

Southern Africa Regional Gas Development Outcome

Project Description and Rationale

The Southern Africa Regional Gas project in Mozambique is really three projects in one that spans across two nations:

- Mozambique—the development of the Pande and Temane gas fields and a central processing facility
- Mozambique to South Africa—the construction of an export pipeline to Secunda, South Africa
- South Africa—conversion of Sasol Gas' distribution network and its chemical and fuel plants from coal/synthesis gas to natural gas

IFC committed to a revolving equity line investment of up to \$18.5 million to finance the upstream gas development, an unincorporated joint venture. This investment was specifically targeted to support Mozambican participation in the project and to help to provide a balance between the two governments (Mozambique and South Africa) and with other parties, including Sasol Gas and the Mozambique national oil company subsidiary CMG. In addition, IFC's extensive knowledge and experience in upstream oil and gas development were important to its Mozambican partners and to the effective development of the project.

Without IFC's participation, the Government of Mozambique would not have been able to have been a partner in the project through CMG. IFC's commitment of funding on the Mozambican upstream end of the project, along with World Bank and MIGA involvement in other parts encouraged both Sasol and the government of South Africa.

Summary of Outcomes

Based on actual outcomes so far and expected results going forward, both the project's development results and investment outcomes have been successful. IFC's investment outcome—the returns to IFC on its equity investment—has to date been excellent. From an investment perspective, the project looks likely to earn solid rates of return.

On the development front, the project has been successful to date (as spelled out below). The project has experienced favorable performance from both a business and an economic perspective, and has been accomplished with minimal environmental and social impact.

Development Results

Specific development results include:

- **Excellent Business Success.** The upstream development of the Temane gas field and the central processing facility were successfully completed, and the project became

operational on schedule in 2004. In addition, construction of the export pipeline to South Africa was completed, enabling gas sales to Sasol Gas to proceed. Drilling of wells at the Pande gas field has also been completed, and additional production is expected to come on line in 2009. Increasing commodity prices have also contributed to the project's business success. Despite an increase in actual capital expenditures (versus projected costs) associated with drilling at the Temane and Pande gas fields and construction of the central processing facility, the financial outcomes are very positive.

- **Excellent Economic Sustainability.** The economic rate of return on the project, estimated by IFC at 29 percent based on its assumptions about future prices and gas production, is higher than expected as a result of the successful production and sale of both gas and condensate and of very favorable increases in commodity prices. This successful public offering broadened private sector investment in CMG and contributed to the development of local capital markets. IFC is now working with the government and other project partners to explore opportunities for using natural gas in projects within Mozambique, with the aim to substitute local natural gas for imported petroleum. Finally, this project is expected to bring projected royalties and taxes of around \$2 billion—over four times IFC's initial projections over the life of the project. The government of Mozambique also has significant equity participations in the project's upstream and transportation components.
- **Satisfactory Ratings for Environmental and Social Components of the Project.** The project is an example for other firms in Mozambique and has set a benchmark for the country's nascent gas industry. Resettlement, rehabilitation, and re-vegetation activities have complied with World Bank Group requirements, and the project has also met pollution prevention and ambient air quality standards. IFC's participation led to the signing of a side agreement between IFC and Sasol Gas subsidiary Sasol Petroleum Temane that commits the upstream operator to comply with local environmental laws and regulations, to notify IFC of changes to its operations with environmental, health, or safety implications, and to keep IFC notified of any problems, directives, or fines. Some non-compliance **World Bank Group** environmental and safety standards at the central processing facility has precluded this project being rated as excellent. These issues include higher-than acceptable effluent quality levels for chlorides, ammonia, total nitrogen, and total suspended solids as well as a number of transport-related incidents that unfortunately contributed to five deaths. There are plans in place to address effluent quality, and measures are being taken to reduce accidents and improve road safety.
- **Excellent Impact in Fostering New Private Sector Development.** The project has encouraged three major possible follow-on projects: a proposed gas-fired power generation project in Mozambique; expansion of the central processing facility to supply additional export gas to Sasol Gas; and hydrocarbon development through condensate sales and the proposed extraction of liquefied petroleum gas for domestic sale. In addition, the project has encouraged a number of private companies to invest in Mozambique's oil and gas sector. The one area where progress to date has been slower than hoped for is in the development of a domestic gas sector in Mozambique.

IFC's Work Quality and Role

IFC's overall performance on the project is believed to have been excellent based on quality work in three operational areas: screening, appraisal, and structuring; supervision and administration; and role and contribution. The IFC team did its due diligence in identifying risks associated with so complex a project, including weak institutional capacity at the time on the part of Mozambique national oil company subsidiary CMG, as well as environmental, revenue management, and political risks. The IFC team in particular helped contribute in moving the project from commitment to disbursement, in soliciting active participation by the multiple partners in the unincorporated joint venture.

IFC also played a key role in assisting CMG in obtaining financing and in using its technical expertise to help CMG to build its own internal capacity to be an effective participant in the gas development.

The IFC team also identified three opportunities to expand the IFC role: technical assistance to help CMG exercise its option to acquire a 25 percent stake in ROMPCO, the gas export pipeline to South Africa; development of a 3-year initiative to encourage large companies in Mozambique to both partner with and buy from small and medium-sized local businesses; and, the signing of a Memorandum of Understanding between Sasol Gas and IFC-Against-AIDS to combat AIDS in the three districts around the central processing facility.

Lessons Learned

The outcomes of this project demonstrate that complex, high-risk projects in the natural resources arena are more likely to succeed when there is strong government buy-in, an incrementally structured approach, a competent operator and sufficient IFC staff resources to support government partners as they build internal capacity.

Lesson 1: High-risk Projects Are Most Likely to Succeed When Carried Out in Phases.

The Southern Africa Regional Gas project was considered high-risk by the IFC team during its due diligence and leading up to approval. The project has proven successful because its first objectives were within reach: development of the Temane and Pande gas fields, and construction of both the central processing facility and the pipeline. Since these components have been successful, new components have been or will be added: an increase in the capacity of the central processing facility; an expansion of the capacity of the export pipeline; the additional development of the Pande and Temane gas fields; and the extraction of liquefied petroleum gas for sale to the domestic market. The incremental approach also enabled the initial project to move forward more quickly.

Lesson 2: Significant IFC Staff Resources Must be Allocated When Government Partners have Limited Internal Capacity.

While the IFC team anticipated a significant supervisory role with regard to operating and technical committee meetings, accounting audits, and monthly cash calls and revenue receipts, at the beginning of its engagement, IFC did not expect to have to devote staff resources to helping the government of Mozambique secure private-sector funding for the project. Due to the government of Mozambique's unfamiliarity with oil and gas development projects and consequent lack of capacity to develop the financial model for the project, much of this work fell to IFC. The lesson to take from this project is that IFC must be prepared to devote significant

staff resources on an ongoing basis to projects where government partners are either new companies or initially have limited capacity.

Lesson 3: Government Participation in Natural Resources Projects Can Reduce Overall Risk.

Although the IFC's equity stake was through a buy-in to apportion of the government's share, there was concern at the outset of the project about the role of a Mozambican government entity as a partner in the upstream gas development. This concern proved unfounded, and the lesson from this project is that government participation and direct buy-in can in fact reduce project risks. First, the stability of the contractual arrangements for the gas off take agreement can be attributable in large part to the government's direct participation in the project. Second, Mozambique national oil company subsidiary CMG staffed up and quickly built the necessary capacity to effectively participate as a partner on the project. Finally, the government's substantial (25 percent) equity stake appears to be large enough for the government to be assured that the country has a meaningful profit related stake in the outcomes of the project