



# Completion Report

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## Afghanistan: Gas Development Master Plan

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TA Number, Country, and Name: TA 8401-AFG: Gas Development Master Plan		Amount Approved: \$1,500,000 Revised Amount: \$1,700,000	
Executing Agency: Ministry of Mines and Petroleum (MOMP)		Source of Funding: Technical Assistance Special Fund- V: \$700,000 Afghanistan Infrastructure Trust Fund (AITF): \$1,000,000	Amount Undisbursed: \$351,380 Amount Utilized: \$1,348,620
TA Approval Date: 11 July 2013	TA Signing Date: 5 August 2013	Fielding of First Consultant: 15 April 2014	TA Completion Date Original: 31 October 2014 Actual: 15 July 2016 Account Closing Date Original: 31 October 2014 Actual: 31 July 2017

**Description:**

Recurrent conflict and unresolved security challenges have inhibited the development of gas infrastructure to strengthen energy security in Afghanistan. Despite a significant amount of identified natural gas reserves, its gas sector is beset by technical inadequacy, financial pressure, weak governance, and the lack of integrated planning. The Government of Afghanistan, having recognized these issues and the call to adopt international best practices, requested ADB to assist in the preparation of a gas development master plan that will address the country's pressing need for improving supply security in the energy sector.

ADB approved a Policy and Advisory Technical Assistance (PATA) to prepare a gas development master plan for Afghanistan that will contribute to the sustainable development of the country's natural gas resources, national energy supply security, and protection of the environment. The master plan, a comprehensive, dynamic, and strategic document to be implemented from 2015 to 2035, is envisaged to establish a definite and realistic plan for the gas sector that pragmatically manages stakeholder expectations and is consistent with government objectives.

The PATA, through a consulting firm, was to (i) review current policies and plans in the context of gas development; (ii) assess indigenous gas resource potential and evaluate possible import options; (iii) identify optimized usage of gas through gas allocation policy options; (iv) evaluate and present gas supply and demand scenarios; and (v) develop preliminary prioritization programs, determine linkages with power sector and rank critical investment projects to strengthen economic infrastructure.

**Expected Impact, Outcome, and Output:**

Impact: Improved energy security in Afghanistan.

Outcome: Improved capacity of MOMP for investment planning and programming in the gas sector supply chain, with the (i) gas resource potential estimated and investment programming prioritized in accordance with priorities identified and sequenced in a gas development master plan; (ii) approval by the Cabinet and the Parliament of the gas development master plan; and (iii) institutionalization of the gas development master plan and establishment of a related department in MOMP.

Output: A gas development master plan with the following features: (i) Assessment of gas resource potential and its optimized economic use and environmental impact; (ii) Determination of major allocation sectors and load centers, including gas demand forecast for a 20-year period; (iii) Formulation of strategy for upstream, midstream, and downstream gas sector development; (iv) Identification of investment projects to sustain Afghan gas sector and its linkages with power sector investments; and (v) Preparation of capacity development plan for MOMP to sustain gas sector master planning in Afghanistan.

**Delivery of Inputs and Conduct of Activities:**

Adequacy of formulation. Technical assistance (TA) financing was adequate for the intended outputs as initially designed. Additional funds of \$200,000, financed by AITF, were necessary to respond to MOMP's request for more workshops and field inputs and data collection from TA consultant<sup>1</sup>.

Terms of reference. The number of experts and allotted person-months were adequate save for additional experts that were required midway because of the changes requested by MOMP.

Performance of TA consultant. An international consulting firm, Fichtner GmbH & Co. KG, was recruited using the quality-based selection (QBS) method in accordance with ADB's Guidelines on the Use of Consultants. Originally contracted for 44.99 person-months, the consultants rendered 60.49 person-months to complete all contract deliverables. A draft Gas Development Master Plan was prepared as required and presented to an audience of 53 officials from the government, its development partners, and the media through an interactive roundtable seating format. In addition to completing the master plan, TA consultant conducted multiple workshops that were designed to solicit input from and educate the stakeholders. The findings and recommendations resulting from these sessions satisfied MOMP and improved the quality of the output.

<sup>1</sup> Additional funds were sought from AITF as at the time of MOMP'S request for additional works, the existing TA funds were fully committed.

Overall, the TA consultant performed the services well while their deliverables, although not all were provided on time, met the required criteria as set forth in the contract. The consultant's performance was rated satisfactory.

Inputs of recipient and ADB. The Afghanistan government provided access to publicly available information to the TA consultant and appointed counterpart experts who worked with TA consultant in gathering data, conducting research, and developing the master plan. MOMP expressed its intention to be fully involved in the preparation of the master plan and requested TA consultant to conduct more workshops and increase field input. ADB granted an extension of time for the TA and fielded additional experts to ensure effective capacity building and sustainability of the master plan.

ADB regularly coordinated with the TA consultant while ensuring TA activities are monitored. In total, 5 missions were fielded in Kabul, Afghanistan and Stuttgart, Germany.

The TA has an over-all disbursement rate of 79.33%. The undisbursed amount of \$351,380 was mainly due to savings from the TA consultant's contract, as there was a significant amount of unused budget for out of pocket expenses. The TA's contingencies were also unutilized. Note that there was a higher utilization of the AITF component of the funding relative to the TASF due to front loading, and AITF financing additional MOMP requested scope.

Changes made during implementation. Two minor changes were applied during TA implementation at the request of MOMP, namely (a) the engagement of two experts tasked to analyze and calculate various energy parameters; and (b) the acquisition of office equipment to supplement those initially provided by MOMP. These changes required contract variations to Fichtner's contract, which include changes in contract duration (from 12 months to 23.5 months) and contract value (from \$1,291,512 to \$1,554,657).

#### **Evaluation of Outputs and Achievement of Outcome:**

Six workshops, conferences, and stakeholder meetings were held over the course of TA implementation. All data gathered from these discussions and researches culminated in a document that was presented to MOMP. The outcome of the technical assistance was improved MOMP's capacity in the areas of investment planning and programming in gas sector supply chain. The Final Report, which includes a draft gas development master plan, provides information on intended outputs, covering assessment of gas resources potential, determination of major allocation sectors and load centers including gas demand forecast for a 20-year period, formulation of strategy for upstream, midstream, and downstream gas sector development, identification of investment projects to sustain Afghan gas sector and its linkages with power sector investments and preparation of capacity development plan for MOMP. The draft gas development master plan was successfully presented to the high-level officials of the government who then agreed with the report's findings and recommendations. They emphasized the significance of the master plan in furthering the investment climate in Afghanistan.

The TA's outcome was substantially achieved with the approval of the gas development master plan. The establishment of the relevant department within MOMP was not achieved within the TA period. The MOMP intends to institutionalize this department, though, after the merging of the power and gas master plans which is expected to be completed in 2018. Furthermore, the government acknowledged ADB's role in strengthening the country's energy sector and emphasized the urgency of indigenous projects.

#### **Overall Assessment and Rating:**

TA was planned to be carried out for 14.5 months but was extended for a total of 20.5 months, which resulted to an implementation period of 35 months. The extensions were due to inevitable delays resulting from the Afghan general elections in 2014–2015, postponement of MOMP minister's appointment, and general security environment in the country. Fichtner's contract commenced only in April 2014, more than 6 months delayed against the plan. Despite these events, the Draft Gas Development Master Plan was completed and presented to Afghan energy officials who then endorsed the same at the National Infrastructure Council. All findings and recommendations of the master plan were formally approved by the MOMP and communicated to ADB on 3 August 2016.

Overall, the TA is rated 'successful'.

#### **Major Lessons:**

Like other developing countries in the region, reliable demand data is scarce. This has been more challenging in a fragile and conflict affected country like Afghanistan. During the study period, research results did not exactly match supply information as speculated. The figures on gas reserves and yet-to-find potential require certification and validation. Although development scenarios were presented for each case of gas availability, more efficient recommendations will result as refined information are made available.

#### **Recommendations and Follow-Up Actions:**

The master plan recommends investments, essential studies, and information gathering; institutional and capacity development in a three-phase strategy of sector development, the highlight of which are decision points that are contingent on further upstream developments. The Office of the President, through ADB-assisted financing, is working to merge the country's power sector master plan and gas development master plan into a streamlined energy sector master plan. The study is expected to be completed by end 2018.