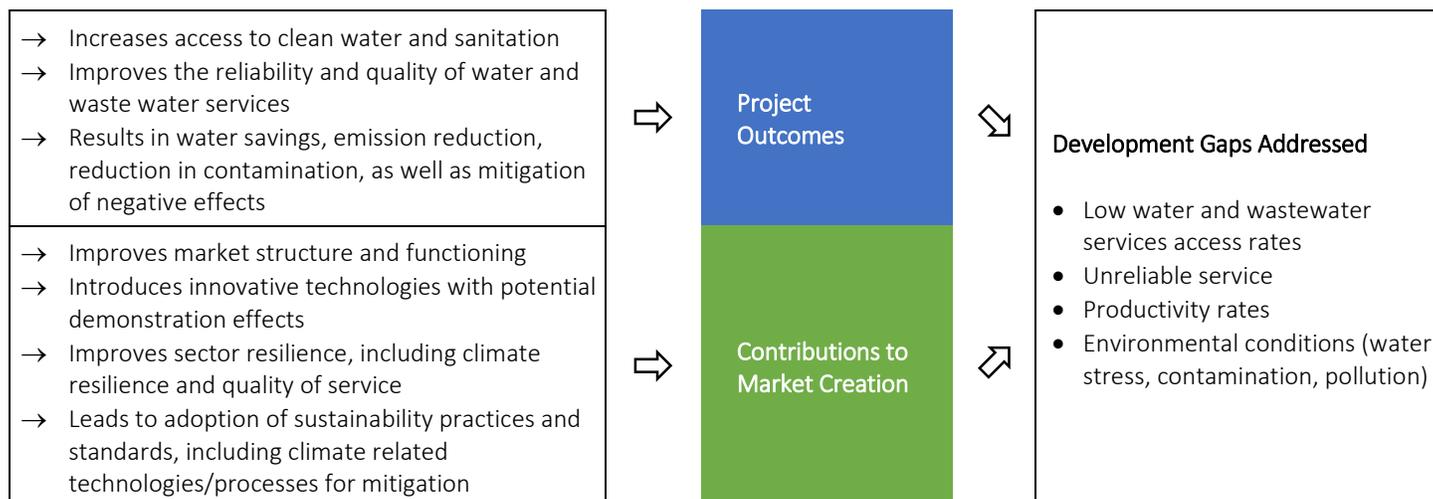


Development Impact Thesis – Enhancing access to water and wastewater services is a key priority for the World Bank Group given its critical role in development. The lack of access to clean water and sanitation services potentially leads to adverse health effects through water-related diseases, loss of productivity, and deteriorating environmental conditions. IFC’s engagement in the water and wastewater sector is designed to create conditions for increasing economically and environmentally sustainable investments. IFC provides financing and advisory services to firms in the water and wastewater sector which:



Rating Construct – All AIMM sector frameworks include detailed guidance notes that help define project outcomes and contributions to market creation, aggregating to an overall assessment of development impact.

- For project outcomes, stakeholders and environmental effects are the key components for which industry-specific benchmarks define the context in which an IFC operation seeks to drive changes. This gap analysis is combined with a separate set of impact intensity estimates that specify the expected results using predefined indicators.
- For contributions to market creation, industry-specific market typologies define stages of development for five market attributes (or objectives): competitiveness, resilience, integration, inclusiveness, and sustainability. These market typologies, when combined with estimates of how much an intervention affects the development of a market attribute, provide the foundation for IFC’s assessment of an intervention’s market-level potential for delivering systemic changes.

PROJECT OUTCOME INDICATORS		CONTRIBUTION TO MARKET CREATION INDICATORS	
Stakeholders	<p><u>Access</u></p> <ul style="list-style-type: none"> • Water volume treated in service area, m3 • Number of new connections to water service in service area • Wastewater treated, m3 • Number of new connections to wastewater service in service area <p><u>Quality</u></p> <ul style="list-style-type: none"> • Average period of water supply, hours/day • Non-revenue water, % reduction • Drinking water quality 	Competitiveness	<p><u>Market structure and functioning</u></p> <ul style="list-style-type: none"> • Changes in market structure: composition, new entrants • Price responses: pricing regulation, price adjustments • Changes in product offering / innovation: quality, standards, adoption of new technology • Regulation changes: market regulatory framework, tariff regulation
		Resilience	<p><u>Capacity to face shocks and stresses</u></p> <ul style="list-style-type: none"> • Improvement in resilience to domestic supply volatility • Adoption of technologies, planning, approaches that build resilience to shocks/stresses Capacity of institutional bodies to regulate sector
		Integration	<p><u>Connectivity</u></p> <ul style="list-style-type: none"> • Trade links: bulk water trading • Financial integration: expansion of financial products (e.g. green bonds) and investors (e.g. institutional investors) in the sector
		Inclusiveness	<p><u>Market-wide focus and access for underserved groups</u></p> <ul style="list-style-type: none"> • Adoption of inclusive business models targeting underserved groups • Better regulation of market to enhance access/affordability for underserved groups
Environmental / Social	<ul style="list-style-type: none"> • Reduction in contamination (groundwater, surface water) (kg/day) • Water efficiency-offset (reuse) and savings (NRW reduction %) • Climate resilience 	Sustainability	<p><u>Environmental and social sustainability</u></p> <ul style="list-style-type: none"> • Adoption of sustainability practices, including climate mitigation technologies or products • Conducive ESG legal/regulatory framework • Broad institutional capacity for supporting ESG practices

IFC’s Environmental and Social Performance Standards define IFC clients’ responsibilities for managing their environmental and social risks. While for most IFC investments, meeting Performance Standards reflects improved environmental and social performance, effects from implementation of the standards are only claimed in the AIMM framework where a clear counterfactual can be established and where the investment intent is to improve environmental or social outcomes.

Sector Specific Principles or Issues – The following principles will be applied for projects rated under this framework:

Principle or Issue	Treatment Under Framework
Scope of assessment	Both project level and market creation effects are measured annually over the monitoring period of the investment. These effects typically outlive the project’s monitoring period. Effects that can be measured and monitored during the project’s monitoring period are emphasized.
Sectoral structure	Due to the high cost of the required infrastructure, particularly water mains and sewerage pipe networks, water supply and sanitation services in most countries have been organized as monopolies (primarily with state ownership). The efficient structural configuration of the water and sewerage industry within a country will ultimately be driven by the industry’s underlying scope economies.
Private sector participation	Private participation in water and wastewater is usually through contract: the government retains ownership of the water assets and contracts with a private firm to manage the infrastructure to deliver water services to customers. There are many types of contracts, but in all cases, the responsibilities, rights, and remuneration of the private operator are defined by the contract, and the operator is obliged by the government to deliver the services specified in the contract.
Affordability and tariff regulation	Affordability of water and wastewater services is an important public consideration as the costs of these services can impede the realization of the population’s equal access to water and sanitation. Tariff design is optimal when it reflects the costs of service (providing an incentive to limit consumption to efficient levels) while ensuring that charges are reasonable and that all customers (especially those with low incomes) receive at least basic service.
Normalization and benchmarking	Impact assessments are based primarily on the size of the deficit being addressed. This methodology gives greater reward to projects addressing large deficits and those creating missing markets. A secondary consideration is normalization to avoid disadvantaging small projects, e.g. impact per million dollars invested or percentage improvement.
Treatment of negative effects	Negative externalities are taken into consideration in the assessment and highlighted when significant enough to mitigate overall rating. Potential negative effects at the project level include: (i) contingent liabilities, (ii) an increase in the subsidy bill, (iii) negative environmental effects, and (iv) tariff affordability. Potential negative effects at the market level include: a possible negative effect on resilience from projects that invest in a water resource that is already dominant in the water supply mix and is susceptible to supply or price shocks.
Qualitative benchmarking	The analysis of the current context in which a project is taking place can be either quantitative (through benchmarking of quantitative indicators to the performance of other emerging markets) or qualitative. Qualitative benchmarks typically comprise of a check list of market features that define market stages. In other cases where comparison across markets on a purely quantitative basis is not meaningful, a qualitative assessment is used instead.

Project Outcomes – The AIMM system considers the extent of the development gap and uses a gap analysis to classify project contexts according to the size of the deficit/gap being addressed. For each indicator, the size of the gap is measured in relation to development goals associated with the sector. Contexts are classified into very large, large, medium or low gap, for each performance dimension. Development gaps are defined using a combination of qualitative and quantitative benchmarks, which leaves room to consider context-specific attributes that drive investments in the sector.

COUNTRY CONTEXT	Low Gap	Medium Gap	Large Gap	Very Large Gap
Access	<ul style="list-style-type: none"> – No water supply shortage in short term; infrastructure equipped to meet current demand and growth – Country is in “low-to-medium” or “low” water stressed category – Share of population with access to water or wastewater service is above middle-income averages 	<ul style="list-style-type: none"> – Supply and access gaps in the market; infrastructure is equipped to meet current demand but not growth – Country is in “medium-to-high” water stressed category – Share of population with access to water or wastewater service is on par with middle-income averages 	<ul style="list-style-type: none"> – Significant supply shortage gap causing major disruptions to economic activity; infrastructure not equipped to meet current demand – Country is in “high” water stressed category – Share of population with access to water or wastewater service is below middle-income averages 	<ul style="list-style-type: none"> – Very significant shortage gap completely disrupting economic activity; infrastructure meets fraction of demand; close to no water treatment plants – Country is in “extremely high” water stressed category – Share of population with access to water or wastewater service is significantly below middle-income averages

COUNTRY CONTEXT	Low Gap	Medium Gap	Large Gap	Very Large Gap
Quality	<ul style="list-style-type: none"> – Water service disruptions infrequent and reflect modest routine maintenance rather than random technical fault – Non-revenue water at industry best standards – Water always safe from pathogens and elevated levels of harmful substances 	<ul style="list-style-type: none"> – Localized or seasonal water supply interruptions; national average interruptions in a typical year is low (below middle-income average) – Non-revenue water around middle-income average – Many treatment plants with regular audits and rare instances of water/sanitation related diseases 	<ul style="list-style-type: none"> – Frequent water supply service interruptions; unreliable water supply a significant constraint to doing business – Non-revenue water level is high and a significant burden on the utility especially in a water stressed region – Few water treatment plants and prevalence of water/sanitation related diseases 	<ul style="list-style-type: none"> – Constant water supply service interruptions completely disrupting the economy – Non-revenue water level is significantly high and located in extremely high water stressed region – Significant prevalence of microbiological organisms, chemical substances or radionuclides

“Core outcomes” for water and wastewater investments include effects on customers (households and firms), who are the key stakeholders and primary consumers of water and sanitation services. Improvements in access to clean water and wastewater services is expected to boost productivity with potential environmental effects in an energy intensive and potentially polluting sector. The AIMM system also takes into consideration other positive effects such as suppliers and employees of the client firm. These are given less weight than the core outcomes, as they are typically secondary benefits associated with a water and wastewater project, rather than a project’s main development objective.

PROJECT INTENSITY	Below Average	Average	Above Average	Significantly Above Average
<u>Access</u> <ul style="list-style-type: none"> • Water volume treated, m3 in service area • Wastewater treated in service area, m3 • Number of new connections to water service in service area • Number of new connections to wastewater service in service area 	– Yields positive access effects that are small relative to IFC’s portfolio of projects, industry benchmarks for access, and size of investment	– Yields positive access effects that are average relative to IFC’s portfolio of projects, industry benchmarks for access, and size of investment	– Yields positive access effects that are above average relative IFC’s portfolio of projects, industry benchmarks for access, and size of investment	– Yields positive access effects that are significantly above average relative to IFC’s portfolio of projects, industry benchmarks for access, and size of investment
<u>Quality</u> <ul style="list-style-type: none"> • Average period of water supply, hours/day • Non-revenue water • Drinking water quality 	– Yields positive quality effects that are small relative to industry benchmarks for quality and size of investment	– Yields positive quality effects that are average relative to industry benchmarks for quality and size of investment	– Yields positive quality effects that are above average relative to industry benchmarks for quality and size of investment	– Yields positive quality effects that are significantly above average relative to industry benchmarks for quality and size of investment

The AIMM methodology considers the uncertainty around the realization of the potential development impact being claimed, making a distinction between the potential outcomes that a project could deliver and what could be realistically achievable in the project’s development context. The table below presents the key types of risk factors for water and wastewater services operations.

PROJECT LIKELIHOOD	Operational Factors	Sector Factors
Assessment Considerations	<ul style="list-style-type: none"> • Client track record of delivering impact in the focus area • Client’s market position and product offering • Sponsor’s technical strength and support to project • Covenants assuring implementation of project components (e.g. commitments to extend of access to BOP populations) • Project likelihood of reaching financial close at targeted level of capitalization (mostly relevant to Funds) 	<ul style="list-style-type: none"> • Extent of political support and social buy-in • Financial viability in the absence of subsidies • Affordability in the absence of subsidies • Resilience to exogenous shocks, including climate risks

PROJECT LIKELIHOOD	Operational Factors	Sector Factors
	<ul style="list-style-type: none"> • Presence of funded plan for the development of complementary infrastructure • Public partner track record in meeting contractual obligations • Government track record in committing counterpart resources (e.g. financing for resettlement plan) • Realism of magnitude of anticipated impact (measured against industry standards, client/EPC contractor's experience, public partner's capacity) 	<ul style="list-style-type: none"> • Alignment of monetary policy risk (currency of trade, FX convertibility, FX transferability, taxation) with objectives • Exposure of project development effects to exogenous shocks e.g. FX risk (e.g. price or supply risk if project relies on imported fuel, contingent liability risk if tariff is USD-indexed)

Contribution to Market Creation – The water and wastewater sector is comprised of two main parts: (i) the upstream which consists of abstraction, treatment, and the distribution process that makes and delivers the product (drinking water) to the customer, and (ii) the downstream which includes the collection and treatment of wastewater, so it can be safely discharged to the environment, or re-used, as needed. For the AIMM market assessment, a market is defined as the domestic industry or sub-sector in which the project is taking place (excluding markets affected by the project through economic linkages). In measuring a project's effect on financial integration, firms' capacity to mobilize capital from both local and global capital markets is assessed. AIMM assessments place emphasis on development impact that is clearly attributable to the project, measurable, and monitorable. For market creation effects, attribution is established by identifying a clear channel linking the project to the anticipated impact and identifying measurable indicators of market creation effects that can be monitored.

Water and wastewater market typologies provide the building blocks in the AIMM system to construct a narrative for how much an IFC intervention is advancing a market objective. These typologies provide a description of the market gap based on various stages of development for a given sector from least developed to most advanced and enable the location of the market before and after IFC's intervention. The table below summarizes the characterizations of the water and wastewater market for the market attributes.

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Competitiveness	<ul style="list-style-type: none"> – PPP/concession agreements have performance reporting – Companies have well-functioning customer service – Infrastructure well developed, in terms of technology, high-efficiency – Tariffs cover OPEX and CAPEX; no commercial losses – Regulator uses incentive-based tariff regulation – Social measures available to assure affordability for vulnerable groups – All water users metered, mostly read remotely 	<ul style="list-style-type: none"> – Corporatization of companies advancing – PPP/concession agreements have clear targets – Private sector participation starting through mix of JV, PPP, concessions, BOT, BOO and some privatization/IPOs – Companies starting to adopt BAT technologies – Companies are regulated with regular price reviews – Tariff compensates networks for OPEX and movement towards recovering CAPEX – Metering becoming widespread but irregular 	<ul style="list-style-type: none"> – State/municipal-owned utilities dominate; no financial autonomy, low efficiency and cost control – Utility companies not sensitive to customer needs – Poor network management – No systematic planning of investments for future needs – Water distribution network aging, limited maintenance – No transparent tariff regulation, tariffs not fully cover OPEX and CAPEX – Companies receive payments late; poor metering, billing, collection 	<ul style="list-style-type: none"> – Sector 100% owned by state/municipal companies with no financial autonomy, cost control, consideration for customer needs – No network management practices and improvements – Infrastructure highly undeveloped, limited water distribution network – No transparent tariff regulation, payments constantly late, large arrears – Extremely poor metering and collection system
Resilience	<ul style="list-style-type: none"> – Supply disruptions rare – Non-revenue water at industry best standard – Diversified base of water sources, adv. conservation – Resilient infrastructure and mitigation measures – Significant availability and penetration of products to address climate vuln., most firms incorporate resilience – Water companies close to 100% collection rate – Full cost recovery in place – Stable reg. framework – Ind. reg. sets tariffs and monitors; funded by levy – Watch groups monitor 	<ul style="list-style-type: none"> – Occasional disruptions due to water shortages – Non-revenue water decreasing to levels around regional best levels – Quality improving, wider use of tap for drinking – Improving usage of domestic water source – Developing plans and some measures to mitigate risks – Water companies in good financial standing – Transparent legislation regulating sector in place – Tariffs subject to price reviews by regulator – Partially independent reg. 	<ul style="list-style-type: none"> – Severe maintenance and operational issues, high water leakages, supply disruptions, water scarcity, poor water quality (water boiled prior to use) – No disaster mitigation – Companies' finances in disarray (low collection) – No independent regulator – No water sector law or regulation – Little transparency, consumers not have understanding of water charges and cost by water service providers 	<ul style="list-style-type: none"> – Infrastructure highly undeveloped with extreme disruption, leakages levels – Water company in extremely poor condition and fully dependent on state budget transfers – Unavailability of products and services and inadequate coverage to solve climate vulnerabilities – No voluntary or compulsory standards exist

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Integration	<ul style="list-style-type: none"> – Sector has sufficient infrastructure fulfilling demand on bulk water trade – Trading of water domestically between regions – Water projects financed through mix of financing instruments and investors – Institutional investors active – Financing instruments for water projects easily utilized – Liquid stock market 	<ul style="list-style-type: none"> – Some infrastructure for trading of bulk water – Some trading of water domestically b/w regions – Project financing available by commercial banks – Projects primarily rely on bank lending – Limited to no entry into project finance by institutional investors – Nascent bond market; some limited bond financing 	<ul style="list-style-type: none"> – Sector has no or very limited infrastructure to enable bulk water trading domestically or internationally when it is an economically viable option for the sector – Most projects rely on state financing, state support, or loans from state banks – Minimal loans to corporates by private banks or other intermediary investors 	<ul style="list-style-type: none"> – Sector has no exports or import infrastructure and no plans to put in place such infrastructure where trading water would be economically viable – No developed capital markets
Inclusiveness	<ul style="list-style-type: none"> – Access rates high and no evidence of market-wide disparities within country – Affordability services monitored by regulator – Effective social safety nets in place for lower income – Affordable decentralized systems are available targeting low-income groups – Almost all firms incorporate considerations of inclusiveness 	<ul style="list-style-type: none"> – Some parts of country with underserved populations not connected to network – Cost of service considered high and restrictive for some underserved groups – Most leading and mid-tier firms incorporate business model considerations on inclusiveness in operations 	<ul style="list-style-type: none"> – Significant market-wide disparities in access and affordability between underserved groups and others – Few leading and mid-tier firms incorporate business model considerations on inclusiveness in their operations 	<ul style="list-style-type: none"> – Underserved groups have no or very limited access to water & wastewater services – Firms do not incorporate inclusiveness considerations in their operations
Sustainability	<ul style="list-style-type: none"> – Country is in a low water stress region or is in a water stressed region but has implemented successful measures to improve water usage practices – Water utility companies highly innovative in implementing climate mitigation and adaptation measures – The water bills of customers highly informative with actual usage compared to peers or targets 	<ul style="list-style-type: none"> – Country is implementing practices to improve its water usage practices – Water utility companies institute some climate mitigation or adaptation measures for themselves and customers – Significant investments and regulation occurring in the sector to improve energy efficiency 	<ul style="list-style-type: none"> – Country is in a high water stressed region with significant potential to improve water usage practices to alleviate pressure on water resources – Sector's energy consumption has significant CO2 emissions where there is a role for introduction of technology or processes to lower energy intensity with ensuing reduction in GHG – Severe issues with water pollution impacting health – Companies have limited capacity/skill to accommodate uptake of climate mitigation or adaptation measures 	<ul style="list-style-type: none"> – Water sector has significant CO2 emissions due to high energy intensity and dominance of thermal generation in electricity mix with limited or no RE generation – Country's water assets have high water usage inefficiencies especially if country is water stressed – Water sector has significant scope to improve energy efficiency, but no investments are being made to improve efficiency of utility companies

In general, most individual projects are not expected to make a significant and immediate systemic market change, unless the project is a pioneer in a non-existent or nascent market. Instead, most projects are expected to have incremental effects on the market. In other words, it takes more than one intervention to move a market to the next stage. This means that integrated and concerted efforts are often needed to generate substantial market effects. For example, cumulative World Bank Group efforts over time will have a stronger effect on markets than non-integrated and non-concerted interventions. Where a project is explicitly part of a programmatic approach, the expected movement induced by the program should be the basis for the assessment where timebound movements, market effects, and indicators are available. The most important market creating effects from IFC's water and wastewater operations are:

MARKET MOVEMENT	Marginal	Meaningful	Significant	Highly Significant
Competitiveness	Competitiveness relates to incentives for efficiency and innovation while providing the most cost-effective prices based on actual water usage. IFC projects can contribute to competitiveness by expanding and developing the role for the private sector and supporting new entrants which lead to greater efficiency and better managed services. While water and wastewater systems historically have been predominantly owned and operated by municipal and/or state entities, growing constraints on public finances are expanding the role for the private sector. Projects can promote competitiveness by supporting private participation likely to result in better management of operations and helping introduce innovative technologies with potential for demonstration effects. In addition, IFC projects can support competitiveness by supporting the implementation of innovative tariff structures that enable cost recovery and affordability.			
Resilience	Resilience is the ability to cope with, and recover from, disruption and anticipate trends and variability to maintain services to customers and protect the natural environment. While resilience has always been an important issue for customers and the sector, the level of awareness for it is changing as threats such as effects of climate change and deteriorating conditions of river catchments become more evident. Future threats to the sector are likely to increase in frequency, interconnectivity and unpredictably with the potential to leave communities without safe and reliable drinking water and the appropriate disposal of wastewater. IFC projects can contribute to the sector's resilience by supporting the maintenance and development of water and wastewater infrastructure to improve the resiliency of existing water supply systems.			
Integration	Projects can contribute to integration by introducing new or expanded physical infrastructure that addresses shortcomings/bottlenecks and materially improve trading of water. Projects can also promote integration to global capital markets, by supporting the introduction of new financing instruments that enable capital mobilization from a broader range of financiers.			
Inclusiveness	Projects can contribute to inclusiveness by extending services to underserved populations through introduction of innovative inclusive business practices. Projects can support inclusiveness through customized business models for service provision to underserved groups as well as better regulation of the market to improve affordability.			
Sustainability	Projects can contribute to sustainability by reducing the sector's adverse impacts on the environment and implementing climate mitigation and adaptation measures. Projects can improve water efficiency through innovative technologies or processes which can be replicated by other utilities that improve sustainability of the sector. In addition, projects can improve emission savings, reduction in water pollution and improve environmental standards in the sector.			

The market likelihood adjustment follows the principles for the likelihood adjustment for project outcome potential. In general, the likelihood assessment includes sector-specific, as well as broad country risks that may prevent potential catalytic effects from occurring, plus political economy or policy/regulatory risks that may constrain market systemic change. Due to the diversity of market creation attributes and channels, most of the likelihood factors are expected to be sector, or intervention specific.

MARKET LIKELIHOOD	Sector Factors	Political / Regulatory / Policy Factors
Assessment Considerations	<ul style="list-style-type: none"> • Public partner track record in meeting contractual obligations • Presence of funded plan for the development of complementary infrastructure • Extent of political support and social buy-in • Financial viability in the absence of subsidies • Coherence of specific policies and standards across borders 	<ul style="list-style-type: none"> • Presence of established regulatory and legal framework • Existence of a capable and independent regulator • Government track record in upholding new policies (measuring risk of policy reversals) • Regulatory scope and capacity • Collaboration track record of participating countries/entities