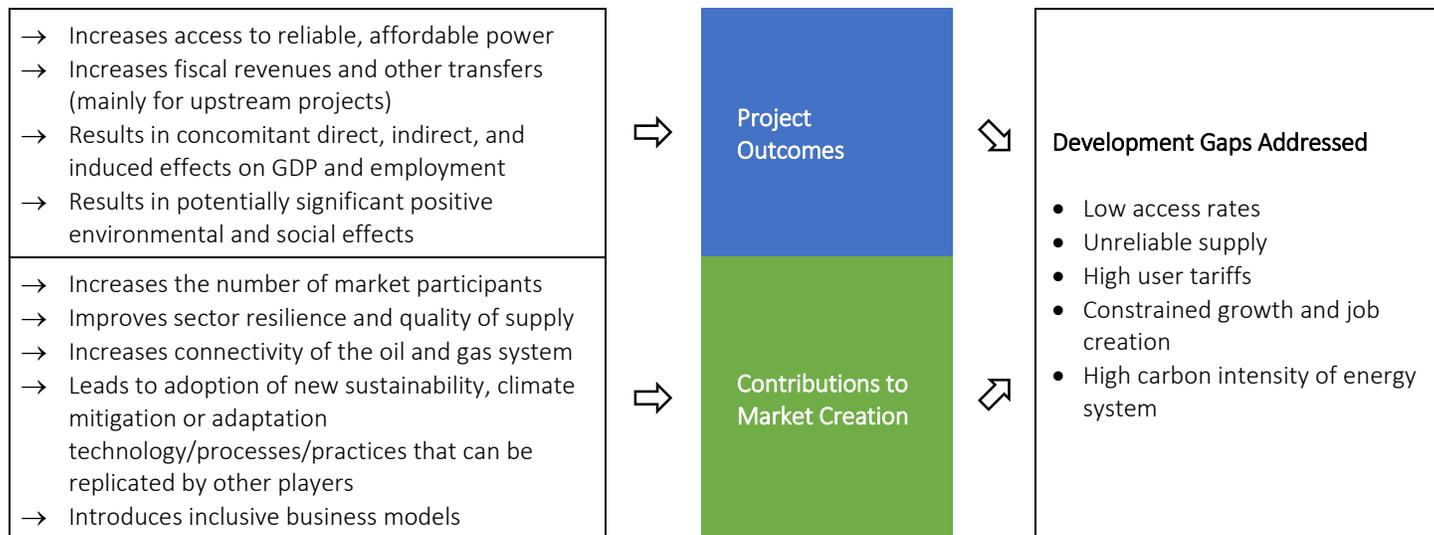


Development Impact Thesis – Access to reliable, affordable, sustainable energy remains a critical development challenge to improving lives of the poor. During the ongoing transition to a lower carbon future, oil and gas are likely to serve as one of the important sources of energy for the coming decades. IFC provides financing and advisory services to firms in the oil and gas 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, economy-wide, 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	<u>Access</u> • Oil/gas delivered to end-users during the reporting period, m3 (gas) or btu (oil) • Number of new (potential) users, # (gas distribution) • Number of LNG/CNG fueling stations, # <u>Quality</u> • Number of gas supply disruptions, #/month or SAIFI • Average length of gas supply disruptions, hours or SAIDI • Share of customers with gas meters, % of customers • Gas Sulphur content, mg/m3 Level of Sulphur content in gas • Gas Odorization, Y/N <u>Affordability</u> • Average End User Gas Tariff, US c/kWh • Cost of energy, US\$ <u>Effect on Government</u> • Government transfers, (taxes, fees, royalties, dividends etc.), \$ • Export sales, \$	Competitiveness	• Changes in market structure: composition, entry, exits • Price responses: price change • Changes in product offering and innovation: quality, standards, adoption of new technology • Regulation changes: institutional frameworks
		Resilience	• Effect on domestic supply volatility and energy security • Impact on cost recovery and financial sustainability of the oil and gas sector • Diversification of energy sources • Adoption of technologies, planning, approaches that build resilience to shocks and stresses • Input intensity of energy and dependency on natural resources • Capacity of institutional bodies to regulate the sector
		Integration	• Trade links (global value chains, GVCs): trade volume and diversity of exports • Domestic links (domestic supply chain): expanding market geographic reach and deepening domestic supply chain
Economy-wide	• Value added multiplier • Employment multiplier • Export sales (or FX savings) • Direct jobs created, #	Inclusiveness	• Inclusion: access or wide-spread inclusive income generating opportunities • Diversity: access or wide-spread opportunities for diverse groups
Environmental / Social	• GHG emission reduction, tons • Climate resilience • Effect on biodiversity	Sustainability	• Adoption of sustainability practices and measures, including ESG and climate mitigation and adaptation • Conducive legal/regulatory framework • Broad capacity and supporting institutions

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
Strategic direction	After 2019, World Bank Group will cease financing upstream oil and gas projects, i.e. exploration of oil and natural gas fields, as well as drilling and operating wells to produce oil and natural gas. In exceptional circumstances in the poorest countries where there is a benefit to energy access and this is consistent with countries’ NDC commitments, the World Bank Group will consider upstream natural gas projects. The World Bank Group will continue to support and finance midstream and downstream oil and gas investments. IFC will continue to support natural gas as a flexible energy source that can help countries make the transition more quickly to renewables, expand access to energy for the poor, and displace carbon-intensive coal. Considering this shift in IFC’s business focus, the framework for oil and gas sector is primarily focused on midstream and downstream operations. Where relevant references to upstream oil and gas projects is also included in the framework to accommodate the assessment of potential exceptional projects IFC will consider in this segment of the sector.
Scope of assessment	Both project level and market creation effects are measured annually over the monitoring period of the investment. It is understood that for oil and gas projects, these effects typically outlive the project’s monitoring period.
Normalization and benchmarking	Anticipated development impact is rated based primarily on the size of the market gap 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 invested or percentage improvement.
Treatment of negative effects	Negative externalities are taken into consideration in the assessment and highlighted when significant enough to mitigate the overall rating. Potential negative effects at the project level include: (i) large contingent liabilities, (ii) a significant increase in the subsidy bill, (iii) large negative balance of payments effects, (iv) significant GHG emissions, and (v) large-scale relocation. Potential negative effects at the market level include: possible negative effects on competition if solidifying the monopoly position of a client operating in a market that is not a natural monopoly, local content requirements that are assessed to have potential negative anti-competitive effects, negative effects on resilience if investing in an energy resource that is already is susceptible to supply / price shocks.
Qualitative benchmarks	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 qualitatively. Quantitative benchmarks are used where possible in conjunction with 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. This applies to indicators that are influenced by other exogenous variables such as optimum gas tariff levels (a function of average cost of service, tariff regulation, as well as affordability considerations). For these variables, qualitative benchmarks informed from comparison with top performers in the emerging markets groups are among qualitative considerations taken into account.

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 low, medium, large, and very large gaps, for each component. 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"> – National oil/gas supply coverage high; no supply shortage in short term – Potential supply gap in medium-term – Oil/gas infrastructure meets current demand and expected growth – National gasification reached country’s target with most urban cities having a gas network – LNG/CNG station coverage is good in most cities 	<ul style="list-style-type: none"> – National oil/gas supply coverage is relatively high and above peers but there are documented supply and access gaps in the market – Oil/gas infrastructure is equipped to meet current demand but not expected growth in demand – National gasification rate is close to country’s target but there are documented pockets of access gaps in 	<ul style="list-style-type: none"> – Significant oil/gas supply shortage gap causing major disruptions to economic activity – Oil/gas infrastructure not meet current demand – National gasification rate well below the country’s target – Only one city in the country has a few LNG/CNG fueling stations 	<ul style="list-style-type: none"> – Very significant oil/gas supply shortage gap completely disrupting economic activity – Oil/gas infrastructure meets fraction of demand – Country not yet started gasification although it has set national target – Country has almost no LNG/CNG fueling stations proportional to population.

COUNTRY CONTEXT	Low Gap	Medium Gap	Large Gap	Very Large Gap
	<ul style="list-style-type: none"> Country has reached its national target for CNG/LNG station coverage 	<ul style="list-style-type: none"> some regions which are targeted by the project A few cities in the country have LNG/CNG stations 		
Reliability and Quality	<ul style="list-style-type: none"> Gas disruptions infrequent and reflect modest routine maintenance or natural disasters rather than random technical fault Gas Sulphur content at or below threshold values and monitored regularly Distribution or transmission company obliged to odorize gas and monitor effectiveness of odorization Distribution company required to make annual minimum number of measurements of level of odorization of gas Metering widespread with smart metering or advanced metering Switching gas provider is easy and transparent process 	<ul style="list-style-type: none"> Country experiences localized or seasonal gas supply disruptions National average number of gas supply interruptions in a typical year is low, even though rate may be high in specific areas or seasons Gas Sulphur content close to threshold values and monitored regularly Obligation to odorize natural gas by transmission or distribution company, but not regularly monitored Odorization at transportation level required when gas delivered for domestic use Distribution company has targets for average response time to customers Metering becoming widespread but reading of meters not occur regularly Gas supplier switching is not prevalent or allowed 	<ul style="list-style-type: none"> Country experiences frequent gas service interruptions Unreliable gas supply considered significant constraint to doing business and/or there is evidence of use of emergency generators to supplement heating when gas is not available Gas Sulphur content is above the threshold values and not monitored No obligation to odorize natural gas No transparent process for responding to customer requests, response rate not monitored, high number of complaints Payment is norm based rather than metering; if there is metering it is only for large industrial customers 	<ul style="list-style-type: none"> Country experiences very frequent gas service interruptions Unreliable gas supply considered significant constraint to doing business Evidence of use of emergency generators to supplement heating when gas is not available Gas Sulphur content is above the threshold values and not monitored No obligation to odorize natural gas No process for responding to customer requests; response rate not monitored; extremely high number of complaints Payment is only norm based rather than metering; no metering
Affordability	<ul style="list-style-type: none"> Tariffs fall within national targets and are at par with comparable markets in region 	<ul style="list-style-type: none"> Tariffs lower than in comparable markets in region but still considered binding constraint to access Alternative energy to natural gas relatively cheaper than gas inhibiting further uptake of gas Switching to LNG/CNG for transport fuel presents some cost savings 	<ul style="list-style-type: none"> Tariffs high and exceed national targets Cost restricts access to or utilization of services If present, subsidies not large enough to facilitate full integration of low-income consumers Transport fuel costs significant where switching from diesel to LNG/CNG is a more affordable alternative 	<ul style="list-style-type: none"> Tariffs high and significantly exceeds national targets Cost restricts access to and/or utilization If present, subsidies not large enough to facilitate full integration of low-income consumers Transport fuel costs extremely high where switching to LNG/CNG is a much more affordable
Fiscal Effects	<ul style="list-style-type: none"> Government current account balance >-0.5% IMF identifies positive trajectory on debt sustainability 	<ul style="list-style-type: none"> Government current account balance is between -6% and -0.5% IMF identifies neutral trajectory on debt sustainability 	<ul style="list-style-type: none"> Government current account balance is between -12% and -6% IMF identifies negative trajectory on debt sustainability 	<ul style="list-style-type: none"> Government current account balance <-12% IMF identifies negative trajectory on debt sustainability

Core outcomes for oil and gas sector investments include effects on customers, the government (through taxes and other transfers primarily for upstream and midstream oil and gas projects), and concomitant economy-wide and environmental effects. A project need not deliver impact in all potential core impact dimensions but should do so in the intended area of focus. The rating guidelines award a higher collective implicit weight to core outcomes. For midstream projects where the project-level impact is observed at the upstream operation and/or downstream customers, the most relevant effects on the specific project will be taken into consideration in the assessment. Effects on suppliers, employees of a client firm, and the project community are considered “non-core” in oil and gas projects, as they are typically secondary benefits associated with the project, rather than a project’s main development objective.

PROJECT INTENSITY	Below Average	Average	Above Average	Significantly Above Average
Access <ul style="list-style-type: none"> Oil/gas delivered to end-users during the reporting period, m3 (gas) or btu (oil) Number of new (potential) users, # 	<ul style="list-style-type: none"> Less than 1% increase in domestically produced oil/gas Less than 1% increase in # of gas connections in the project catchment area 	<ul style="list-style-type: none"> 1-5% increase in domestically produced oil/gas 1-5% increase in # of gas connections in the project catchment area 	<ul style="list-style-type: none"> 5-10% increase in domestically produced oil/gas 5-10% increase in # of gas connections in the project catchment area 	<ul style="list-style-type: none"> More than 10% increase in domestically produced oil/gas. More than 10% increase in # of gas connections in the project catchment area
Economy-wide <ul style="list-style-type: none"> Value-added, \$ Total employment, # 	<ul style="list-style-type: none"> The annual value-added creation of the project is low, below 0.82 million USD per 1 million USD of investment Employment creation is low, below 29 jobs per million USD invested 	<ul style="list-style-type: none"> The annual value-added creation of the project is average, between 0.82 and 1.10 million USD per 1 million USD of investment Employment creation is average, between 29 and 76 jobs per million USD invested 	<ul style="list-style-type: none"> The annual value-added creation of the project is above average, between 1.10 and 1.45 million USD per 1 million USD of investment Employment creation is above average, between 76 and 194 jobs per million USD invested 	<ul style="list-style-type: none"> The annual value-added creation of the project is very high, above 1.45 million USD per 1 million USD of investment Employment creation is very high, above 194 jobs per million USD invested
Fiscal effects <ul style="list-style-type: none"> Government transfers, (taxes, fees, royalties, dividends etc.), \$ 	<ul style="list-style-type: none"> The project has marginal fiscal effects; there may be evidence of important exemptions from payments stipulated in country's fiscal regime 	<ul style="list-style-type: none"> Payments to government over project life < 0.75 times of \$ invested 	<ul style="list-style-type: none"> Payments to government over project life 0.75-1.5 times of \$ invested 	<ul style="list-style-type: none"> Payments to government over project life ≥ 1.5 times of \$ invested

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. Table below presents the key types of risks factors for mining sector 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 specific project components (e.g. commitments to extend access to BoP) Project likelihood of reaching financial close at targeted level of capitalization (mostly relevant to funds) Presence of funded plan for development of complementary infrastructure Public partner track record in meeting contractual obligations Government track record in timely committing counterpart resources (e.g. financing for resettlement plan) Realism of anticipated impact (measured against industry standards, client/EPC contractor's experience, capacity) Negative factors affecting the project company, sponsor or the management team which detracts from likelihood (e.g. litigation, impaired reputation) Funding and sequencing of technical assistance to address specific execution risks 	<ul style="list-style-type: none"> Definition and realism of development impact targets 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 Alignment of monetary policy risk (currency of trade, currency convertibility, currency transferability, taxation) with project development objectives Exposure of project development effects to exogenous shocks e.g. foreign exchange risk FX risk (e.g. energy price or supply risk if project relies on imported fuel, contingent liability risk if tariff is USD-indexed)

Contribution to Market Creation – The oil and gas industry is generally structured into three parts: upstream, midstream and downstream. The upstream industry is involved in the exploration and production of crude oil and natural gas. The upstream industry includes exploration and production companies as well as associated service businesses such as seismic and drilling contractors, service rig operators, engineering firms and various scientific, technical, service and supply companies. The midstream industry processes, stores, markets and transports commodities such as crude oil (including oil refineries and petrochemical plants), natural gas, and natural gas liquids (NGLs, mainly ethane, propane and butane). The midstream also includes the transport of oil and gas, providing the vital links between the petroleum/gas producing areas and the population centers where most consumers are located. The midstream transport primarily occurs through pipelines, LNG shipments and tanker transportation. The downstream industry

includes petroleum products distributors, retail outlets (e.g. petrol stations) and natural gas supply companies. A market is defined as the domestic industry/sub-sector in which the project is taking place (excluding markets affected by the project through economic linkages). For the oil and gas sector, three “markets” are considered: upstream, midstream and downstream. In measuring a project’s impact on financial integration, firms’ capacity to mobilize capital from both local and global capital markets is assessed. AIMM assessment places emphasis on development impact that is clearly attributable to the project, measurable and monitorable. For market creation impact, attribution is established by identifying a clear channel linking the project to the anticipated impact and identifying measurable indicators of market creation impact that can be monitored.

The table below focuses on core market attributes that IFC investment projects typically affect. IFC’s detailed guidance note includes more information on how IFC investment projects may contribute to changes in the other market attributes.

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Competitiveness	<ul style="list-style-type: none"> – Fully enforced Third Party Access (TPA) with clear rules to prevent privileged positions from obstructing access to competitors – Well-functioning ownership unbundled gas transmission company or independent system operator (ISO) – Widespread access to cover all demand centers; sector fully-liberalized, free entry – On-the-day Commodity Market (OCM) in place – Oil and gas infrastructure well developed – CNG/LNG vehicle refueling stations prevalent in many parts of the country – Refineries produce high-grade refined products (e.g. Naphtha) with high RON or Cetane ratings and with low Sulphur content 	<ul style="list-style-type: none"> – Sector partially liberalized; barriers to entry declining – Progress to unbundled, vertically integrated gas company Independent Transmission operator (ITO) – Transmission system operator legally separate from storage operator – Transmission network open and accessible, transparent and non-discriminatory price, independent op – Private role increasing – Some oil-indexed long-term supply contracts for gas still in place but phasing out – End-user gas tariff rates reflect customer categories – CNG/LNG vehicle refueling stations in some cities – Refineries capable of producing low-grade refined products 	<ul style="list-style-type: none"> – Poor infrastructure management practices prevalent – Gas market undergoing restructuring – The vertically integrated gas company corporatizing – Supply contracts have exclusivity rights to usage of capacity on key infrastructure – No Third-Party Access (TPA) in place – Infrastructure highly undeveloped – Distribution network covers only a few city areas – Lack of gas supply infrastructure – No CNG/LNG vehicle refueling stations – Country imports all or nearly all refined products 	<ul style="list-style-type: none"> – No gas infrastructure or very limited coverage with only a few sections of major cities covered – Sector dominated by vertically integrated utility that controls all lines of activity in the sector – Government exercises direct regulatory and financial oversight of the gas company – Sector suffers from poor accountability with taxpayers bearing most investment risks
Resilience	<ul style="list-style-type: none"> – Mix of supply sources or a stable supply source – Good access to neighboring countries’ gas infrastructure – Sector exposed to some risks or potential shocks – No gas supply shortages – Peak demand/supply discrepancies handled – Sector is fully N-1 compliant – Tariffs fully cost-reflective – Regulator enforces incentive-based tariff – Cross-subsidies eliminated with affordable assurances for vulnerable consumers – Predictable regulatory framework – Fully independent energy regulator in place 	<ul style="list-style-type: none"> – Progressed towards diversified supply sources – Connected to neighboring countries’ gas infrastructure with constraints to trading – Exposed to some risks or potential shocks in its oil and gas supply – Occasional gas shortages and service disruptions – Some storage capacity in country, but is below strategic reserve target – Energy Law covering oil and gas markets but some gaps in implementation – An energy regulator in place, but only partially independent 	<ul style="list-style-type: none"> – Oil/gas supply dominated by two sources; one has sign. energy security risks – Limited access to neighboring infrastructure – Sector may be exposed to significant risks or potential shocks in oil and gas supply – Significant gas/oil shortage – Extensive electricity capacity shortage where gas-fired generation plants would be an improvement – No gas storage available – Serious and confirmed threat to supply security – No transparent gas network tariff regulation – Gas and/or oil price controls in place – Prohibitive restrictions on oil and gas imports 	<ul style="list-style-type: none"> – Oil/gas supply dominated by one source; significant energy security risks – No access to neighboring countries’ infrastructure – Severe gas/oil shortage – Significant sources of infrastructure gaps that increase risks to supply of gas/oil – Sector fully reliant on government subsidies; end-user tariffs completely detached from system costs – No Energy Law – No clear ministry responsible for regulation

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Integration	<ul style="list-style-type: none"> – Extensive gas network coverage; optimal and cost-effective energy solution – Linked to trading hubs with liquid market, fostering gas-to-gas competition – Domestic producers, when significant, can sell at hub in parallel with their long-term provision contracts – Good LNG/CNG vehicle station coverage – Fully integrated into economy; well-developed supply chain, EPC capacity – Financing instruments for energy projects easily utilized in market 	<ul style="list-style-type: none"> – Some energy infrastructure enabling trading – Some parts not connected to the gas network – Some LNG/CNG vehicle stations implemented in a few cities; coverage sparse – Some isolated regions have unreliable supply – Some linkages to economy including a developed but incomplete supply chain – Project financing available by commercial banks and energy projects primarily rely on bank lending – Inst. investors have limited/no access to project finance 	<ul style="list-style-type: none"> – Very limited oil and gas infrastructure – Infrastructure usage limited by supply constraints – Significant number of areas that do not have gas network coverage – No LNG/CNG vehicle stations in the country – Most regions have unreliable supply of oil – Limited local capacity in project development or EPC contracting for projects – Minimal loans to corporates available from private banks 	<ul style="list-style-type: none"> – No oil and gas trading capacity with neighboring countries – No local capacity in project development or EPC contracting for oil and gas projects – All energy projects rely on state financing, state budgetary support or loans from state banks

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 rating for market level impact of a project is designed to capture both the market typology and the degree to which the project contributes to market creation.

MARKET MOVEMENT	Marginal	Meaningful	Significant	Highly Significant
Competitiveness	<p><i>Example:</i> IFC project supports the development of the first liquefied natural gas (LNG) and compressed natural gas (CNG) refueling stations in the country. The Project will introduce gasification of transport in five cities. Promoting the use of natural gas vehicles is an integral part of the country's strategy to move towards more sustainable transportation. The main barrier to CNG and LNG vehicle penetration is its reliance on CNG/LNG refueling infrastructure, which is not compatible with the existing oil refueling infrastructures. Within this context, the Project is expected to have demonstration effects that would create "highly significant" movement in an "underdeveloped market." This yields a market attribute potential of "Very Strong."</p>			
Resilience	<p><i>Example:</i> IFC project supports the development of a greenfield LNG terminal with an associated LNG-fired power plant adding 1,500 MW electricity capacity into the country. The Project will enable the country to diversify sources of energy supply where the country is reliant on pipeline gas from neighboring country with history of supply disruptions. In addition, the Project will enable diversification of power energy mix as the country is dependent mainly on large hydro generation. The Project's successful implementation is expected to unlock additional private investment into the sector by demonstrating the feasibility and bankability of this type of investment, thereby further contributing to the diversification of the energy mix in the country. Project is expected to create "meaningful" movement in a "underdeveloped market". This yields a market attribute potential of "Strong."</p>			

This likelihood adjustment follows the principles for the likelihood adjustment for project outcome potential. The main factors for the market likelihood assessment for mining projects will be relating to sector and regulatory policy risks. It will also include risk associated with the performance of a public partner (such as a state-owned enterprise) involved directly or indirectly in the project.

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 complementary infrastructure • Extent of political support and social buy-in • Financial viability in the absence of subsidies • Track record of regional gas/oil exchange • 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 energy regulator • Government track record in upholding new policies (measuring risk of policy reversals) • Regulatory scope and capacity • Collaboration track record of participating countries/entities