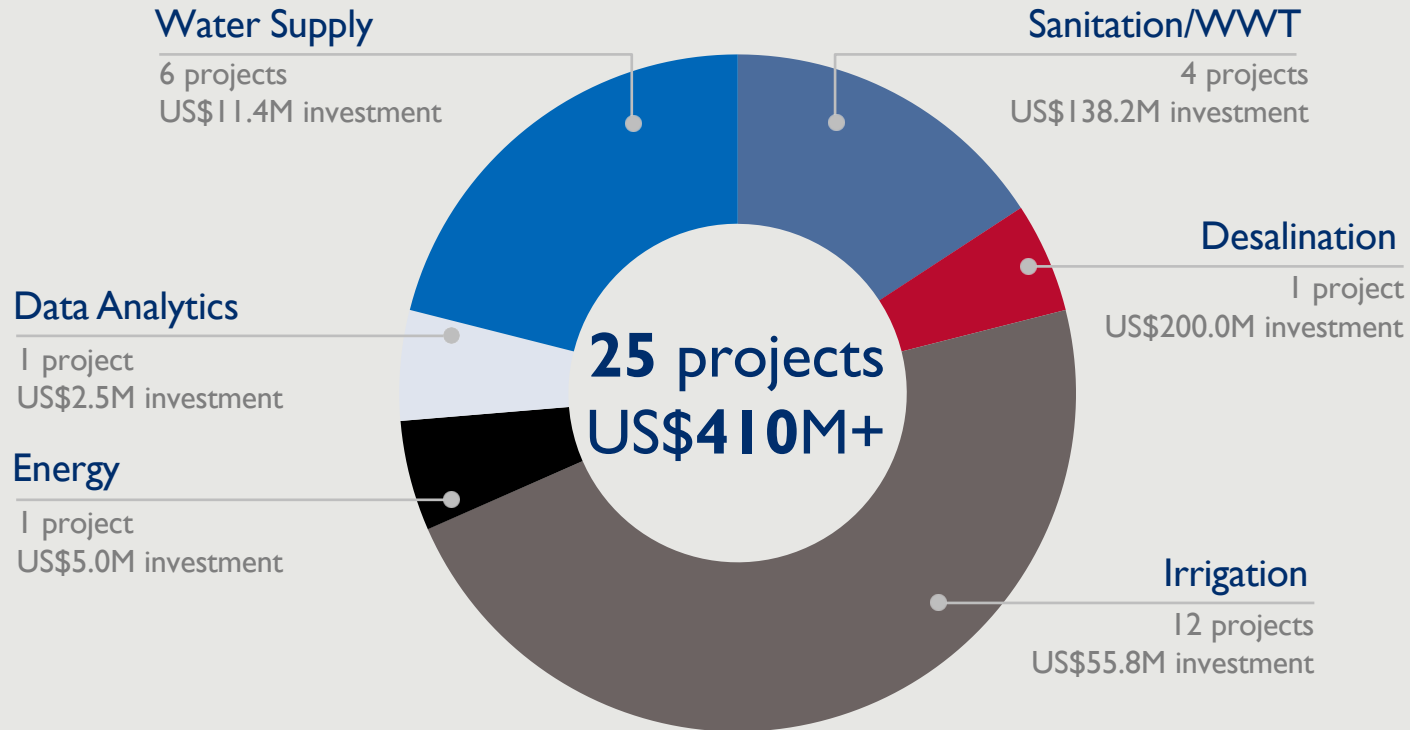
Regional cluster projects for supply and irrigation have shown potential for commercial and financial viability, including through trialing of selectively higher tariffs for specific projects / areas



Improved water outcomes are critical for transboundary management

Transboundary cooperation is low, partly due to lack of trust/information. Projects improving water efficiency in one country are crucial for transboundary water resource management, while data usage can also improve trust/cooperation

CrossBoundary identified 25 specific water sector opportunities



Market and project level barriers to capital mobilization



Project Level Challenges

- **Lower commercial viability** of individual projects given the sector's challenges around cost recovery
- **Limited investment readiness** of projects / companies, who are unfamiliar with investment processes
- **Lack of transparency** and trust in repayment ability



Market Level Challenges

- **Limited understanding** of the Central Asian water sector and its opportunities
- Lack of **suitable financing mechanisms or facilities**
- **Lack of adequate frameworks** for private sector engagement given heavy state involvement



Investment Facilitation as a Solution:

- **Targeted transaction advisory** by a trusted intermediary can bridge investment readiness and information gaps
- Setting up dedicated **blended finance instruments** can address issue of lower returns and support capital mobilization

Overcoming barriers to mobilizing capital

An investment facilitation platform could include either or both of:



Transaction advisory for companies and projects



Blended finance facility structuring (if investor demand / project supply)

Description

WAVE funds a transaction advisor to provide project-level assistance for ~5-10x private sector projects / companies per year

The transaction advisor would focus on helping projects and companies in the water sector raise financing

WAVE structures and fundraises a dedicated blended finance facility focused on the water sector

The nature and size of the facility would be determined following feedback from investors and companies over the course of transaction advisory projects

Rationale

Address knowledge / skills gaps revealed by the landscape assessment

Address financing gaps revealed in the capital map

Public sector plays key role in investment facilitation

The public sector should seek to:



Encourage regional irrigation PPPs through:

- **Granting permits** where required
- Potentially **subsidizing payments**
- Potentially **subsidizing infrastructure**



Encourage regional larger-scale PPPs through:

- Setting up **dedicated PPP** unit (not all CA countries have one)
- **Streamlining** processes where appropriate
- Offering **service-based payment** incentive structures



Take a more data-focused approach to water usage and sector management:

- **Better identification** of pain points for critical issues
- **More efficient** decisions around **maintenance**
- **Reduction** of transboundary tensions

On a project level, the Landscape Assessment has already identified immediate projects worthy of investment facilitation support



Bai Elim regional irrigation

Financing need: \$1.0M

Financing type: Concessional debt/equity

Location: Chui / Talas, Kyrgyzstan

Details / Rationale: Raising financing for regional irrigation PPP between Bai Elim and local municipality to provide efficient irrigation system for local farms



Raisagroholding irrigation

Financing need: \$2.0M

Financing type: Concessional debt

Location: Sughd, Tajikistan

Details / Rationale: Raising financing for farm-level installation of water efficient irrigation system by Raisagroholding, a local agribusiness



AgriTech Hub data analytics

Financing need: \$2.5M

Financing type: Equity

Location: Kazakhstan

Details / Rationale: Capital raise for data analytics SME to expand data tools for irrigation/infrastructure upgrades and reduce transboundary tensions



SilverLeaf pulsar irrigation

Financing need: \$15.0M

Financing type: Debt/equity

Location: Jizzakh, Uzbekistan

Details / Rationale: Capital raise for a manufacturing facility for pulsar irrigation system (enabling wider rollout and uptake across Uzbekistan / Central Asia)



Water-Resources Marketing

Financing need: \$125.0M

Financing type: Concessional debt

Location: Shymkent, Kazakhstan

Details / Rationale: Raising financing for Water-Resources Marketing to carry out management/service PPP contracts for water supply/WWT infrastructure



Kazakhstan desalination

Financing need: \$200.0M

Financing type: Debt/equity

Location: Magnitauusk, Kazakhstan

Details / Rationale: Capital raise for desalination plant for improving drinking water supply to Zhanaozen city in the Magnitauusk region

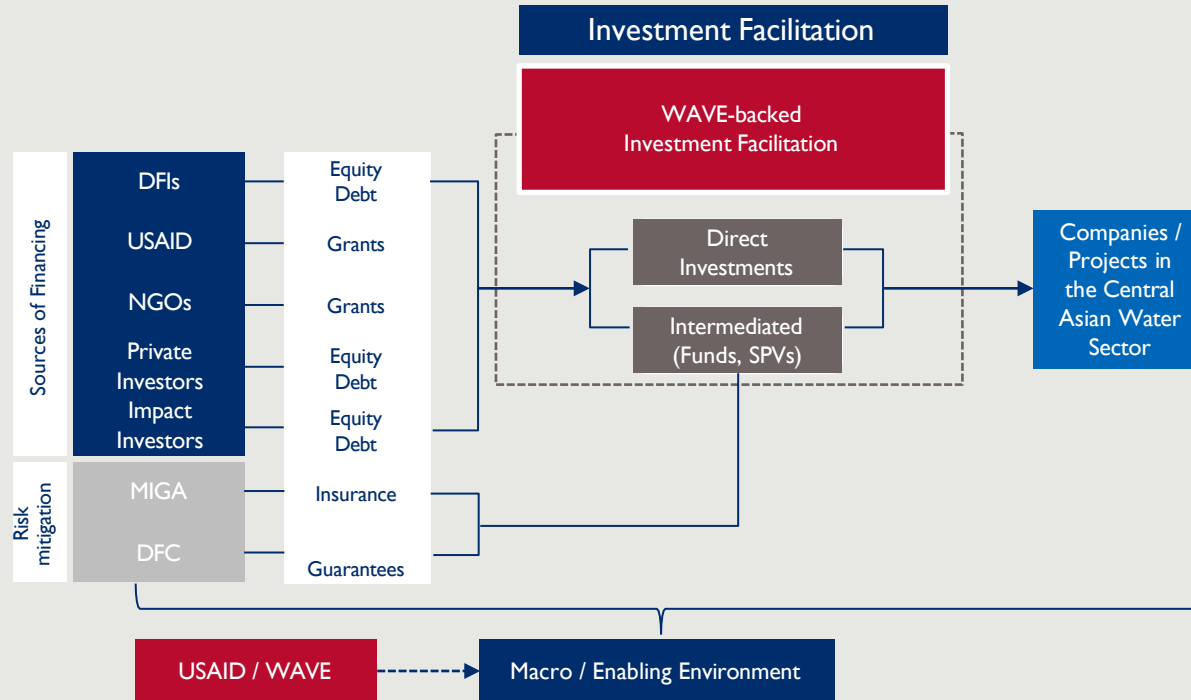
In addition, four financing facilities could be considered to support capital mobilization

Facility / Mechanism	Description	Example Target Projects	Financing Gap Addressed
Concessional Debt Facility for Water and Energy Projects	This facility would blend grant capital and commercial capital to extend concessional loans to companies or projects focused on water infrastructure or water energy access solutions	<ul style="list-style-type: none"> • Water supply / treatment infrastructure • Solar & hydropower projects • Desalination 	<ul style="list-style-type: none"> • Current lack of funding opportunities for medium-scale projects in the water sector
Revenue-based Financing Facility for Irrigation Solutions	This facility would offer loans or working capital financing to projects, with interest paid according to income generated rather than a fixed schedule	<ul style="list-style-type: none"> • Medium sized irrigation projects 	<ul style="list-style-type: none"> • Current lack of appropriate instruments for agricultural working capital needs (due to seasonality issues)
Microfinancing Facility for Smaller-scale Irrigation Solutions	This facility would provide microfinancing for investment in smaller-scale irrigation projects by local farmers	<ul style="list-style-type: none"> • Smaller-scale irrigation initiatives (e.g., local, small-scale agribusinesses) 	<ul style="list-style-type: none"> • Reluctance of banks in Central Asia to finance smaller scale agricultural/ irrigation projects currently
First Loss Mechanism For Companies	This mechanism would invest “ first-loss tranches ” alongside investors in SMEs and start-ups in the water sector, with the first-loss investment absorbing any losses ahead of commercial investors to improve returns	<ul style="list-style-type: none"> • Data analytics solutions • Any SME equity investment 	<ul style="list-style-type: none"> • Current lack of risk mitigation instruments available for water projects and start-ups



Suggested Approach

Investment facilitation would support providers and seekers of capital to unlock water sector transactions in Central Asia



Investment Facilitation is using targeted assistance for investors and companies to reduce transaction costs and/or information asymmetries in order to catalyze developmentally beneficial investments, **without the donor necessarily granting or investing directly into the company or project**

Accordingly, the team recommends leveraging an investment facilitation approach to mobilize capital for high priority projects

Research identified high impact projects, a major financing need, and interested investors

25

High impact **water sector projects / companies** seeking investment

US\$
410M

Total **investment need** to finance the identified water projects

23

Interested **capital providers** (incl. DFIs, NGOs, VC firms, SWF, banks , PE firms)



However, investment facilitation is needed to support capital mobilization and implementation



Company / project-level investment facilitation

- **Transaction advisory** services to raise financing for companies/projects – would include building financial models, developing pitch decks, and connecting them to investors
- Bringing **new investors into the ecosystem** by helping them to source and validate investment opportunities



Dedicated blended finance facilities

- Designing and **setting up specific financing facilities** for the water sector that would offer more appropriate financing terms (e.g. using blended finance to lower the financing cost, or revenue-based interest payments) and provide a mechanism through which investors could access the sector

Investment facilitation on a transaction level will be critical to develop and raise financing for projects in the water sector



OPPORTUNITY VALIDATION

- Identify **capital needs, uses, and ideal terms**
- Identify **high-potential local firms** in the water sector for investment



MARKET INTELLIGENCE

- Undertake tailored **market research** or feasibility study
- Provide **water sector briefs**
- Provide **regulatory** guidance within regional water sector
- Introduce critical service providers



FUNDRAISING SUPPORT

- Develop investment **pitch**
- Develop **investment memorandum**
- Review **capital landscape** options and mechanisms appropriate for the water sector
- Source **equity or debt** for deployment into investment funds and for direct investment



DUE DILIGENCE

- Assist water sector firm in preparing for or responding to investor **due diligence requests**
- Undertake **commercial, operational, or ESG due diligence**
- Articulate operational gaps and **post-investment roadmap**



FINANCIAL ANALYSIS

- Assist water sector firm in **aggregating historical financials** and documenting financial practices
- Develop **financial forecasts**
- Assist **valuation**
- Undertake financial **feasibility studies**



DEAL STRUCTURING

- Assist in effectively structuring the transaction including **selection of appropriate form of capital and design of terms**
- Integrate investment-enabling products including **loan guarantees, political risk insurance, and grants**
- Source additional **financing partners**
- Undertake exit planning

The team suggests supporting transactions along four priority areas while testing appetite for financing facilities



Cluster level irrigation

Supporting PPPs where a single private player installs/upgrades and manages irrigation system for water-consumptive businesses

Immediate Project Pipeline:

- Bai Elim - KG

Relevant Potential Facilities:

- Concessional Debt Facility
- Revenue-based Facility

WAVE Rationale

- Directly improve agricultural water usage efficiency, reducing strain on water resources and transboundary tensions



Farm level solutions

Supporting new farm and business level irrigation technologies to help farmers use water resources/inputs more efficiently

Immediate Project Pipeline:

- Raisagroholding - TJ

Relevant Potential Facilities:

- Concessional Debt Facility
- Revenue-based Facility
- Microfinancing Facility

WAVE Rationale

- Directly improve agricultural water usage efficiency, reducing strain on water resources and transboundary tensions



Scaling Water Sector SMEs

Supporting water sector SMEs raise growth capital to roll out efficient water technologies with high commercial potential and impact

Immediate Project Pipeline:

- AgriTech Hub - KZ
- Surge Flow Manufacturing - UZ

Relevant Potential Facilities:

- First Loss Facility

WAVE Rationale

- Maximize roll-out of water-efficient technologies and expand SME data-based solutions to boost transboundary dialogue/trust



Larger-scale infrastructure

Supporting larger-scale water infrastructure projects through PPPs offers the highest potential scale and long-term impact

Immediate Project Pipeline:

- Water-Resources Marketing - KZ
- Sea Water Desalination Plant – KZ

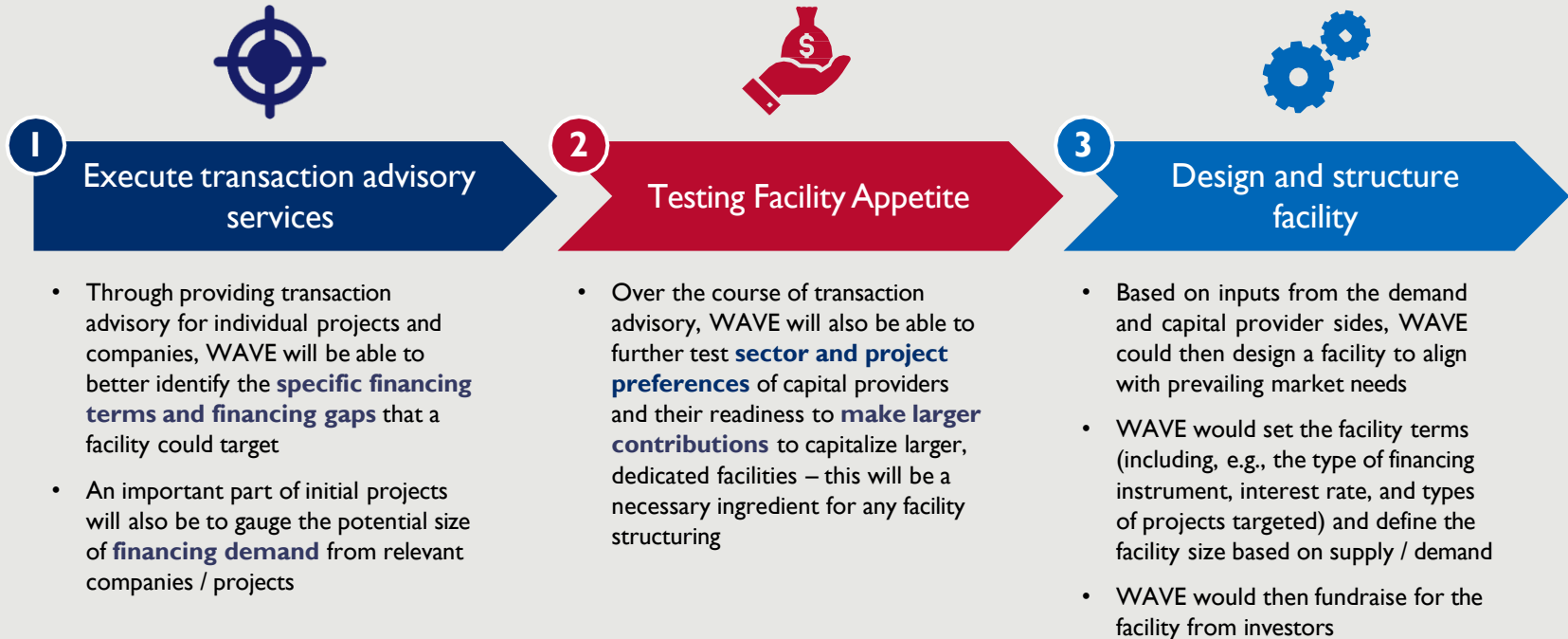
Relevant Potential Facilities:

- Concessional Debt Facility

WAVE Rationale

- Increase water efficiency and availability at a large scale – wide potential impact on the sector and transboundary relations

The potential and appetite for larger facilities should be explored during the implementation of specific transactions



The process can be analogous to the recent facilitation of the USAID Power Africa Nigeria Power Sector Program

CrossBoundary, as a part of the USAID Power Africa Nigeria Power Sector Program mandate, supported the Nigerian Government with designing and implementing its flagship solar electrification program



Outcome:

The facility was launched in December 2020 has **distributed >US\$20M** in local currency debt, whereas the wider NPSP program has **supported >100 companies, facilitated >US\$80M** and provided **energy access for >500,000 households**



Next steps (and examples of past success)

The path forward: Set up an investment facilitation platform to support individual transactions while determining the appropriate financing option



Investment Facilitation

Description

- Transaction advisory services **to raise financing** for companies/projects – would include building financial models, developing pitch decks, and connecting them to investors.
- **Bring new investors into the ecosystem** by helping them to source and validate investment opportunities
- Designing and setting up **specific financing facilities** for the water sector that would offer more appropriate financing terms and provide a mechanism through which investors could access the sector

Rationale

Create mutual understanding of benefits, build trust and foster collaboration.



Four financing options

- **Concessional Debt Facility for Water and Energy Projects**
- **Revenue-based Financing Facility for Irrigation Solutions**
- **Microfinancing Facility for Smaller-scale Irrigation Solutions**
- **First Loss Mechanism For Companies**

(more details in Appendix 2)

Address financing gaps revealed in the capital map – e.g., the lack of finance for small / medium-sized projects or lack of seasonality in available financing for irrigation projects

Financing facilities would leverage existing infrastructure within Central Asia to ensure successful launch and sustainability

Set-up of possible financing facilities would leverage existing ecosystem infrastructure where possible...

A **Concessional Debt Facility** would aggregate concessional capital from large existing providers (e.g. Asian Development Bank, World Bank) with the aim of disbursing to smaller projects that are too small to access such capital pockets currently

A **Revenue-based Financing Facility** could leverage existing local banking infrastructure by providing the capital to banks who would then disburse to projects – this method has been successfully used by the Cambodia Revenue Finance Facility (see page 39).

A **Microfinancing Facility** could leverage existing microfinance institutions in Central Asia (e.g. Alterfin, FINCA) to manage disbursement of specialized financing products designed for the water sector in Central Asia.

A **First Loss Mechanism** could leverage existing accelerators and venture capital funds active in Central Asia, the likes of which have managed first-loss facilities in other geographies and contexts.

...But would still require **WAVE** support for structuring and implementation

1 WAVE would first need to **confirm appetite and demand** for a facility through initial projects, as described on pages 27-28. WAVE would also need to structure and **set the terms of the facility** – e.g., deciding the target financing terms, size of facility, and which projects will be targeted.

2 WAVE would then need to procure and **put in place a facility manager**, possibly leveraging existing players in the ecosystem as described on this page. The facility manager's **costs** should ultimately be **covered by returns** generated from the facility, but WAVE could also contribute funds to help cover costs itself.

3 Finally, WAVE would need to **support the fundraising process** for the facility. WAVE could **contribute direct seed funding** to the facility itself, but would also **engage a transaction advisor** to raise funds from external parties.



Investment facilitation platforms have been successfully tested and deployed across similar geographies and sectors

Sample Projects	Donor	Geographies	Duration	# Firms supported	Services provided	Total \$ deployed
East Africa Trade and Investment Hub	USAID	East Africa	2015-2019	19	Direct Investment Facilitation: Opportunity validation, fundraising, transaction structuring	US\$119M
Nigeria Power Sector Program	USAID	Nigeria	2018-ongoing	100+	Direct Investment Facilitation: Opportunity mapping, feasibility studies, analytical studies, market research, transaction support, capital mapping, facilitation of program development, design and structure the facility	US\$80M
KG Enterprise Competitiveness Project	USAID	Kyrgyzstan	2019-2022	4 funds & 10+ SMEs (to date)	Direct Investment Facilitation: Fund advisory support including investment strategy definition, due diligence support, investor outreach, and deal sourcing	US\$10M (to date)
Water Sanitation & Conservation	USAID	Lebanon	2021-2026	N/A	Technical Advisory Services: Pipeline development, capital map development, identification of key barriers to enterprises. Advisory services: investor outreach, preparation of materials, transaction structuring, negotiation support	US\$3M (currently being supported)
Tunisia USAID FLT Resilience Funding	USAID	Tunisia	2020-2021	5	Financing Facility Structuring: Structuring and deploying a blended finance mechanism that leveraged USAID first-loss capital with the aim of unlocking and mobilizing private capital to early-stage Tunisian companies	US\$0.6M USAID catalytic funding US\$10.3M private capital catalyzed

Investment Facilitation Platform Case Study: USAID Kyrgyzstan Enterprise Competitiveness Project

Platform Overview:

- **Program name:**
 - USAID Kyrgyzstan Enterprise Competitiveness Project
- **Objective:**
 - Raising finance for SMEs to increase income levels of households through the creation of jobs and livelihood opportunities
- **Duration:**
 - 2019-2022 (broader USAID ECP program ran for 5 years)
- **Primary Activities:**
 - Investor outreach and opportunity sourcing – conducted over 50 interviews with international and local economic stakeholders to build an investment pipeline of financial institutions to be supported and SMEs to be financed by these financial institutions
 - Investment advisory and due diligence support for SMEs to raise financing in line with program objectives
 - Specific fund advisory support to help structure and raise new funds, including investment strategy development and fundraising



Outcomes

Transaction Advisory:

- Supported **10 SMEs** to raise capital with fundraising services including financial modelling, pitch deck building, and investor outreach
- Facilitated a total of **US\$35M** of investment into Kyrgyz SMEs

Facility / Fund Creation:

- Supported the set-up and creation of **4 funds** that will be focused on financing SMEs in Kyrgyzstan beyond the life of the program
- Raised a total of **\$9M** in financing across the 4 funds

Sector Impact:

- Investment component supported the creation of **2,300 new jobs** over the course of the project

Investment Facilitation Platform Case Study: USAID Power Africa Nigeria Power Sector Program Facility

Platform Overview:

- **Program name:**
 - USAID Power Africa Nigeria Power Sector Program
- **Objective:**
 - Improve energy access in Africa via support to the Nigerian Government with designing and implementing its flagship solar electrification program, including raising financing for major energy providers
- **Duration:**
 - 2018 – present
- **Primary Activities:**
 - Market research into off-grid energy supply and demand factors to size the funding gap
 - Transaction advisory and strategy support to Solar Home and Mini-grid companies
 - Engaging stakeholders, financiers, and government to guide program design (including Vice President, Central Bank, and Ministry of Power)
 - Program level support to the World Bank's Nigeria Electrification Project (NEP) which included engaging over 151 investors



Outcomes

Transaction Advisory:

- Supported over **100 companies** across the solar energy space in Nigeria
- Facilitated a total of **\$80M** in financing to support electrification and solar energy roll-out

Facility / Fund Creation:

- Structured a **US\$350M local currency debt fund** and disbursement mechanism to provide financing for rural solar energy projects in Nigeria
- Over **\$20M** of local currency debt financing **distributed** since the fund launch in December 2020

Sector Impact:

- Provided **energy access for >500,000 households** in unserved and underserved communities

Facilities focused on the water sector specifically have been structured and deployed successfully around the world



Cambodia Revenue Finance Facility

To account for the high seasonality in Cambodia's pumped water usage, the facility provides loans to private water operators where **repayment is set at a percentage of water sales** (13-25%) over approximately 9-15 years

Facility Size

- US\$10M

Location

- Cambodia

Funders

- Stone Family Foundation
- GRET/iSEA
- Bank for Investment & Development in Cambodia

Disbursement / Management Mechanism

- The fund is managed by Stone Family Foundation, who disburse loans via local banks

Key Targets / Outcomes

- Target financial returns of 1.3-1.6x on each loan
- Estimated 30,000 new water connections created through the facility's financing to date



Global Access Fund

The Global Access Fund provides debt capital to financial institutions in emerging markets globally to enable them to grow their WASH microfinance portfolios (the fund finances all types of WASH sector projects)

Facility size

- US\$150M

Location

- Global

Funders

- Water Equity
- DFC

Disbursement / Management Mechanism

- The fund deploys capital to local banks and microfinance institutions, who then on-lend to end-users

Key Targets / Outcomes

- Fund targets all WASH projects with the goal of closing the estimated US\$18B microfinance funding gap for WASH

Sustainability would be at the heart of any investment facilitation platform approach

The impact of an investment platform lasts well beyond its conclusion. This is (i) because capital raised will support companies/multi-year projects that outlast the platform; and (ii) due to secondary sustainability benefits:



Transaction Advisory Knowledge Transfer

- Companies supported will become more familiar with different funding sources and transaction advisory services, helping them to access capital beyond the platform's life
- Additionally, the platform could include a dedicated training component where the lead transaction advisor undertakes training of local advisors so they can provide similar services in the long run



Long-Term Investor Understanding

- Transaction advisory under a WAVE investment facilitation platform would improve investor understanding of and familiarity with the water sector – this benefit will remain beyond the platform's life, with investors reached under the platform likely to continue investing in the water sector even after the platform's conclusion



Facility Set-up and Sustainability

- Any financing facility that is set up under WAVE would likely be structured with a multi-year term intended to significantly outlast the platform
- The facility would be operated independently by a facility manager that is procured by WAVE to remain in place beyond the program's conclusion

The landscape assessment revealed six pipeline opportunities with the highest immediate potential and impact in Central Asia

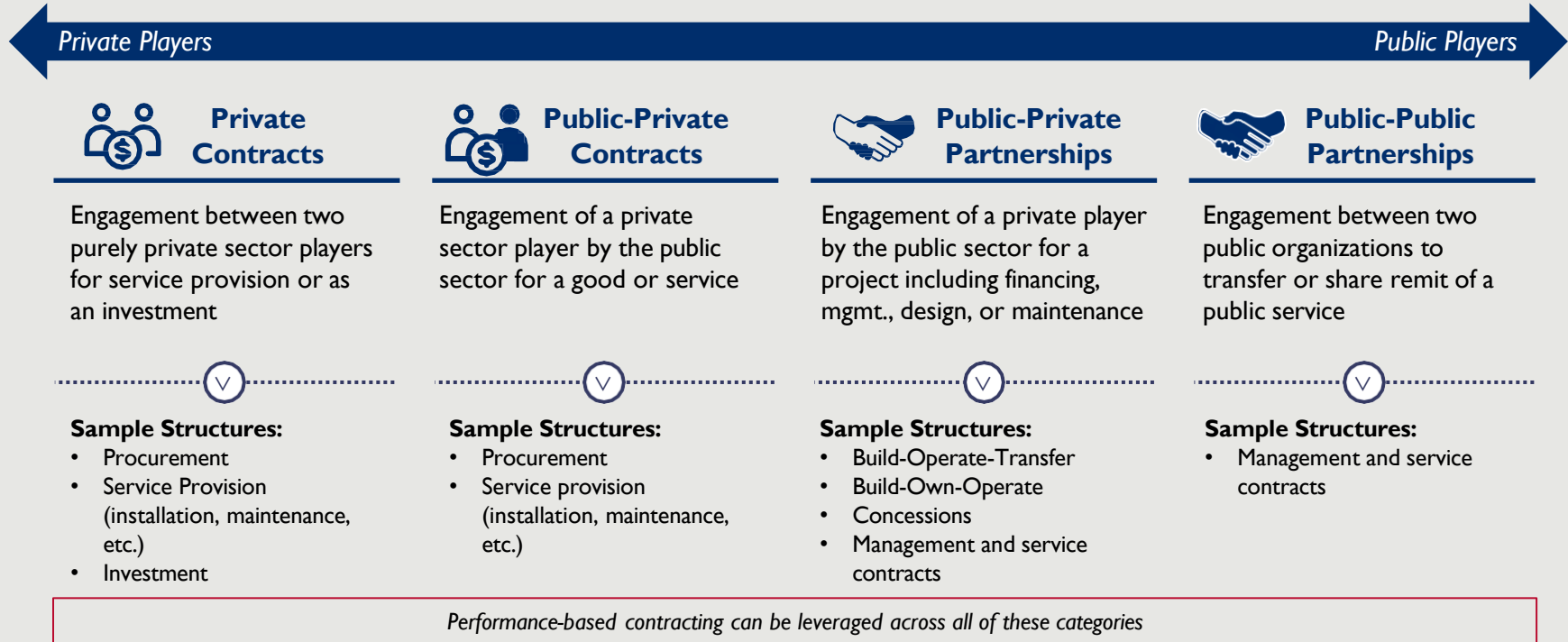
Area for Financing	Opportunity	Country	Ticket	Financing type	TB Angle ¹	Score
 Cluster Level Irrigation	Bai Elim Regional Irrigation PPP		US\$1.0M	Blended debt/equity	Medium	19
 Farm Level Solutions	Efficient Irrigation Infrastructure for Raisagroholding		US\$2.0M	Blended debt	Lower	19
 Scaling Water Sector SMEs	Surge Flow Drip Irrigation System Manufacturing		US\$1.5M	Debt/equity	Lower	20
	AgriTech Hub Irrigation Data Analytics Solution		US\$2.5M	Equity	High	18
 Larger-scale Infrastructure	Water-Resources Marketing WWTP/Supply Works		US\$125M	Concessional debt	Lower	18
	Desalination Plant in Kazakhstan		US\$200M	Debt/equity (+ subsidization)	High	17

¹ Extent of transboundary angle/impact – whether through direct project collaboration, or through potential impact on shared water resource management



Appendix I: Contracting Considerations

Private sector engagement in the water sector can fall anywhere along the public-private continuum



Performance based contracts increase efficiency and sustainability of projects in the water sector

What?

Performance based contracts (PBCs) **tie payment or repayment terms to project performance** against Key Performance Metrics (KPIs). PBCs delineate performance goals, provide incentives for attaining these goals, and facilitate the overall project life-cycle management

Why?

This structure **aligns incentives** to continue operation and maintenance of interventions through a financial incentive to perform well or a penalty for failing to do so, which is essential for **ensuring long-term project performance / sustainability**

When?

PBCs are appropriate for a **wide range of applications** – including private contract, public-private contracts, public-private partnerships and public-public partnerships – where investors are **impact focused** and are willing to **trade some financial value** for some **environmental or social value** measured through the selected KPIs

Different PBC structures can be considered depending on the type of project

Rely on grants

Embedded in commercial financing

Milestone-based disbursements

Lump sum payments to projects upon achievement of major KPI-based milestones, often used in grant funded projects where service payments don't apply

Key risk addressed:

- Projects falling into disrepair or disuse after initial donor capital injection

Best-fit Interventions:

- Solar/hydropower
- Municipal-scale wastewater treatment

Revenue Supplements

Donor funding supplements project or company income through matching revenues or providing supplements to ensure a minimum total revenue

Key risk addressed:

- Inadequate cost recovery in the sector

Best-fit Interventions:

- Industrial/municipal wastewater treatment
- Centralized wastewater treatment / water supply management & service contracts
- Desludging

KPI-based interest rates

Interest rate on debt determined by company and/or project performance on KPIs; interest declines with high performance, increases with poor performance

Key risk addressed:

- Projects falling into disrepair or disuse after initial donor capital injection

Best-fit Interventions:

- Industrial wastewater treatment
- Industrial water supply
- Centralized wastewater treatment / water supply management & service contracts

KPI-based service payments

Payments to service providers determined by project performance on KPIs; payment increased with high performance, declines with poor performance

Key risk addressed:

- Poor or inefficient performance by service providers

Best-fit Interventions:

- Cluster level irrigation solutions
- Regional water supply solutions
- Centralized wastewater treatment / water supply management & service contracts

Social Bonds

Bond issuance in which proceeds will be used to finance or refinance socially impactful projects, typically projects like public water or sanitation infrastructure

Key risk addressed:

- Poor or inefficient performance by service providers

Performance based financing instrument (rather than contract) – currently deprioritized due to low credit rating and low likelihood of any institution in each of CA countries being able to issue such a bond

Key Performance Indicators (KPIs) should be specific, simple, easy to measure, and in line with the realities of the project



Specific

- Indicators should be carefully tailored to the specifics of the project
- End goal must be incentivizing high performance on the most critical and urgent elements of the project



Simple

- Indicators should be as simple and few as possible
- Including many indicators can be counterproductive, requiring contractors to waste time in monitoring and reporting



Easy to Measure

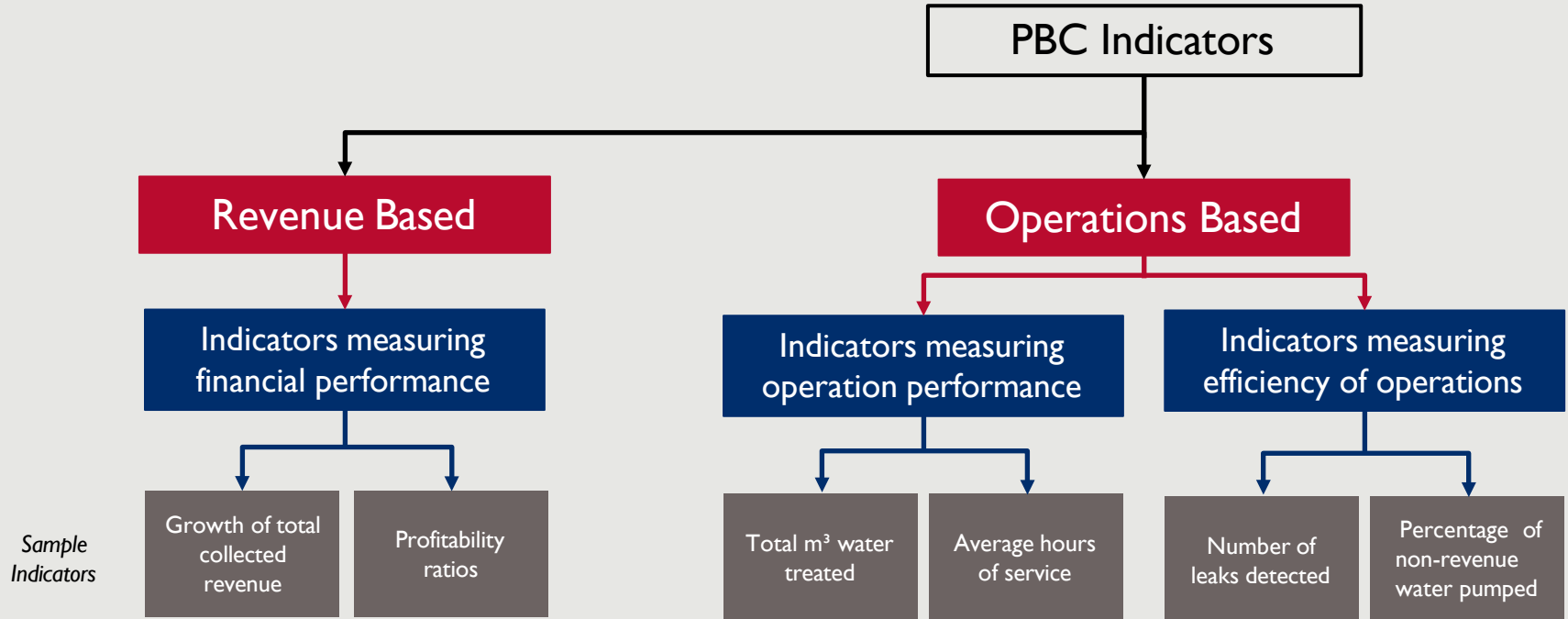
- In data poor environments like Central Asia, indicators must be easy to measure and substantiate
- If excessive testing, for example, becomes a heavy financial burden, this will undermine the efficacy of the PBC incentive structure



Realistic

- Indicators must take into account the existing quality of service in order to be effective
- Setting KPIs as percentage improvements is successful way to ensure outcomes are realistically tied to current performance

The KPIs underlying performance-based contracts fall into two broad categories: revenue based and operations based



Performance based contracts are applicable across all intervention areas covered in the Landscape Assessment (1/2)

Intervention	Contract Type	PBC Structure	Sample KPIs
Farm/ business level irrigation solutions	<ul style="list-style-type: none"> Private contracts 	<ul style="list-style-type: none"> Milestone-based disbursements KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in crop yields Percentage decrease in water loss
Cluster level pumping/ irrigation initiatives	<ul style="list-style-type: none"> Public-private contracts / private contracts 	<ul style="list-style-type: none"> KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in crop yields Percentage increase in land covered by irrigation infrastructure Percentage decrease in water loss
Regional water supply/delivery concessions	<ul style="list-style-type: none"> Public-private contracts / partnerships 	<ul style="list-style-type: none"> Milestone-based disbursements KPI-based service payments 	<ul style="list-style-type: none"> Percentage of households covered by water supply services Increase in tariff collection rates
Centralized water supply management/ service contracts	<ul style="list-style-type: none"> Public-private partnerships 	<ul style="list-style-type: none"> Revenue supplements KPI-based interest rates KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in hours of service Growth of the total number of households served
Industrial water supply solutions	<ul style="list-style-type: none"> Private contracts 	<ul style="list-style-type: none"> KPI-based interest rates KPI-based service payments 	<ul style="list-style-type: none"> Percentage of population covered by drinking water supply Increase in the quality of drinking water supplied
Industrial wastewater treatment	<ul style="list-style-type: none"> Private contracts 	<ul style="list-style-type: none"> Revenue supplements KPI-based interest rates KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in m³ water treated to a specified level Percentage decrease in BOD of water openly discharged





Performance based contracts are applicable across all intervention areas covered in the Landscape Assessment (2/2)

Intervention	Contract Type	PBC Structure	Sample KPIs
Decentralized/ municipal wastewater treatment	<ul style="list-style-type: none"> Public-private / public-public partnerships 	<ul style="list-style-type: none"> Social bonds Milestone-based disbursements KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in m³ water treated to a specified level Percentage decrease in BOD of water openly discharged
Desludging and treatment / reuse	<ul style="list-style-type: none"> Public-private contracts / private contracts 	<ul style="list-style-type: none"> Revenue supplements Milestone-based disbursements 	<ul style="list-style-type: none"> Percentage increase in tonnes dried sludge processed Pass/Fail safety rating for fertilizer use
Centralized WWTP management/ service contracts	<ul style="list-style-type: none"> Public-private / public-public partnerships 	<ul style="list-style-type: none"> Revenue supplements KPI-based interest rates KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in m³ water treated to a specified level Percentage decrease in BOD of water openly discharged
Solar/hydropower projects	<ul style="list-style-type: none"> Public-private contracts / partnerships 	<ul style="list-style-type: none"> Social bonds Milestone-based disbursements KPI-based service payments 	<ul style="list-style-type: none"> Percentage decrease in carbon emissions to power water infrastructure Percentage increase in hours of service
Data analytics solutions	<ul style="list-style-type: none"> Private contracts 	<ul style="list-style-type: none"> Revenue supplements KPI-based service payments 	<ul style="list-style-type: none"> Percentage of geographic area covered by irrigation information Number of Central Asian countries included in the system
Desalination	<ul style="list-style-type: none"> Public-private / public-public partnerships 	<ul style="list-style-type: none"> KPI-based interest rates KPI-based service payments 	<ul style="list-style-type: none"> Percentage increase in safe drinking water supply Percentage of households covered by desalinated water supply

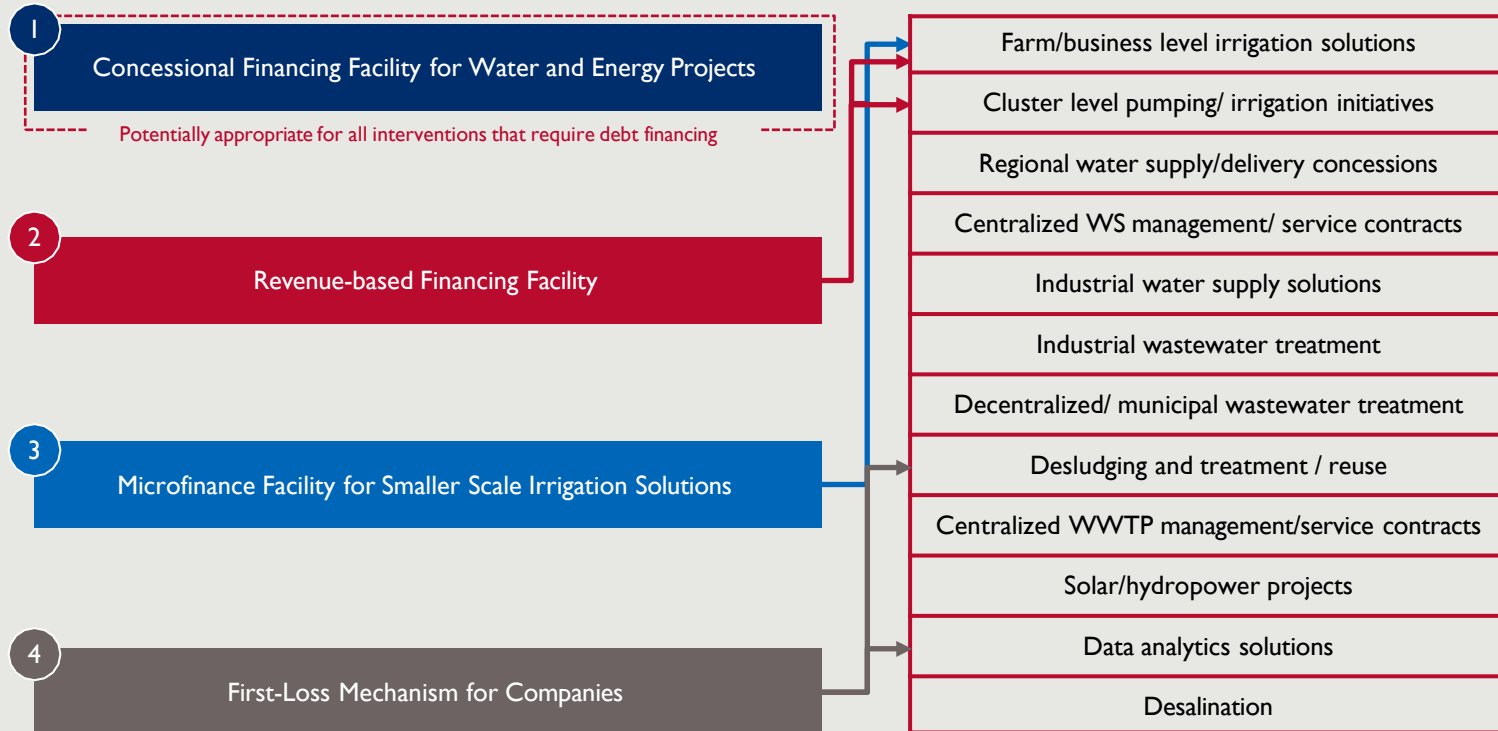


Appendix 2: Potential Financing Facilities

Four financing facilities could be considered to support capital mobilization based on findings from the Capital Map

Facility / Mechanism	Description	Example Target Projects	Financing Gap Addressed
 <p>Concessional Debt Facility for Water and Energy Projects</p>	<p>This facility would blend grant capital and commercial capital to extend concessional loans to companies or projects focused on water infrastructure or water energy access solutions</p>	<ul style="list-style-type: none"> • Water supply / treatment infrastructure • Solar & hydropower projects • Desalination 	<ul style="list-style-type: none"> • Current lack of funding opportunities for medium-scale projects in the water sector
 <p>Revenue-based Financing Facility for Irrigation Solutions</p>	<p>This facility would offer loans or working capital financing to projects, with interest paid according to income generated rather than a fixed schedule</p>	<ul style="list-style-type: none"> • Medium sized irrigation projects 	<ul style="list-style-type: none"> • Current lack of appropriate instruments for agricultural working capital needs (due to seasonality issues)
 <p>Microfinancing Facility for Smaller-scale Irrigation Solutions</p>	<p>This facility would provide microfinancing for investment in smaller-scale irrigation projects by local farmers</p>	<ul style="list-style-type: none"> • Smaller-scale irrigation initiatives (e.g., local, small-scale agribusinesses) 	<ul style="list-style-type: none"> • Reluctance of banks in Central Asia to finance smaller scale agricultural/ irrigation projects currently
 <p>First Loss Mechanism For Companies</p>	<p>This mechanism would invest “first-loss tranches” alongside investors in SMEs and start-ups in the water sector, with the first-loss absorbing any losses ahead of commercial investors to improve returns</p>	<ul style="list-style-type: none"> • Data analytics solutions • Any SME equity investment 	<ul style="list-style-type: none"> • Current lack of risk mitigation instruments available for water projects and start-ups

These facilities would support capital mobilization across the different areas of potential identified in the landscape assessment



Three financing facilities are prioritized based on the highest impact and feasibility assessments

	Concessional Financing Facility for Water and Energy Projects	Revenue-based Financing Facility	Microfinance Facility for Smaller Scale Irrigation Technologies	First-Loss Mechanism for Companies
Impact	✓	✓	✓	✓
Financing Feasibility	✓	✓	✓	✓
Implementation Risks	✓	✓	✓	✓
Immediate Prioritization	✓	✓	✓	✗

Highest priority facilities for immediate consideration

✓ – high
 ✓ – medium
 ✗ – low

— Concessional Debt Facility for Water and Energy Projects



Concessional debt mechanisms could provide affordable financing for sustainable private sector water solutions

Overview

- Concessional debt mechanisms aim to **provide affordable alternative financing to private companies** for targeted impact projects
- Such mechanisms would provide investors with a **trusted intermediary** that would undertake risk assessments and conduct due diligence on potential pipeline companies
- Such a facility would have a **range of structures** (not exhaustive):

Instrument	Description
Multi Tranche Fund	Structured so more risk-averse capital receives protection from grant-based tranches, blending donor and commercial funds to reduce cost
Grants to Cover Interest Payments	Set-up as an external grant that would be used to partially cover interest payments, reducing costs to off-taking companies
Grants in reserve account	Grants deployed on an investment-by-investment basis alongside external debt

Relevance to WAVE



This mechanism would make funds available to companies or projects in the WASH sector that cannot sustain traditional debt instruments, helping them **secure necessary CAPEX or working capital financing**



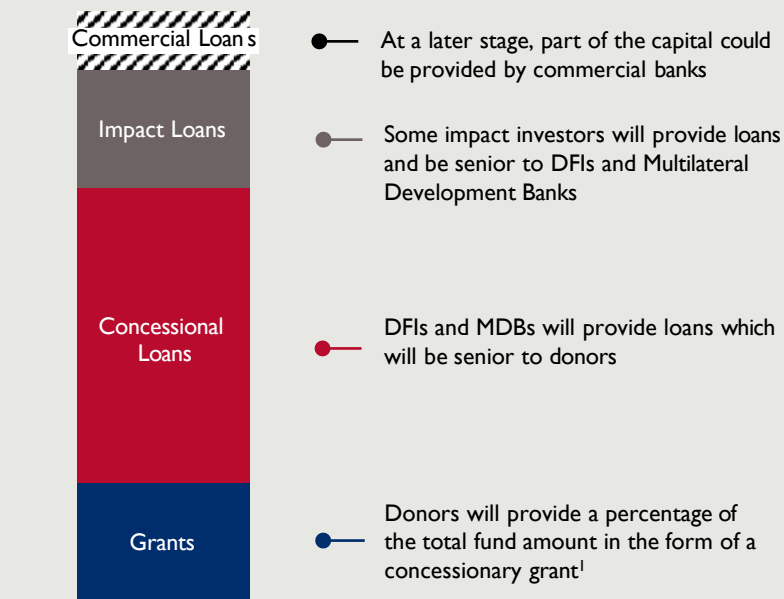
A facility would cater to DFIs and investors' **risk appetite** through **diversification, risk governance**, and potential **credit enhancement** structures to accompany disbursements



By providing dedicated access to WASH financing, the **long-term goal** is to significantly increase the volume of beneficial private sector projects in the water sector

A multi-tranche mechanism could leverage donor capital to attract impact and commercial investors

Illustrative Facility Structure



Instrument Mechanism

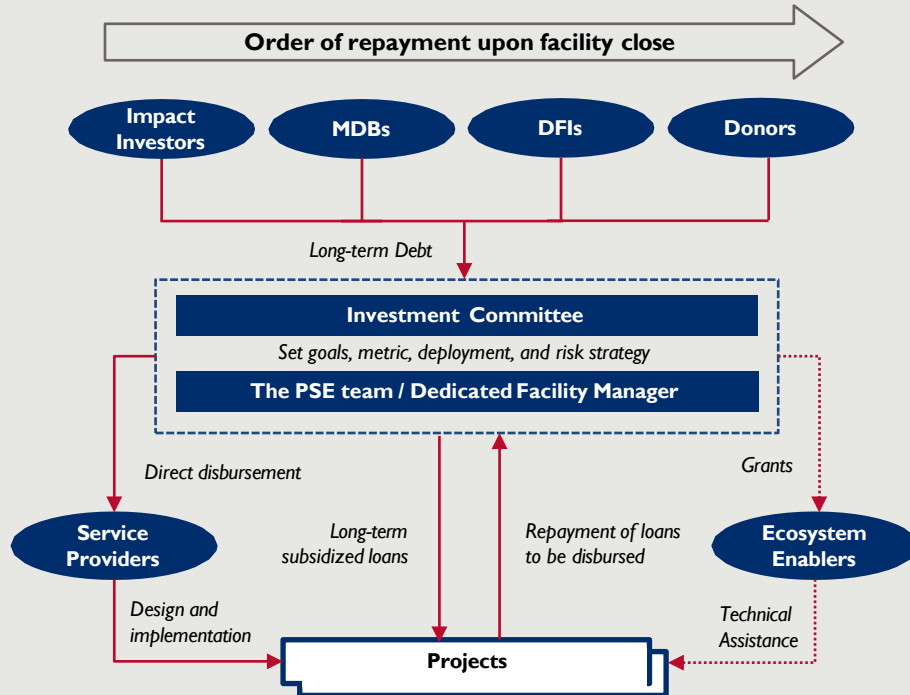
The instrument would be structured as a long-term subsidized loan that will be disbursed to export oriented industrials looking to install or upgrade wastewater solutions

- Loans would be disbursed to portfolio companies with a pre-set repayment schedule and subsidized interest rates
- Once repaid, the facility recycles loans to be disbursed to additional pipeline companies
- Upon the facility's expiration, cash disbursements will be made according to the following waterfall structure:
 1. Commercial investors, impact investors and DFIs receive all disbursements based on a pre-set expected returns
 2. Any additional disbursements are distributed towards the redemption of the grant portion
 3. If the event of portfolio companies' inability to repay, the grant portion will be considered redeemed

1. Grants can be structured as zero interest loans, grants to cover interest or any other structure
2. This would depend on the facility's risk measures and profile of pipeline companies

Depending on market appetite, the PSE team could structure and set up a full concessional debt facility

Potential Facility Structure



Facility Implementation Roadmap

- 1 Identifying potential donors, DFIs, and investors to structure the facility accordingly
- 2 Setting the internal and external legal frameworks with all associated governance structures
- 3 Evaluate and determine the need for the procurement of a facility manager
- 4 Identifying potential industrial pipeline companies with export revenue streams
- 5 Vetting and selecting private sector service providers for technical assistance and installation services
- 6 Conduct due diligence and select recipients in-line with the facility's strategy
- 7 Implement the projects and follow-up for regular KPI and financial reporting and repayments

— Revenue-Based Financing Facility



Revenue-based financing mechanisms would provide a pool of capital for more seasonal water projects and companies

Overview

- A revenue-based facility aims to **provide alternative financing to private companies** tying timely principal repayments to revenues
- Through revenue-based financing, debt providers would **receive principal repayment** in accordance with revenue generation, significantly **reducing default risk**
- Interest on such mechanisms could be eventually **subsidized through additional donor funds** to reduce costs to companies
- Such a facility would have a **range of instruments** (not exhaustive):

Instrument

Description

OPEX Credit Lines

Structured as a revolving line of credit for companies looking to finance working capital

CAPEX Loans

Set-up as a longer-term debt for expansion or refurbishment of machinery

Relevance to WAVE



This mechanism would make funds available to companies operating the water sector that cannot sustain traditional debt instruments, helping them **secure necessary CAPEX or working capital financing**

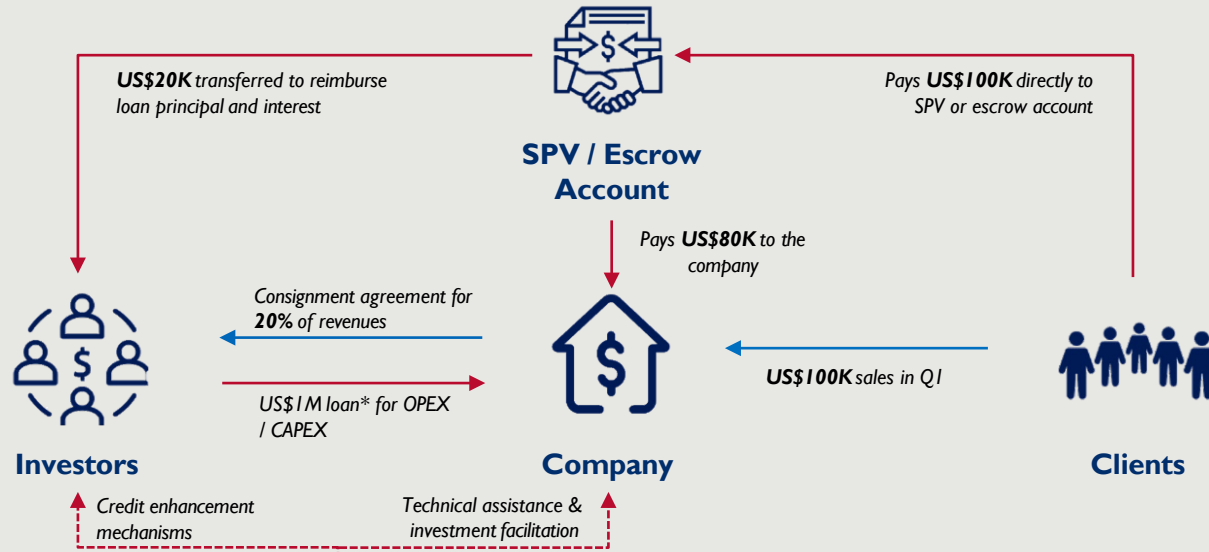


Particularly relevant in the water sector given the **seasonality of certain services** (e.g. due to differing water need and usage across the year) that make debt service payment schedules challenging



By providing companies with access to financing, this mechanism would allow companies operating in the water sector to **sustain and expand operations** and eventually **attract market-based financing**

Revenue-based financing links a loan's repayment to a percentage of revenues generated in a given period



Potential Additional Donor Involvement

- *Loan terms might also include (non-exhaustive):
- Grace period
 - Interest and repayment period
 - Minimum repayment amount in a given year
 - Collateral and securitization

Considerations

If market appetite exists, a revenue-based facility could be established, **potentially as part of or to supplement additional facilities**. Major considerations include:

- ✓ Returns and repayment rate, dependent on the ability of the company to generate cashflow and scale
- ✓ Total contribution size
- ✓ Updated opportunity pipeline
- ✓ Local investment regulations
- ✓ Portfolio currency and terms
- ✓ *Others to be determined during the work planning and structuring*

— Microfinance Facility for Smaller Scale Irrigation Solutions



Microfinance facilities can make capital accessible for smaller-scale irrigation projects of local agrobusinesses

Overview

- A microfinance facility for smaller-scale irrigation technologies would provide **microfinancing for investment** in **smaller-scale irrigation** projects of local farmers
- Interest rate on such mechanisms could be possibly subsidized through **mobilizing both donor and private capital** subject to interest
- Via blended microfinance facility, local farmers will be able to get an affordable loan **without sophisticated approval processes or collateral requirements**
- The following instruments could be used within the structure:

Instrument

Description

OPEX Loans

Short-term micro-loans for local farmers looking to finance working capital

CAPEX Loans

Short-term and medium-term micro-loans to finance smaller-scale irrigation infrastructure

Relevance to WAVE



A facility can help to **overcome such barriers** as banks' lack of trust to farmers' bankability and the lack of instruments available for a smaller-scale farmers, giving an opportunity to **upgrade water infrastructure** and switch to **water efficient technologies** in agriculture

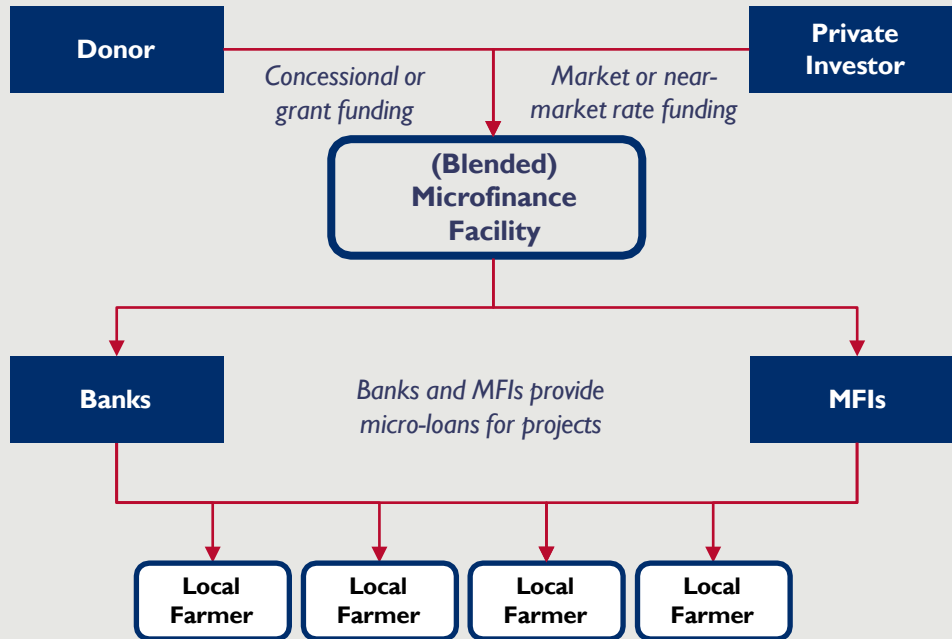


With **blended options**, the facility has a potential to **provide small farmers that do not qualify for purely commercial lending** with access to capital, with a positive potential impact on the **regional water-energy-food nexus**



A facility that **aggregates multiple, smaller transactions can attract investors** that would otherwise not invest due to low transaction size

A microfinance facility could blend donor and private capital to provide loans to farmers via local banks or MFIs



Considerations

Considerations for such a structure include:

- ✓ Returns and repayment rate, dependent on the ability of the farmers to generate cashflow and scale, as well as on the expectations of private investors, banks, and MFIs
- ✓ Total contribution size
- ✓ Updated opportunity pipeline
- ✓ Local investment regulations
- ✓ Portfolio currency and terms
- ✓ *Others to be determined during the work planning and structuring*

— First-Loss Mechanism for Companies



A first loss facility is a blended finance tool that can lower the barriers of entry for an investor considering Central Asia

Overview

- A first loss tool lowers the risk of an investment to **push a transaction over an investor's hurdle rate**
- **It also accounts for the opportunity cost** of that investor forgoing opportunities in more developed markets
- The facility can have a **range of potential structures** (not exhaustive):

Example structure	Description
Zero-interest Subordinated Debt	Structured as a zero-interest subordinated (paid after other lenders) debt note with no expiration date, offering additional inexpensive capital for companies
First Loss Tranche at Fund level	Set-up as a subordinated tier of equity under a fund structure - subject to first losses and subordination of return (paid back last)
First Loss Facility in reserve account	First loss capital deployed on an investment-by-investment basis

Relevance to WAVE



A first loss tranche addresses the **high-risk perception** of investors due to the current **economic situation and political risk** in Central Asia



Such a structure would address **low returns relative to the risk** for **high-potential startups and SMEs** operating in the water sector compared to other investments



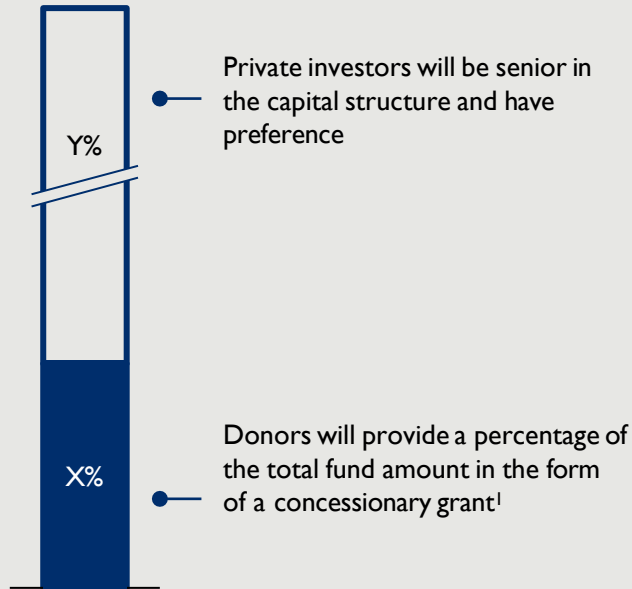
A first-loss mechanism could increase the viability of **investable opportunities** in Central Asian water sector, leading to a **wider sustainable, longer-term impact**



Success of a facility could be tied to **financial metrics** such as total private capital raised or project growth / **impact metrics** such as cubic meters of treated water or quality of treated effluent, where applicable

Donor funds could be leveraged via a first-loss mechanism to crowd-in private capital

Illustrative Fund Structure



Instrument Mechanism

The instrument will be structured as a repayable non-interest concessionary grant², with no expiration date, that will be disbursed into high-potential WASH SMEs and start-ups

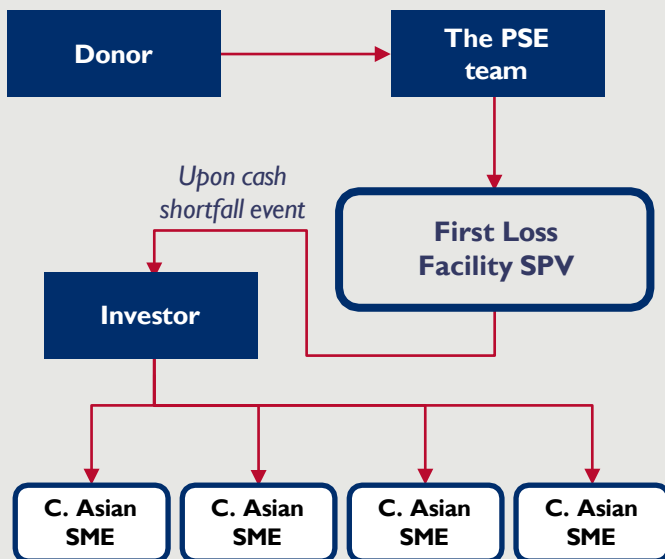
Upon the fund exit, any cash disbursements from the portfolio companies will be made according to the following waterfall structure:

1. Private investors receive all disbursements until their initial investment is recovered
2. Any additional disbursements are distributed Pari-Passu to private investors and towards the First Loss Tranche redemption
3. Upon full principal repayment, the First Loss Tranche will be considered redeemed, all additional disbursements go to the private investor
4. If investors do not recover their investment, the First Loss Tranche will be considered redeemed

1. The split between donor funds and private capital would depend on the market appetite
2. Grants can be structured as Class B equity, zero interest loan, or any other structure

A first-loss mechanism could be structured on a deal-by-deal basis catering to the ecosystem and capital providers' needs

Potential Structure

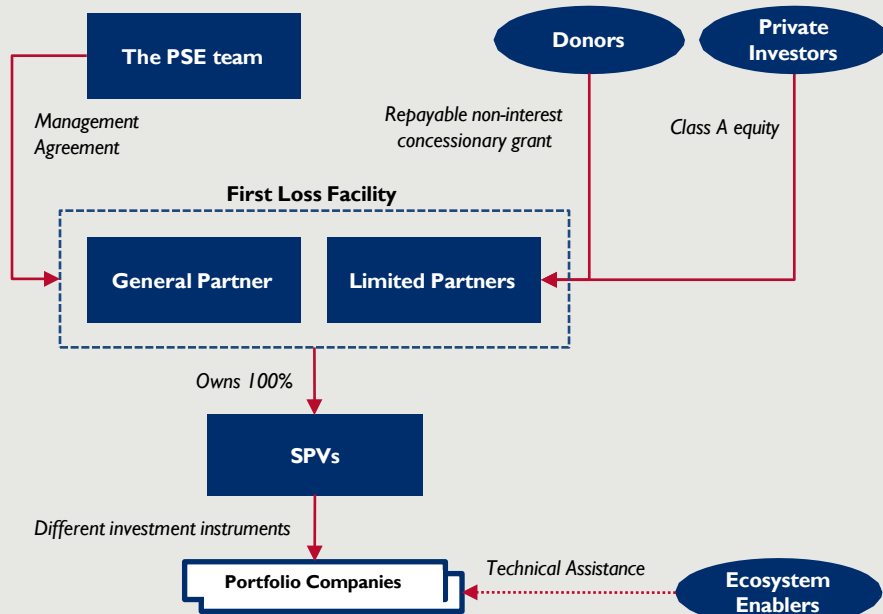


Financial and Legal Considerations

- The PSE team would conduct an **up-front structuring exercise** alongside donors to **determine the optimal facility design**
- Considerations for such a structure include, but would not be limited to,
 - ✓ Total contribution size
 - ✓ Preferred investment type (debt or equity vehicle)
 - ✓ Updated opportunity pipeline
 - ✓ Co-investor preferences
 - ✓ Local investment regulations
 - ✓ *Others to be determined during the work planning and structuring*

Depending on appetite in the market, a first loss fund could help mobilize capital for companies on a larger scale

Potential Fund Structure



Fund Implementation Roadmap

- 1 Conduct extensive market research in collaboration with ecosystem players to identify viable pipeline opportunities
- 2 Propose a fund structure and gauge donor and investors interest to structure the fund accordingly
- 3 Evaluate and determine the need for an external fund manager
- 4 Select pilot project, conduct due diligence, and structure the deployment of funds
- 5 Leverage results from the pilot projects to raise financing through the facility
- 6 Deploy funds to potential pipeline companies, provide technical assistance when needed, and report on financial and KPI metrics