



Natural Gas Master Plan Draft Report Presentation

Stakeholder Workshop
Government of Mozambique
September 5 & 6, 2012



The Workshop has Four Objectives



- Present concepts and options for a Gas Master Plan
- Obtain comments from Stakeholders on the concepts
- Obtain stakeholders' views and inputs
- Seek a consensus Vision for the Gas Master Plan elements
 - Identify the key issues, differences, and points of agreement

Presentation Outline



- Background on the Study Process
- Key Findings from ICF Analyses
- Recommendations for GMP
- Decision Making Hierarchy

Draft Vision Statement for the GMP



Develop natural gas resources in a manner that maximizes benefits to Mozambique society by supporting --

- growth in domestic public and private sector institutional competencies;*
- growth in domestic industry and businesses, especially small and medium scale industries;*
- increased employment across the country, especially in the less-developed provinces;*
- infrastructure to support expanded economic activities, especially in less-developed provinces; and*
- expanded access to training and education*

in order to improve the quality of life for the people of Mozambique, while minimizing adverse social and environmental impacts.

ICF was Engaged to do a Variety of Studies



- Prepare gas supply outlook and scenarios
- **Develop market assessments and netback analysis**
- Review current policies and plans in context of gas development
- Assess the financial requirements and needs
- Evaluate pricing options for domestic sales
- **Develop a planning model and train Mozambique staff on its use**
- Assess environmental, socioeconomic, non-monetary impacts
- Review other countries' experiences with gas development
- Draft a Gas Master Plan and Implementation Strategy
- Support GoM in developing a **Vision** and **Consensus Gas Master Plan**

ICF's proposed GMP concepts are based on insights from these studies

Metrics were Developed to Evaluate Options



■ Economic Impact and Value Parameters

- Employment – initial and long term
- Fiscal impact – increase in government revenues and implications
- Value added to the economy – contribution to GDP
- Netback value of gas from industry – implied value of gas
- Import substitution/regional export potential – improved balance of payments
- Support for Growth Pole Strategy
- Support for SME development
- Timing – sooner the benefits the better

■ Socio-Political Objectives

- Contribution to less developed regions
- Contribution to education and other poverty reduction (PARP)
- Environmental impacts – mitigate environmental impacts

■ Technical Feasibility*

- Sound technical and economic proposals

*Requires detailed project-by-project economic and feasibility analysis

Our Analysis Focused on Mega-project Industries to Generate Broader Benefits



- Large scale LNG-export projects are important to attract development of offshore gas production—an “anchor” for offshore development.
- Mega-project developers have applied to GoM and others for gas supply – providing volumes, prices and locations
- Mega-projects are important as the “anchor” projects to support gas pipeline development and distribution – make possible small industry expansion.
 - Clusters of smaller gas-using industries will develop once gas infrastructure is in place
- Mega-projects assessed are in two broad categories
 - Feedstock industries: methanol, urea (fertilizer), Gas-to-Liquids (GTLs)
 - Process gas uses: power generation, steel, aluminum
 - Other potential industries: LPG fractionation, distribution, retail

Netback Analysis of Mega-projects Shows Value of Gas Needed to Make them Work



- The netback shows the value of gas in use – max price that yields profit.
- The analysis is based on forecasts of oil, gas and commodity prices from the IEA (a high price forecast) and the World Bank (a low price forecast) in order to bracket the range of pricing.
- Key results: at the high price path, all mega-projects are reasonably close. At lower price path, LNG and electric power stand out.

Facility	Gas Use (Bcf/year)	Netback Value (IEA WEO 2011) (\$/MMBtu)	Lower Range Netback Value WB Prices (\$/MMBtu)
LNG	340	11.5	6.1
GTL	311	9.9	3.1
Power Plant (150MW)	9.5	9.0	9.0
Methanol	18	7.9	3.0
Urea	11	11.7	0.9

We Compared Mega-Projects using Evaluation Metrics



	Fertilizer	GTL	LNG	Methanol	Aluminum w/ Power	Power 150 MW	Power 250 MW
Average annual direct and indirect labor supported	500	6,100	4,200	750	1,400	80	140
Long-term annual average induced employment	9,400	56,900	71,400	11,700	19,000	1,400	2,400
Value added (\$million)	200	4,580	6,520	460	970	0.20	0.34
Government revenues – annual average (\$million)	180	860	1,040	220	300	150	150

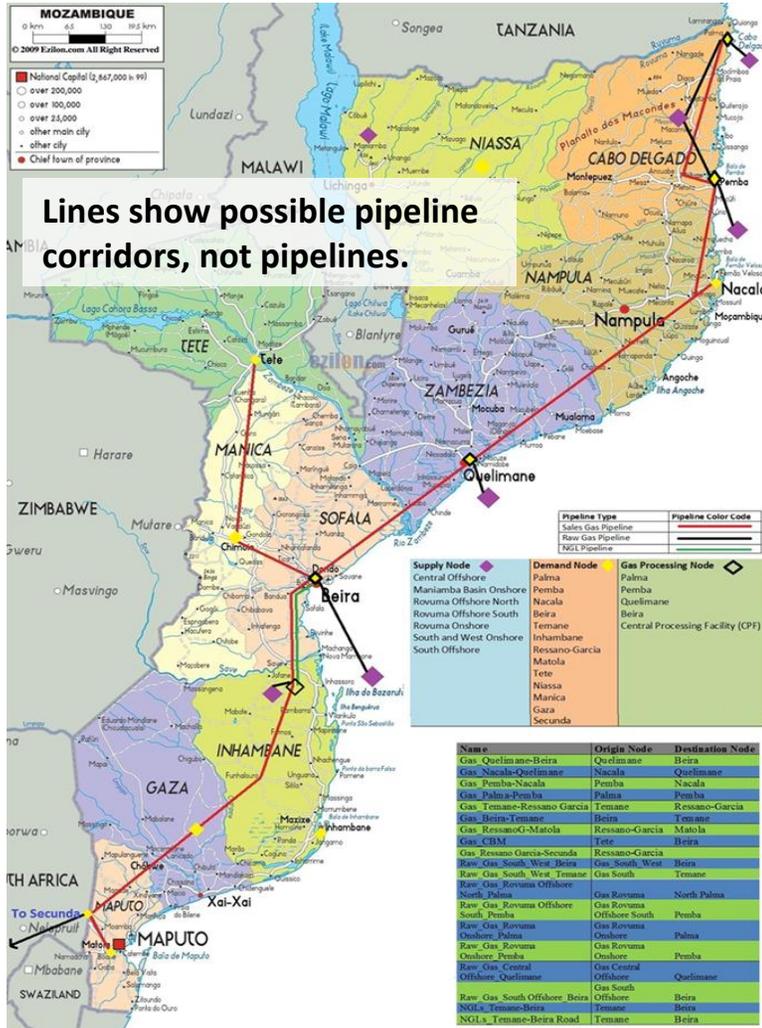
Environmental Impacts of Mega-projects are Site Specific but not Major



- Strong and effective environmental regulations and enforcement are critical for ensuring that environmental problems are avoided and mitigated
- Social issues (e.g., resettlement, migration) need to be addressed as well

	Aluminum w/ Power	Fertilizer	GTL	LNG	Methanol	Power 150 MW	Power 250 MW
Air	Medium						
Water	Medium	Medium	Small	Medium	Medium	High	High
Soil	Medium	Small	Small	Small	Small	Small	Small
Noise	Small						
Biological Resources	Highly Location Specific						

Model Designed to Assess the Benefits of Alternative Development Scenarios



- Model has network of supply and demand nodes linked by potential transportation options: pipeline, CNG or LNG
- Supply scenario is specified
- Development scenario is specified by users
 - Identifies types of gas uses, size
 - Location
 - Delivery linkages
 - Model generates an optimal configuration and reports flows, prices at the nodes, employment in Mozambique, addition to GDP
- Post processing generates fiscal impacts, environmental and socioeconomic implications

ICF Analyzed Alternative Development Scenarios



- Scenario 1. Only LNG in Palma –10 trains, 2 in 2018, 2 more added every 2 years
- Scenario 2. Palma Centered Development – Scenario 1, with Power, Fertilizer and GTL coming online in 2018, 2019 and 2020, respectively in Palma
- Scenario 3a. Pemba Centered Development -- same as Scenario 2 + offshore development in southern Rovuma and 2nd LNG plant with 2 trains in 2020. power, GTL, fertilizer in Pemba, and power in Palma. Pipeline from Palma to Pemba.
- Scenario 3b. Nacala Centered Development -- same as Scenario 3a, but the power, fertilizer, GTL developed in Nacala and power in Palma. A pipeline between Pemba and Nacala is allowed.
- Scenario 4. Beira Centered Development. Same as Scenario 1, but now fertilizer and GTL plants are built in Beira.

Modeling Results for Scenarios show Highest Returns to GoM in Pemba and Nacala



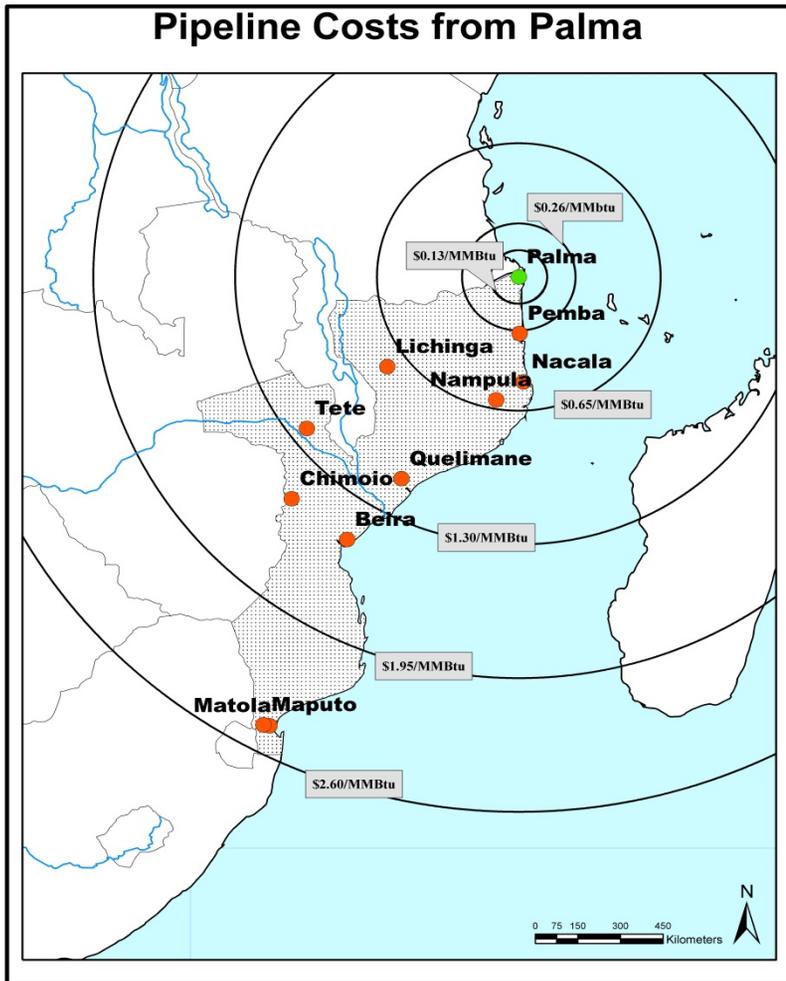
	Scenario 1	Scenario 2	Scenario 3a	Scenario 3b	Scenario 4
	Palma LNG only	Palma Development	Pemba Development	Nacala Development	Beira Development
D&I labor (av. annual)	19,400	26,400	29,500	31,300	27,700
Peak D&I employment (2019, 2020)	48,800	71,700	94,800	97,100	82,800
Long-term D&I employment (av. 2030-2035)	9,700	11,600	14,000	15,000	12,900
Long-term induced employment (av. 2030-2035)	284,200	343,900	384,100	417,500	347,300
Value added (\$billion)	29.1	33.5	40.0	40.0	33.1
Tax revenues (\$billion)	8.9	9.5	11.5	11.5	9.5
Royalties (av. annual \$million)	549.8	549.8	674.4	674.4	549.8
Profit gas (av. annual \$billion)	5.3	5.3	6.4	6.4	5.3
Corporate income taxes (av. annual \$billion)	2.5	2.9	3.5	3.5	2.8

Modeling Results show Strong Benefits across all Mega-Project Scenarios



	Scenario 1	Scenario 2	Scenario 3a	Scenario 3b	Scenario 4
	Palma LNG	Palma Development	Pemba Development	Nacala Development	Beira Development
Impact on Local Trade	Low (only promotes LNG sales)	Medium (if GTL and urea built)	Medium (if GTL and urea built)	High	High
Supports Growth Pole Strategy	Low	Medium	Medium	High	High
Supports SME Development	Low	Medium	Medium	High	High
Timing	Shortest lead time	Longer lead time	Longer lead time	Longer lead time	Longest Lead Time
Contributes to Less Developed Regions	Medium	High	Medium	Medium	Low
Increases Employment and Reduces Poverty	Low	Medium	Medium	High	Medium

Pipeline Costs Limit Pipeline Extensions without Large Mega-projects



- ICF developed a pro-forma pipeline tariff model to evaluate costs of transportation.
 - Volume (throughput) lowers cost per MMBtu substantially
- Distance still limits the practical extension of pipelines in Mozambique for 500 MMcf/d
 - Costs from Palma to Pemba would \$0.26 per MMBtu; to Beira would be \$0.65 per MMBtu (assuming no compression costs)
 - 100 MMcfd pipeline can double the cost; 1,000 MMcfd pipeline would reduce cost 25%.
- LNG is costlier than pipeline over distances of about 3,000 km or less

Analysis has Provided Insights for GMP



- There are at least 150 Tcf of additional undiscovered resources above the 130 Tcf of discovered gas offshore Cabo Delgado and Inhambane. Additional resources will be discovered, as exploration increases.
- A large amount of gas can be produced in the Rovuma Basin at a wellhead cost of about **\$2/MMBtu** and an ex-processing cost under **\$3/MMBTU**; enough to satisfy 10 LNG trains and other mega-projects.
- The amount of gas from GoM's royalty share are set at 2% but **profit share volume** depends on several factors: gas price, project cost, and recovery factor. Our estimate without benefit of EPCC details:

Year	Trains	Bcf/day	Bcf/year	Royalty	Profit Volume	
				Volume	Bcf/year	
				Bcf/year	\$4.00	\$8.00
2018	2	1.5	548	11	25	25
2020	4	3	1095	22	49	49
2022	6	4.5	1643	33	74	148
2024	8	6	2190	44	99	477
2026	10	7.5	2738	55	329	600

Insights for GMP



- There is sufficient gas in Rovuma North to support 10 trains of LNG and several domestic mega-projects in Cabo Delgado
- The total **value** of royalty and profit gas will be substantial depending on world gas prices, cost and cost recovery, and the “R” factor in the underlying EPCC. Our estimate:

Year	Royalty Volume (Bcf/year)	Royalty Value (mill. \$/year)		Profit Volume (Bcf/year)		Profit Value (mill. \$/year)	
		\$4.00	\$8.00	\$4.00	\$8.00	\$4.00	\$8.00
2018	11	\$44	\$88	25	25	\$99	\$197
2020	22	\$88	\$175	49	49	\$197	\$394
2022	33	\$131	\$263	74	148	\$296	\$1,183
2024	44	\$175	\$350	99	477	\$394	\$3,816
2026	55	\$219	\$438	329	600	\$1,315	\$4,802

- There are 3 sources of gas-in kind: royalty and profit are “cheap” but volumes low; “sales” gas is expensive and volumes high

Insights for GMP



- LNG has the highest netback value but other industries also produce netbacks higher than cost of production (~\$3/MMBtu). In order:
 - GTL, electricity, methanol, fertilizer (urea), steel, aluminum
 - But GTL, methanol, urea are highly sensitive to world energy prices
 - GTL, fertilizer, power have domestic uses that can displace imports
- Mega-projects are necessary to support gas pipelines to make gas more widely available to the country. Mega-project locations are critical to pipeline and infrastructure development.
 - The major opportunity for small industry and commercial uses of gas is with a pipeline located in or near urban centers
- All of the mega-project requests for gas (2.4 Bcf/d—equivalent to 3 LNG trains) have been for gas priced below our estimate of their netback values
 - Setting appropriate prices for mega-projects will be important to ensure their success without undue subsidies that diminish GoM revenues

- Taking gas in kind will generate income for GoM when sold to mega-projects. Income will be difference between sales price and profit/royalty.
- Pipeline transportation of gas within Mozambique is more economical than LNG transportation and regasification.
- Adding a long pipeline between Palma and Beira is expensive, making delivered gas prices too high for the market
 - Better to develop gas resources that are closer: offshore or CBM in Tete
- Production of LPG is important for Mozambique, and as such it is important to develop the condensate field at Inhassaro.
 - GoM should consider fractionation in country for distribution
- Nacala and Beira have greater potential than Palma and Pemba to foster backward and forward linkages to mega-projects.
 - More opportunities for development and employment

We also Evaluated Fiscal Options for GoM Revenues



- Revenues from royalty and profit gas will be large but will not begin before 2018: about \$5.2 billion/year by 2026 with full development of Rovuma.
- Income tax revenues from mega-projects also can be very large, depending on tax rates and the level of development, up to \$7 billion/year.
 - Most LNG based profits arise in the EPCC
- Options for royalties and profit gas include
 - Direct revenues into the Treasury for current consumption
 - Direct revenues into a Sovereign Wealth Fund (SWF) for long term revenue stabilization
 - Use revenues to fund a public/private National Transformation Bank (NTB) or similar development institution combined with oversight and controls to ensure funds directed properly
- GoM needs to integrate this issue into its Financial Sector Development Strategy (FSDS)

Financial Planning should Consider 3 Categories of Investment



- A useful way for evaluating financing issues is to recognize three segments of the gas sector with distinct categories of financing:
 - **Primary** – investments by the IOCs in E&P and LNG plants that will be done by the IOCs using their resources, not involving GoM
 - **Secondary** – investments in natural gas transportation infrastructure and mega-projects that use gas.
 - GoM could choose to be involved in gas transportation infrastructure, maybe through public private partnerships (PPP).
 - Mega projects likely will be financed by the project sponsors using their own resources.
 - **Tertiary** – investments in small industry and commercial enterprises, and local infrastructure involving the Mozambique banking sector and some contribution from GoM

Towards a GMP: What Decision Makers Know and Where More Information is Needed



■ Known:

- Rovuma is very large, and timing reasonably certain
- Significant GoM revenues from Rovuma
- Mega project interest is strong, economics are promising if uncertain
- Substantial benefits seen in regional development scenarios

■ More Information needed:

- Pricing Rovuma gas -- drives profit volumes and value tradeoffs
- When, where and how much additional gas reserves will be developed will shape the gas and energy sector
- World gas and oil prices are subject to major supply and demand forces and these in turn will drive mega-project economics
- Mega-project locations

ICF Recommendations for GMP are in 5 Areas



1. Threshold recommendations about the volumes and revenues from Rovuma finds and future gas production (1-4)
2. Mega-projects and the relation to promoting broad based development (5-10)
3. Socioeconomic and environmental issues associated with development (11-12)
4. Structures for fiscal management (13-14)

GMP Recommendation 1



GoM needs to decide on amount of gas it wants IOCs to produce in order to meet export and domestic requirements

There are sufficient resources in Rovuma to meet full LNG and domestic needs.

LNG export requirements are the anchor and initial productive capacity must supply LNG trains

Incremental supplies for gas to meet domestic needs will grow over time.

GMP Recommendation 2



Mozambique should take a combination of cash and in kind in royalty and profit gas.

■ The Cash Option Advantage

- Provides flexibility in addressing a broad array of social development issues
- can create jobs and services where they are needed
- Addresses the budget deficit early

■ Disadvantage

- Cash can be diverted to other priorities
- The decision how to direct cash (to GoM, to development bank, or SWF) is undecided

■ The In-Kind Option Advantage

- Makes gas available to industry and allows GoM to secure revenue from sales to industry
- Potentially generates more employment

■ Disadvantage

- GoM gives up value
- Limits GoM immediate options
- Risk that projects will not develop

GMP Recommendation 3



A significant portion of the royalty and profit revenue taken as cash should be used to invest in infrastructure that could facilitate broad economic development (schools, road improvement, electrification, small business development, skills training, health programs, etc.).

GoM should use its current Financial Sector Development Strategy (FSDS) planning effort to investigate how to apply these revenues for development

■ Advantages

- Provides a focus point for investment decisions tied to identified needs that meet economic and financial criteria
- May be able to operate through existing institutions and banking system

■ Disadvantages

- No clear institutional mandate in GoM for such use of public funds
- Attempts to guide development in the past and other countries have often led to misuse of funds
- Requires oversight, transparency

GMP Recommendation 4



Because little is known about future natural gas discoveries and development, GoM should take steps to accelerate its knowledge about the potential volumes, timing, and location of future developments

Provide incentives to companies in exploration and production

Accelerate negotiation of EPCCs with coal bed methane developers

Incorporate future production in the GMP as more information is developed

■ Advantages

- Better knowledge can help prevent uneconomic investments
- Engenders more confidence in future revenues and therefore flexibility in development plans

■ Disadvantages

- Incentives can be too generous and should be used judiciously if at all
- Criticisms may arise from a more deliberate policy based on future expectations

GMP Recommendation 5



GoM should prioritize mega-projects to anchor gas pipelines that can eventually supply small and medium sized industry.

GoM should prioritize mega-project support: electric power generation (150-200 MW), fertilizer, and GTLs

Detailed power study is necessary to evaluate the need for large gas power plants

■ Advantages

- Mega-projects can generate regional exports and displace key imports
 - GTL Fertilizer Power
- Small power plants support rural electrification, larger ones exports and system reliability
- Can generate large income tax revenues

■ Disadvantages

- Their operating employment is modest
- Except for power, mega-projects are exposed to world commodity market volatility as is LNG

GMP Recommendation 6



GoM should strategically place mega-projects as anchors to maximize economic benefits

Encouraging some mega-projects in other locations can provide additional development opportunities for SMEs and pipeline infrastructure

▪ Advantages of diversification

- Palma development can be pursued while also encouraging development at other locations.
- Places (Pemba, Nacala, Nampula, Beira) have SMEs that can benefit from gas access
- Avoids uneconomic investment if gas is produced in other locations

▪ Disadvantages of concentrated development

- Massive investments in greenfield industrial parks have limited success
- Leads to more enclave, export-oriented development and less local participation

GMP Recommendation 7



Use an “open season” to determine which projects should proceed and to establish how much gas in kind should be taken. Two step process:

Seek indicative offers to buy gas with full explanation of project development and operation. Use this to develop plans and estimate costs.

Seek binding offers for gas based on prices developed by GoM with significant up-front payments and guarantees.

Can combine with tender or auction process

■ Advantages

- Will quickly identify bona fide offers
- Encourage competition for gas supply
- With evaluation criteria that include social benefits (employment, small industry) can broaden access and promote GoM goals

■ Disadvantages

- Process details will have to be worked out for GoM which may not be familiar with the approach
- Some project developers may not be prepared to commit.
- Small users interests will have to be represented by pipeline sponsors

GMP Recommendation 8



GoM should improve the business environment to encourage investment in SME gas using industries

GoM should implement a “market transformation” program for SMEs for natural gas.

Identify key SMEs, equipment requirements, and pricing points.

▪ Advantages

- Accelerates the creation of market demand for gas
- Improves GoM knowledge about SME energy use
- Supports the economics of smaller distribution systems

(See recommendation for additional study.)

▪ Disadvantages

- Risks building up of expectations
- Should be the job of a pipeline developer
- Service that ultimately depends on the capacity of mega-projects to stimulate the necessary infrastructure

GMP Recommendation 9



GoM should consider directing resources into PPP investments in gas distribution systems and to expand small scale use of gas. The major focus should be on providing access for SMEs.

Initial efforts should focus on current plans for extending service into Maputo (from ROMCO) as a test run for later efforts in other towns

▪ Advantages

- Will help grow a market for gas and reduce dependence on other imported fuels
- Initial programs in Maputo could provide lessons for subsequent expansion in other cities as gas becomes available

▪ Disadvantages

- Expansions need lead time
- Requires anchor loads for substantial expansions
- May require initial subsidies that could become permanent

GMP Recommendation 10



Mega-projects should deliver solid tax returns for GoM

The corporate income tax regime should be of public knowledge, as should be the annual tax revenues collected under such regime.

Transparency in decision making is an essential requirement.

▪ Advantages

- Provides revenues to GoM consistent with the benefits of locating in Mozambique
- Ensures a fair level of GoM revenues across all industries

▪ Disadvantages

- Plants may insist they need tax forbearance to locate in Mozambique
- Decisions about incentives create controversies across GoM constituencies

GMP Recommendation 11



The GoM should use a portion of its natural gas revenues in PPPs to strengthen existing vocational education and labor training programs

Strengthen the existing programs with initiatives across several sectors and regions – not just gas related

▪ Advantages

- Many programs are in place
- Improves job skills for Mozambicans
- Promotes job-creating investments through job training and supporting infrastructure
- Very successful when coordinated with industry

▪ Disadvantages

- Requires substantial investment early before the revenues begin flowing in
- Requires coordination across ministries and industry

GMP Recommendation 12



The GoM should strengthen its capacity to enforce Environmental and Social Management Plans

ICF suggests a designating a high level coordinator at MICOA specifically for natural gas related projects

■ Advantages

- Key for the minimization of environmental impacts
- Facilitated environmental licensing processes
- Increased awareness of environmental values

■ Disadvantages

- Requires resources

GMP Recommendation 13: Organize a High Level Team to Decide How to Use Gas Revenues



▪ **OPTION 1.** *Channel GoM Funds into private banking system to promote local capital markets*

▪ **Advantages**

- Strengthens the domestic banking and capital market sector
- Promotes lending diversity to enterprises with sound economic foundations prospects.

▪ **Disadvantages**

- Mechanism for making public money available to private lenders is not apparent
- Concerns about transparency

▪ **OPTION 2.** *Finance public-private investment projects in various sectors under Mozambique's new PPP Law*

▪ **Advantages**

- Mechanisms exist with PPP law
- Works with private sector to channel investments into socially desirable projects
- Consistent with supporting FSDS

▪ **Disadvantages**

- Difficulty in attracting private partners
- Lack of focus across many ministries
- What to do with accumulated, un-invested revenues
- Concerns about transparency and accountability

GMP Recommendation 13 (contd): Organize a High Level Team to Decide How to Use Gas Revenues



▪ **OPTION 3. *Establish a Sovereign Wealth Fund (SWF)***

▪ **Advantages**

- Serves as a store of wealth over time
- Provides capacity for borrowing and lending by public and private sector
- Can mitigate “resource curse” tendencies
- Can be used in local development

▪ **Disadvantages**

- Diverts resources to other investments outside Mozambique
- Subject to political pressure unless insulated with professional staff, oversight, transparency, and legal charter

▪ **OPTION 4. *Establish a National Transformation Bank (NTB) owned by GoM AND other countries/entities***

▪ **Advantages**

- Primary focus on development in country
- Can be chartered and capitalized to front-load lending capability in advance of development

▪ **Disadvantages**

- Would need to be set up to coordinate and support local banking sector
- Subject to political pressure unless insulated with professional staff, oversight, transparency, and legal charter

GMP Recommendation 14



GoM should coordinate the large financing demands required by the natural gas and coal sectors.

Establish a watchdog entity to monitor the flow of financing and to ensure that mega-projects do not affect GoM's borrowing capacity.

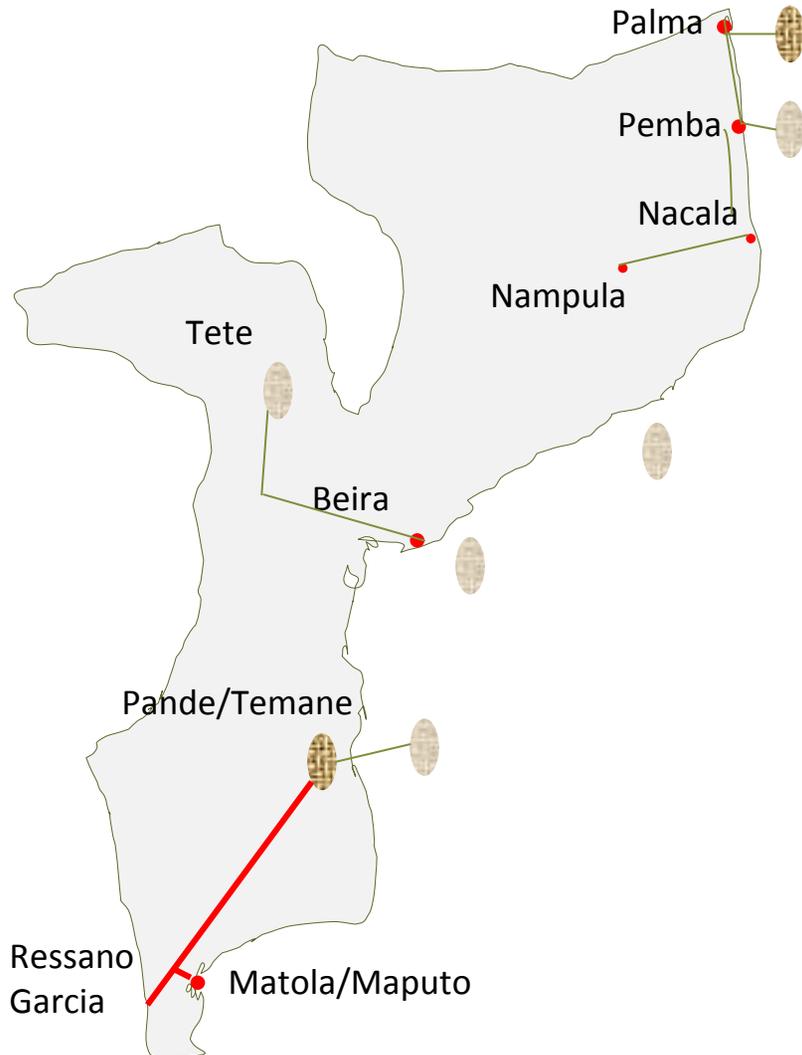
Primary development should be financed by IOCs

Secondary development should be financed by mega-projects and GoM in PPPs

Tertiary development should be financed by Mozambique banking sector with some GoM support

GoM should ensure that current donors do not divert funds from existing programs to support gas related.

Draft Vision Statement of a Gas Sector End State 2035



■ Major gas developments

- Palma LNG and onshore; Pemba/Nacala LNG; Beira LNG; Sofala, M-10 Block to onshore; CBM development in Tete
- Major gas infrastructure: LPG fractionation, Palma and Inhambane; : Palma-Pemba-Nacala-Nampula; Tete-Chimoio-Beira; M-10 onshore
- Fertilizer & power plant in Palma; petrochemicals in Nacala, Beira, GTLs in Palma and Inhambane
- Pipelines support expanded SMEs, some LNG
- City gas distribution Beira, Nacala, Nampula, Matola, Maputo; residential uses grow

■ GoM collects \$10s billions from gas for development

- Diversified economy. Agricultural modernization. Broad spread electrification
- Infrastructure demand gap (roads, ports, rails, airports, power, internet) addressed
- Expanded industrialization ,SMEs and spinoffs from mega projects
- Growing educated workforce; growth of professional services (engineering, design, accounting, etc.); Mozambican professionals begin to dominate gas and mega-project sectors
- Mozambique becomes major tourist destination: wildlife, beaches, culture

How does GoM reach the 2035 Vision?



- Agree on vision and implement key recommendations for the GMP
- Incremental development path to manage uncertainties and balance short and long term objectives – development cannot be all at once
- Incentivize exploration across Mozambique to evaluate the potential for gas discoveries south of the Rovuma basin
- Regulate and price gas for domestic use to ensure level playing field for all parties
- Effectively use gas in-kind to develop needed infrastructure
 - Further studies to evaluate actual demand based on price
- Utilize increased government revenue (royalty and profit gas) to develop Cabo Delgado and other areas in Mozambique
 - Financial reforms and changes to equitably share the benefits of gas development

The Decision Hierarchy Identifies two Critical Decision Points



- First tier decisions
 - Work with concessionaires to establish the value of gas in Rovuma in the LNG negotiations. This is critical to understanding economic trade-offs between the cash and in-kind options.
 - Begin assessment of “actual” demand for gas in different regions and mega-projects based on price, cost, willingness to pay
- Second tier decisions: 2012 – to mid-2013
 - Decide whether to take royalty gas and profit gas in-kind or a combination of in-kind and cash and how this may change over time
 - Develop --
 - A plan for how institutionally to apply cash payments to development programs in Mozambique
 - A plan for how institutionally and by which process to allocate gas taken-in kind to competing uses

Other Decisions are Important for Planning but are Less Immediate



- Second tier decisions: 2013
 - Take steps to ensure that any decisions on large natural gas infrastructure around Rovuma and mega-projects are linked to increased knowledge about gas resources, more study of mega-project feasibility, and better information on downstream development opportunities.
 - Take steps to accelerate knowledge about future gas exploration and production beyond Rovuma
 - Give priority to negotiating EPCCs appropriate for CBM
 - Make decisions about downstream mega-project development, locations and timing
- Decisions to be made beyond 2013
 - Finalize transport tariff framework and gas pricing framework for domestic use
 - Implement programs to monitor and enforce compliance with environmental impact mitigation
 - Revisit the GMP and make adjustments

Decisions will Benefit from Additional Analysis and Studies



- Set up and implement gas revenue management and allocation policy.
- Mozambique and regional integrated power study including the South African Power Pool
- Detailed studies on SMEs, products, typical firm size, costs, energy use, energy use by type, location (province and town)
 - Studies should be made of ability and willingness to pay
- National input-output model centered in the INE and Ministry of Planning and tailored to the Mozambique economy.
- Detailed independent assessment study on projects submitted to ENH to evaluate the techno-economic feasibility of potential megaprojects in Mozambique