ADB

# Report and Recommendation of the President to the Board of Directors

Project Number: 47282-001
November 2015

# Proposed Multitranche Financing Facility
# Islamic Republic of Afghanistan:
# Energy Supply Improvement Investment Program



Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 11 November 2015)

| | | |
|---|---|---|
| Currency unit | – | afghani/s (AF) |
| AF1.00 | = | $0.0151 |
| $1.00 | = | AF66.06 |

## ABBREVIATIONS

| | | |
|---|---|---|
| ADB | – | Asian Development Bank |
| ADF | – | Asian Development Fund |
| AGE | – | Afghan Gas Enterprise |
| AITF | – | Afghanistan Infrastructure Trust Fund |
| DABS | – | Da Afghanistan Breshna Sherkat (Afghanistan power utility) |
| EMP | – | environmental management plan |
| FAM | – | facility administration manual |
| FMA | – | financial management assessment |
| km | – | kilometer |
| kV | – | kilovolt |
| LARP | – | land acquisition resettlement plan |
| MEW | – | Ministry of Energy and Water |
| MFF | – | multitranche financing facility |
| MOMP | – | Ministry of Mines and Petroleum |
| MW | – | megawatt |
| NESP | – | National Energy Supply Program |
| PMO | – | project management office |
| PPSA | – | power purchase and sales agreement |
| TAPI | – | Turkmenistan–Afghanistan–Pakistan–India |
| TUTAP | – | Turkmenistan–Uzbekistan–Tajikistan–Afghanistan–Pakistan |

## NOTES

(i) The fiscal year (FY) of the Government of Afghanistan ends on 20 December.

(ii) In this report, “$” refers to US dollars.

| | |
|---|---|
| **Vice-President** | W. Zhang, Operations 1 |
| **Director General** | S. O' Sullivan, Central and West Asia Department (CWRD) |
| **Director** | F. Kawawaki, Energy Division, CWRD |
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**CONTENTS**

# INVESTMENT PROGRAM[a] AT A GLANCE

**1. Basic Data** — **Project Number:** 47282-001

| | | | |
|---|---|---|---|
| **Project Name** | Energy Supply Improvement Investment Program (Formerly Multitranche Financing Facility II: Energy Development 2014-2023) | **Department /Division** | CWRD/CWEN |
| **Country** | Afghanistan, Islamic Republic of | **Executing Agency** | Da Afghanistan Breshna Sherkat, Ministry of Energy and Water, Ministry of Mines and Petroleum |
| **Borrower** | Afghanistan, Islamic Republic of | | |

| **2. Sector** | **Subsector(s)** | **ADB Financing ($ million)** |
|---|---|---|
| ✓ **Energy** | Electricity transmission and distribution | 750.00 |
| | **Total** | **750.00** |

| **3. Strategic Agenda** | **Subcomponents** | **Climate Change Information** | |
|---|---|---|---|
| Inclusive economic growth (IEG) | Pillar 1: Economic opportunities, including jobs, created and expanded | Climate Change impact on the Project | Low |
| Regional integration (RCI) | Pillar 1: Cross-border infrastructure | | |

| **4. Drivers of Change** | **Components** | **Gender Equity and Mainstreaming** | |
|---|---|---|---|
| Partnerships (PAR) | International finance institutions (IFI)<br>Official cofinancing | No gender elements (NGE) | ✓ |

| **5. Poverty Targeting** | | **Location Impact** | |
|---|---|---|---|
| Project directly targets poverty | No | Nation-wide | High |

**6. Risk Categorization:** Complex

**7. Safeguards Categorization [Tranche 1]** **Environment:** B **Involuntary Resettlement:** B **Indigenous Peoples:** C

**8. Financing**

| **Modality and Sources** | **Indicative Tranches ($million)** | | | | **Amount ($million)** |
|---|---|---|---|---|---|
| | I | II | III | IV | |
| **ADB** | | | | | **750.00** |
| Sovereign MFF-Tranche (Grant): Asian Development Fund | 200.00 | 165.00 | 205.00 | 180.00 | 750.00 |
| **Cofinancing** | | | | | **450.00** |
| Afghanistan Infrastructure Trust Fund | 75.00 | 165.00 | 160.00 | 50.00 | 450.00 |
| **Counterpart** | | | | | **20.00** |
| Government | 5.00 | 5.00 | 5.00 | 5.00 | 20.00 |
| **Total** | **280.00** | **335.00** | **370.00** | **235.00** | **1,220.00** |

**9. Effective Development Cooperation**

| | |
|---|---|
| Use of country procurement systems | No |
| Use of country public financial management systems | No |

# INVESTMENT PROGRAM[a] AT A GLANCE

**10. Country Operations Business Plan**

| | |
|---|---|
| **CPS** | http://www.adb.org/sites/default/files/institutional-document/82618/ics-afg-2014-2015.pdf |
| **COBP** | http://www.adb.org/documents/afghanistan-country-operations-business-plan-2015-2017 |

**11. Investment Program Summary**

The MFF will reinforce ongoing projects and finance new investments to boost energy trade and regional cooperation, strengthen the country's energy infrastructure, increase energy supply to accelerate electrification rate, and improve operational efficiency in the sector. In power, generation (renewable energy), transmission (regional and domestic lines), and distribution (on- and off-grid networks) projects are proposed; while wells rehabilitation is planned in gas.

The impact of the MFF will be improved access to sustainable energy supplies across Afghanistan. The outcome will be increased supply of imported and indigenous power.

**Impact and Outcome:** The impact (of the facility) is improved access to sustainable energy supplies across Afghanistan aligned with the targets of the National Energy Supply Program of the Government of Afghanistan (program-defined). The outcome (of the facility) is increased supply of imported and indigenous power.

**Outputs:** (i) New 500 kV and 220 kV power transmission lines, power distribution networks, and high-voltage, direct-current, back-to-back convertor commissioned, (ii) renewable energy projects constructed, (iii) domestic gas production and imported volume of natural gas from TAPI gas pipeline increased, (iv) project preparation and management capacity of energy ministries and agencies improved, and (v) DABS business plan, and tariff model and framework developed.

**Implementation Arrangements:** Da Afghanistan Breshna Sherkat, Ministry of Energy and Water and Ministry of Mines and Petroleum will be the executing agencies.

**Project Readiness:** Master bidding documents for turnkey contracts have been finalized. Invitation to Bids (IFB) will be issued by Q1 of 2016.

**12. Milestones**

| Modality | Estimated Approval | Estimated Completion[b] |
|---|---|---|
| Multitranche financing facility | 4 December 2015 | 31 December 2025 |
| Tranche I | 7 December 2015 | 30 June 2020 |
| Tranche II | 30 September 2016 | 28 December 2022 |
| Tranche III | 29 June 2018 | 28 December 2023 |
| Tranche IV | 30 June 2020 | 30 June 2025 |

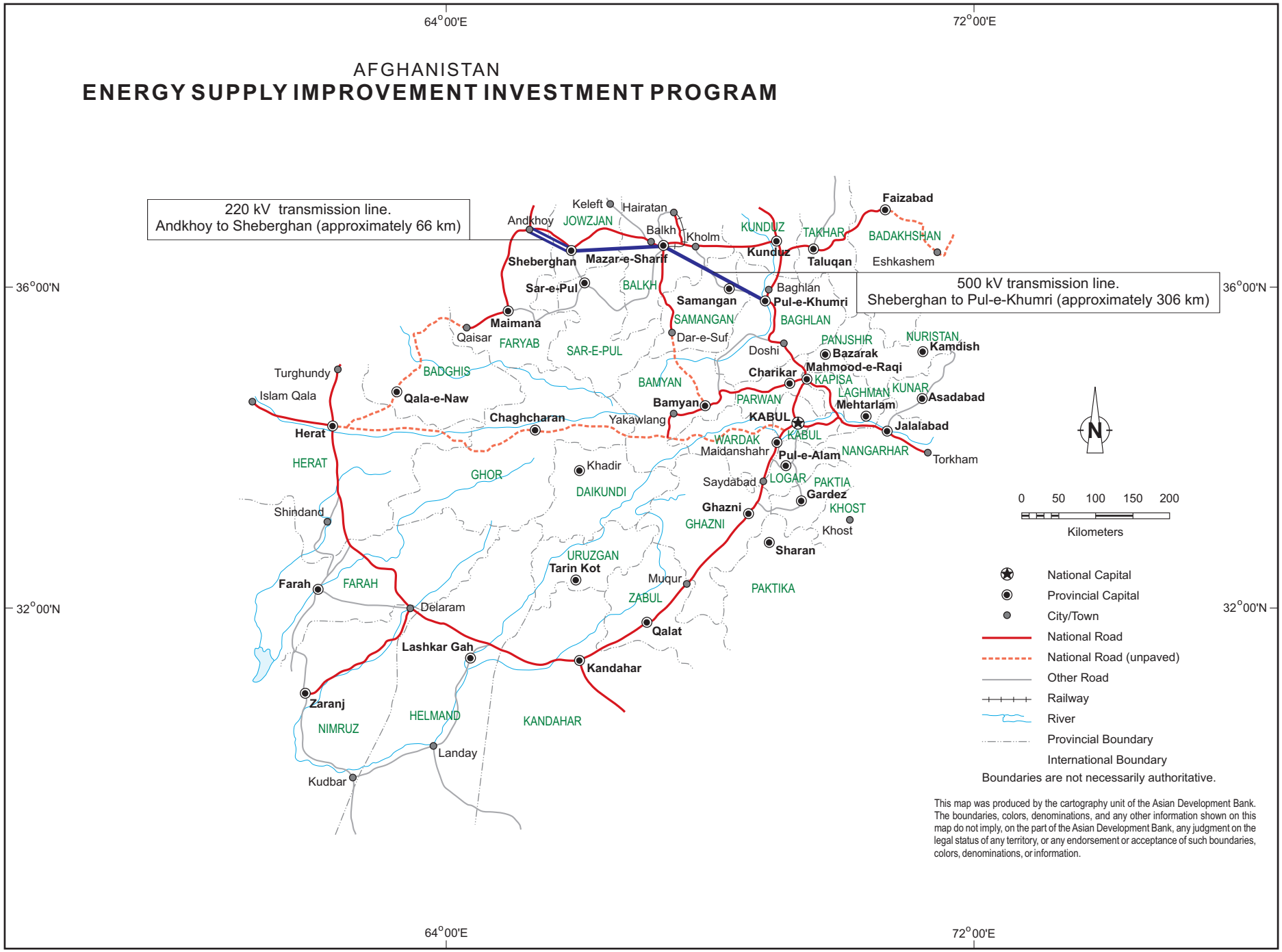
**13. Project Data Sheet (PDS)**

| | |
|---|---|
| **PDS**[c] | http://www.adb.org/projects/47282-001/main |

[a] Multitranche Financing Facility (MFF).
[b] For MFF, this refers to the end of the availability period; for tranches, this refers to the tranche closing date.
[c] Safeguard documents can be viewed by clicking the Document's hyperlink in the Project Data Sheet (PDS) page.

AFGHANISTAN

# ENERGY SUPPLY IMPROVEMENT INVESTMENT PROGRAM

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# I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed multitranche financing facility (MFF) to the Islamic Republic of Afghanistan for the Energy Supply Improvement Investment Program.[1]

2. The MFF will reinforce ongoing projects and finance new investments to boost energy trade and regional cooperation, strengthen the country's energy infrastructure, increase energy supply to accelerate the electrification rate, and improve operational efficiency in the sector. In power subsector, generation (renewable energy), transmission (regional and domestic lines), and distribution (on- and off-grid networks) projects are proposed, while wells rehabilitation is planned in gas subsector. An MFF is proposed as (i) tranches will be programmatically aligned with priorities of the government's $10.1 billion National Energy Supply Program 2013 (NESP), (ii) the program will be a showcase to explore and confirm cofinancing options and private sector participation, (iii) continuity in combining sector investments and nonphysical components for integrated energy sector development will be ensured, and (iv) the program allows neighboring countries to develop regional projects for transit and trade.[2]

# II. THE INVESTMENT PROGRAM

## A. Rationale

3. **Energy deficit**. After security, access to energy is the highest priority of households and businesses in Afghanistan.[3] Energy demand has grown by almost twice the economic growth rate during 2005–2012. However, Afghanistan ranks among the lowest 5% in per capita energy consumption globally and is a net energy importer. In 2014, more than 80% (1,000 megawatts [MW]) of its total power supply (1,247 MW) came from Iran (16%), Tajikistan (25%), Turkmenistan (12%), and Uzbekistan (27%), with the rest generated through indigenous hydropower and thermal sources. Lack of domestic generation remains the key challenge for energy security in Afghanistan.[4] Insufficient energy supplies and the demand–supply imbalance constrain growth and income opportunities; create disparities in economic development; and fuel ethnic and regional tensions, insecurity, and discontent. Despite significant potential for renewable energy and fossil fuel reserves, these have not been developed because of financing constraints. In 2014, nearly 97% of domestic oil needs were imported despite proven reserves of 80 million barrels in the Amu Darya basin—one of four major gas basins. The lack of a gas pricing framework and insecurity inhibit private sector participation to develop identified gas reserves of 75 billion cubic meters—enough to generate 400 MW of power annually for 75 years.

4. Grid power remains a growing portion of total energy consumption, and connection rates increased from 5% in 2002 to 30% in 2015, at the current supply of 750 MW and power consumption of 3,700 gigawatt-hours. Demand for power in four of Afghanistan's largest cities is growing by 19% annually, and by 2032 demand is forecast to reach 3,500 MW and power consumption to 18,400 gigawatt-hours.[5] Meeting this demand requires boosting all viable import

[1] The design and monitoring framework is in Appendix 1.

[2] The Asian Development Bank (ADB) provided project preparatory technical assistance for the MFF II: Energy Development 2014–2023 (TA 8509-AFG for $1.5 million approved on 20 November 2013).

[3] Surveys conducted by The Asia Foundation and International Finance Corporation in 2011 in Afghanistan. Households consume 85% of power, followed by commercial users (7%), government (5%), and others (3%).

[4] The absence of a water treaty with neighboring countries impedes the development of indigenous hydropower, while the refusal by mining investors to meet their contractual obligations is stalling coal or gas-to-power projects.

[5] ADB. 2010. *Technical Assistance to the Islamic Republic of Afghanistan for the Power Sector Master Plan.* Manila (TA 7637-AFG, for $1.5 million approved on 6 November 2010).

options in parallel to harnessing domestic resources. The key challenges are (i) a lack of generation capacity, (ii) constraints in transmission and distribution systems, (iii) weak financial management and operational sustainability of sector entities due to an inadequate tariff framework, and (iv) poor sector regulation. The MFF will address these points directly. Since government resources are limited, financing from development partners and private sector participation are needed to bridge the infrastructure deficit. The NESP envisages investment of $10.1 billion by 2030 to (i) increase the electrification rate from 30% to 83%, (ii) increase domestic generation from 20% to 67%, and (iii) strengthen power exchange and trade options. However, because of the limited fiscal space in government finances, dismal private investment outlook, and directives from the International Monetary Fund to the government against borrowing, grant funding from development partners will be the major source of NESP financing.

5. **Energy infrastructure constraints.** Of the 519 MW available installed capacity, 51% is thermal (diesel and furnace oil) with a generation cost of $0.25–$0.35 per kilowatt-hour, nearly four to five times cost of imported power. The remaining 49% (254 MW) is from hydropower, which is seasonal and has a capacity factor of less than 40%. No new hydropower, gas, or coal generation has been added since the 1980s.[6] Afghanistan's power system is not synchronized with any of the four countries that it imports from, and is split into 10 power islands—increasing costs and reducing reliability of supply. The individual networks operate asynchronously and cannot be interconnected because of differences in operational phase angles and frequency variations. The lack of transmission and distribution infrastructure suppresses available latent demand of nearly 2,500 MW. A unified grid will secure power supply from a balanced energy mix, achieve diversification, and share reserve capacity, as well as strengthen Afghanistan's role as an electricity transit corridor between energy-rich Central Asia and energy-poor South Asia. Afghanistan is an anchor in the regional Turkmenistan–Uzbekistan–Tajikistan–Afghanistan–Pakistan (TUTAP) interconnection and Turkmenistan–Afghanistan–Pakistan–India (TAPI) natural gas pipeline project.[7] On 6 November 2015, the Government of Afghanistan signed a 2015–2028 power purchase and sales agreement (PPSA) with Turkmenistan for year-round power supply (300 MW initially, with an increase of up to 500 MW) at a very competitive tariff compared with existing imports. The PPSA will be renewed thereafter. The PPSAs with Uzbekistan (300 MW), Tajikistan (300 MW), and Iran (150 MW) are effective and renewed annually. Despite barriers, the sector has curtailed technical, fiscal, and governance deficits.[8]

6. **Policy framework.** The government is implementing the energy sector road map, policy framework, and the envisaged investment plan as confirmed in its power sector master plan, 2012–2032 and gas development master plan, 2015–2035, which both build on the Afghanistan National Development Strategy, 2008–2013, and are integrated into the NESP.[9] The approved Electricity Services Law, 2015, provides a legal and regulatory framework, and a transparent structure for private sector participation.[10] The power subsector in Afghanistan made substantial

[6] The World Bank and the Government of the United States are assisting rehabilitation of three hydropower plants.

[7] TUTAP is a regional power project under the Central Asia South Asia Regional Electricity Markets framework. Phase 1 of TUTAP (Afghanistan–Uzbekistan 220-kilovolt [kV] line) was commissioned in 2009. Phase 2 (Afghanistan–Tajikistan 220 kV line) was commissioned in 2011. Phase 3 will be completed under tranches 1 and 2 of the MFF. TUTAP meets Afghan power needs and all TUTAP imports until 2030 will be consumed in country. Construction work on TAPI is expected to begin in 2016 and requisite tariff and transit agreements are signed.

[8] System losses dropped from 70% in 2002 to 25% in 2014; collection rates increased from 50% in 2002 to 90% in 2014; revenues increased by 15% per quarter since 2009; and sector corporatization is enhanced by formation of Da Afghanistan Breshna Sherkat (DABS) in 2009 and the Afghan Gas Enterprise (AGE) in 2011. AGE corporatization is supported by the World Bank to negotiate imported gas purchase and transit agreements.

[9] Because of fiscal challenges, the government is expected to finance less than 5% ($500 million) of the NESP.

[10] Under the law, the Ministry of Energy and Water (MEW) will initially act as regulator. ADB will provide support to strengthen the tariff determination framework and possible regulatory support under the MFF.

progress in meeting the strategic objectives and milestones set out in 2012, including (i) greater efficiency from existing operations (rehabilitation of hydropower plants and power networks); (ii) improvement in sector governance (formulation of electricity services law, renewable energy policy and autonomous power utility, and institutionalization of operations and management system); (iii) promotion of rural energy (development of off-grid networks); and (iv) investments in new capacity (development of additional generation, transmission, and distribution systems).

7. **Road map and strategic context.** The NESP road map, 2013–2030 focuses on energy supply, transmission and distribution, energy efficiency, reinforcing institutions and private sector participation, capacity support, and regulatory strengthening.[11] It underscores an urgent need to construct indigenous generation (gas, coal, and hydropower).[12] However, as domestic projects will take time to develop (footnote 4), high reliance on imports will continue in the medium term. Building a 500-kilovolt (kV) transmission ring to connect major load centers would accelerate electrification rate in major load centers and cities. The road map also stresses the phased development of renewable energy projects in 15 off-grid provinces,[13] development and certification of gas reserves, and rehabilitation of existing gas wells to support anchor loads and energy-intensive industries, as identified in the gas development master plan.[14]

8. **ADB assistance and country partnership strategy.** The Asian Development Bank (ADB) is the country's largest on-budget development partner in the sector, with cumulative grant assistance of nearly $937 million. ADB-assisted projects have commissioned more than 630 kilometers (km) of transmission lines, eight substations, 15,000 new power connections, and eight gas wells to produce 2 million cubic meters of gas per day. Other projects under implementation include nearly 400 km of transmission lines, four substations, 110,000 new connections, and a hydropower project to generate 4.5 MW. Additional support has been provided to strengthen operations and maintenance, projects preparation, and capacity development. The ADB-assisted ongoing energy MFF, approved in 2008 and with a closing date on 28 November 2018, is fully committed, showing satisfactory results, with some implementation lag caused by insecurity, capacity constraints, and procurement difficulties.[15]

9. The proposed MFF is in line with ADB's interim country partnership strategy, 2014–2015, and is included in Afghanistan's country operations business plan, 2015–2017, which prioritizes infrastructure development, and in the Central Asia Regional Economic Cooperation strategy, which promotes regional cooperation and energy trade.[16] The MFF is designed with the lessons learned from ADB-financed energy sector interventions in Afghanistan. These include the need to (i) finance security, demining, and taxes as part of project costs; (ii) streamline procurement and implementation through turnkey contracting; and (iii) provide flexible tranches to match the emerging sector needs. The Ministry of Energy and Water (MEW), the policy and regulatory body, is being strengthened by financing from United States government funds. The

[11] The NESP has an investment plan of $10.1 billion, of which $7.3 billion is for generation and network integration, $1.7 billion for major transmission links, and $1.1 billion for subtransmission and distribution in provinces.

[12] Gas and coal power plants are envisaged to be developed by the private sector, and development partners are assisting in rehabilitating existing and constructing new hydro plants.

[13] ADB. 2014. *Technical Assistance to the Islamic Republic of Afghanistan for Renewable Energy Development.* Manila (TA 8808-AFG, $1.0 million, approved on 12 December).

[14] ADB. 2013. *Technical Assistance to the Islamic Republic of Afghanistan for the Gas Development Master Plan.* Manila (TA 8401, $1,500,000, approved on 11 July).

[15] ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Multitranche Financing Facility to the Islamic Republic of Afghanistan for the Energy Sector Development Investment Program.* Manila.

[16] ADB. 2014. *Interim Country Partnership Strategy: Afghanistan, 2014–2015.* Manila; ADB. 2014. *Country Operations Business Plan: Afghanistan, 2015–2017.* Manila; and ADB. 2012. *A Strategic Framework for the Central Asia Regional Economic Cooperation Program 2011–2020: CAREC 2020.* Manila.

preconditions for the use of the MFF—a road map and strategy, policy framework, investment and financing plans, and safeguard arrangements—are in place.[17]

10. In Afghanistan, harmonizing energy investment plans remains challenging because (i) uncertainty in the development budget has led to a lack of integrated planning; (ii) more than 50% of sector investments funded by bilateral development partners and military funds bypass the government's core budget and planning systems, leaving the government with limited information on these donor-funded projects, plans, and activities; and (iii) security risks impede progress.[18] Bilateral development partners work on annual planning cycles, with budgets available on a use-it-or-lose-it basis, and project priorities may change in line with the fragile and volatile situation in Afghanistan. The ADB-assisted Inter-Ministerial Commission for Energy has been vital in coordinating and streamlining sector investments and capacity development assistance.[19] The MFF comprises priority NESP projects that have been agreed at the Inter-Ministerial Commission for Energy and approved by the Office of the President of Afghanistan.

11. **Investment program.** Nearly $10.1 billion—funded by the government, development partners, and the private sector under the NESP—is needed by 2032 to support economic growth of 10% and to reduce poverty by 3% per year.[20] The MFF, through ADB and Afghanistan Infrastructure Trust Fund (AITF) financing of up to $1.2 billion, will be implemented countrywide to support (i) energy infrastructure improvements, operations, and maintenance; (ii) feasibility studies and designs; and (iii) human resource development and institutional reform.[21]

## B. Impact and Outcome

12. The impact of the MFF will be improved access to sustainable energy supplies across Afghanistan. The outcome will be increased supply of imported and indigenous power.

## C. Outputs

13. The MFF will have five outputs: (i) new 500 kV and 220 kV power transmission lines, power distribution networks, and high-voltage, direct-current, back-to-back convertor station commissioned; (ii) renewable energy projects constructed; (iii) domestic gas production and imported volume of natural gas from TAPI gas pipeline increased; (iv) project preparation and management capacity of energy ministries and agencies improved; and (v) Da Afghanistan Breshna Sherkat (DABS) business plan, and tariff model and framework developed. The MFF will finance nonphysical interventions, particularly capacity and governance support, and sector reforms, under (iv) and (v). Additional capacity gaps and sector issues identified under (v), will be addressed in subsequent tranches.

14. The first tranche of the MFF will finance: (i) 306 km of 500 kV transmission line from Sheberghan to Dashte Alwan; (ii) 65 km of 220 kV transmission line from Andkhoy to Sheberghan; (iii) analytical studies, particularly the development of a business plan, and a tariff

[17] The sector investment road map and policy framework are discussed in the Framework Financing Agreement (accessible from the list of linked documents in Appendix 2).
[18] More than 80% of the Afghan development budget is financed through grants from development partners.
[19] ADB. 2013. *Technical Assistance to the Islamic Republic of Afghanistan for Supporting the Inter-Ministerial Commission for Energy*. Manila (TA 8328-AFG, $1.5 million, approved on 22 February).
[20] The NESP was jointly endorsed by the Government of Afghanistan and international development partners in 2013.
[21] The ADB-administered AITF, established in 2010, pools resources from bilateral development partners to finance critical infrastructure investments in Afghanistan. AITF contributors, to date, include the governments of Japan, the United Kingdom, and the United States.

model and framework for DABS; (iv) preparation of future projects; and (v) support for program management and implementation.[22] Tranche 1 will allow expanded power imports by constructing the last missing links to forge an expanded Turkmenistan–Afghanistan power interconnection. Tranches 2 to 4, to be prepared by the project preparatory consultants to be financed under tranche 1, are expected to finance (i) a high-voltage, direct-current, back-to-back convertor station at Dashte Alwan to enable asynchronous interconnection with Turkmenistan; (ii) a Herat–Kandahar transmission line and related distribution networks; (iii) renewable energy generation; and (iv) gas wells rehabilitation and Afghanistan's equity component for the TAPI natural gas pipeline project. All of these are NESP priority investment projects.

## D. Investment and Financing Plans

15. The government has requested an MFF to help finance a portion of its $10.1 billion NESP amounting to $1.22 billion. The MFF is projected to have four tranches from 2015 to 2025. Tranche 1 is expected to be executed in 2015. Table 1 shows the portion of the investment program to be financed by the MFF.

**Table 1: Investment Program** ($ million)

| Item | | Amount[a] | |
|---|---|---|---|
| | | **MFF** | **Tranche 1** |
| **A.** | **Base cost**[b] | | |
| | 1. Turnkey contracts | 970.0 | 200.0 |
| | 2. Preparation of future projects and analytical studies[c] | 40.0 | 20.0 |
| | 3. Project security and demining | 40.0 | 10.0 |
| | 4. Land acquisition and resettlement | 8.0 | 2.2 |
| | 5. Program management[d] | 30.0 | 20.0 |
| | **Subtotal (A)** | **1,088.0** | **252.2** |
| **B.** | **Contingencies**[e] | **120.0** | **25.0** |
| **C.** | **Interest during construction**[f] | **12.0** | **2.8** |
| | **Total (A+B+C)** | **1,220.0** | **280.0** |

MFF = multitranche financing facility.

[a] Includes business receipt tax and sales tax of 2% (estimated at $5.3 million) and customs payments of 10% on imported equipment (estimated at $15.2 million), to be financed from MFF grant resources.

[b] In 2015 prices.

[c] Includes due diligence, prefeasibility, technical, financial, economic, and social assessments for future projects; preparation of bidding documents; evaluation and award of bids; and other analytical support.

[d] Includes program management and implementation supervision consultant, and auditing services for all tranches.

[e] Physical contingencies computed at 10% for civil works and 5% for noncivil works. The annual inflation rates factored into price contingencies estimates are 5.0% in 2015–2023 (domestic) and 1.9% in 2015–2023 (foreign).

[f] Includes interest during construction, calculated at an interest rate of 1% for the loan between the government and Da Afghanistan Breshna Sherkat (power utility). Interest during implementation is capitalized in the loan.

Source: Asian Development Bank estimates.

16. The government has requested an MFF in an amount up to $1.2 billion. The MFF comprises an amount of up to $750 million from ADB's Special Funds resources, i.e., Asian Development Fund (ADF) resources, and an amount of up to $450 million as joint cofinancing from the AITF to be administered by ADB.[23] Any ADF allocation will be subject to (i) the

[22] Selection of future projects must meet the following criteria, among others: (i) a priority project in the NESP; (ii) a candidate for the least-cost expansion; and (iii) compliance with technical, financial and economic, and social safeguards due diligence criteria of ADB and the government.

[23] Instruments of contribution to the AITF totaling $75 million have been executed. Discussions are ongoing with the governments of Australia, Belgium, Canada, Germany, Japan, the Netherlands, and the United Kingdom for the contribution of further amounts totaling $375 million. For every tranche that will be supported by AITF cofinancing, instruments of contribution to the AITF in the total amount of the said AITF cofinancing will be executed prior to the approval of the tranche.

availability of ADF resources, (ii) Afghanistan's access to such resources pursuant to ADB's graduation policy [24] and the requirements of ADF donors, and (iii) the availability of such resources to Afghanistan given ADB's policy on performance-based allocation of ADF resources. [25] Cofinancing will be front-loaded for disbursement purposes. ADF and AITF financing under the MFF will be provided 100% as grants to Afghanistan.

17. The MFF will consist of several tranches, subject to the government's submission of related periodic financing requests, execution of the related grant and project agreements for each tranche, and fulfillment of terms and conditions and undertakings set forth in the framework financing agreement. For tranche 1, the government has requested (i) a grant of $200 million from ADB's Special Funds resources,[26] and (ii) a grant of $75 million from AITF cofinancing to be administered by ADB (footnote 21). Financing extended under the MFF will cover local taxes and duties, including the business receipt tax.[27] ADB and the AITF have been financing local taxes and duties in Afghanistan since 2011.

18. The financing plan is in Table 2. ADB financing constitutes 61.4% of the MFF.[28]

**Table 2: Financing Plan**

| | Tranche 1 | Tranche 2 | Tranche 3 | Tranche 4 | MFF | |
|---|---|---|---|---|---|---|
| **Source** | **Amount** ($ million) | **Amount** ($ million) | **Amount** ($ million) | **Amount** ($ million) | **Amount** ($ million) | **Share of Total** (%) |
| Asian Development Bank | 200.0 | 165.0 | 205.0 | 180.0 | 750.0 | 61.4 |
| Afghanistan Infrastructure Trust Fund[a] | 75.0 | 165.0 | 160.0 | 50.0 | 450.0 | 36.8 |
| Government | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 | 1.6 |
| **Total** | **280.0** | **335.0** | **370.0** | **235.0** | **1,220.0** | **100.0** |

MFF = multitranche financing facility.
[a] Financing partners: the governments of Japan, the United Kingdom, and the United States. Administered by the Asian Development Bank.
Source: Asian Development Bank estimates.

## E. Implementation Arrangements

19. DABS, MEW, and the Ministry of Mines and Petroleum (MOMP) will be the executing agencies of the MFF. The program management office (PMO) set up for the first energy MFF (footnote 15) is operational and familiar with ADB policies and guidelines. It will be responsible for implementing and monitoring the investment program. The PMO will be provided with project implementation support from tranche 1 financing. The implementation arrangements are summarized in Table 3 and detailed in the facility administration manual (FAM).[29]

[24] Currently, ADB. 2008. *Review of the 1998 Graduation Policy of the Asian Development Bank*. Manila.
[25] Currently, ADB. 2004. *Review of the Asian Development Bank's Policy on the Performance-Based Allocation of Asian Development Fund Resources*. Manila; and ADB. 2008. *Refining the Performance-Based Allocation of Asian Development Fund Resources.* Manila.
[26] A country's eligibility for ADF grants under the revised grant framework is determined by its risk of debt distress. The latest debt sustainability analysis determined that Afghanistan had a high risk of debt distress and was therefore eligible to receive 100% of its ADF allocation as grants.
[27] Taxes and duties do not represent an excessive share of the financing plan and are within applicable country partnership strategy parameters. ADB. 2005. *Innovation and Efficiency Initiative, Cost Sharing and Eligibility of Expenditures for ADB Financing: A New Approach*. Manila. This is in line with ADB's Operations Manual (H3 on cost-sharing arrangements and eligible expenditures). The World Bank also follows this policy in Afghanistan.
[28] The financing plan is indicative with respect to the total amount of AITF cofinancing. See footnote 23.
[29] Facility Administration Manual (accessible from the list of linked documents in Appendix 2).

**Table 3: Implementation Arrangements**

| Aspects | Arrangements | | |
|---|---|---|---|
| Implementation period | February 2016–June 2025 | | |
| MFF availability period | 31 December 2025 | | |
| Estimated completion date | 30 June 2025 | | |
| Management | | | |
| (i) Oversight body | Ministry of Finance with deputy minister of finance as chair. | | |
| (ii) Executing agencies | DABS (power subsector), Ministry of Mines and Petroleum (gas subsector), and Ministry of Energy and Water (renewable energy subsector) | | |
| (iii) Implementation units | Program management office established in DABS, with 30 staff members; project implementation offices established in the Ministry of Mines and Petroleum, with five staff members; and an office to be re-established in the Ministry of Energy and Water. | | |
| Procurement[a] | International competitive bidding | Multiple contracts | $970 million |
| Consulting services | QCBS, LCS, and individual | 458 person-months | $70 million |
| Retroactive financing and/or advance contracting | Under each tranche, ADB may, subject to its policies and procedures, allow upon request, advance contracting of goods, works, and consulting services. Any approval of advance contracting will not constitute a commitment by ADB to finance the project. Retroactive financing will be considered for all tranches. For each tranche, ADB management may permit retroactive financing of eligible expenditures incurred for goods, works, and consulting services no earlier than 12 months before the grant signing date and not exceeding 20% of the grant amount. | | |
| Disbursement | The grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time) and detailed arrangements agreed between the government and ADB. | | |

ADB = Asian Development Bank, DABS = Da Afghanistan Breshna Sherkat (Afghanistan power utility), LCS = least-cost selection, MFF = multitranche financing facility, QCBS = quality- and cost-based-selection.
[a] The project is eligible for universal procurement under ADB's Procurement Guidelines (2015, as amended from time to time).
Source: Asian Development Bank.

## III. DUE DILIGENCE

### A. Technical

20. The tranche 1 project extends the Afghanistan–Turkmenistan 500 kV interconnection to Dashte Alwan, the hub of converging power interconnections from Uzbekistan and Tajikistan, and would complete the 500 kV ring from the Afghan–Turkmen border to Kabul. By 2018, Turkmenistan will add 1,570 MW of gas-to-power generation capacity, and the 500 kV transmission line inside Turkmenistan to the Afghan border is completed. The PPSA between Afghanistan and Turkmenistan—which includes tariff, volumes, and penalties—was signed in November 2015. The demand forecast in Afghanistan, confirmed by the power master plan, justifies the construction of a 500 kV transmission line to enable asynchronous interconnection with Turkmenistan. The requisite load flow studies were conducted in 2013–2014 to confirm the 500 kV alternating current connection. Ongoing investments are adequate to evacuate and disperse this power across Afghanistan. The 220 kV transmission line would also enable power evacuation from domestic gas to power generation plants in northern Afghanistan. Similar analysis will be undertaken for projects proposed under subsequent tranches. International contractors are under procurement on other ADB and development partner-assisted projects to implement 500 kV and 220 kV transmission lines, as well as converter stations in Afghanistan.

### B. Economic and Financial

21. Economic and financial analyses will be undertaken for each tranche under the MFF. For tranche 1, the analysis considered both transmission lines as one undertaking; these lines will be interconnected with another ADB-assisted project that is connected to the Turkmenistan grid. Therefore, overall incremental benefits are taken as a whole. Among the benefits identified by

the financial analysis are additional revenues from incremental sales by the construction of new transmission lines to enable power imports from Turkmenistan to be sold in Afghanistan. The analysis also found the financial internal rate of return under the base case to be 4.76%, which compares favorably with the estimated weighted average cost of capital of 0.12%. The sensitivity analysis confirms robust financial sustainability and viability under adverse conditions.

22. The economic benefits comprise the consumption of imported power by customers that used alternative means of power generation, such as diesel, and new consumers. The analysis showed a base case economic internal rate of return of 19.47%. The sensitivity analysis suggests sufficient robustness of the project under all tested assumptions.

## C. Governance

23. A financial management assessment (FMA) and procurement capacity assessments were undertaken for DABS in 2015. The FMA found that DABS has not been strictly following the generally accepted accounting principles and conventions in compliance with international accounting standards. The FMA states that while premitigation risks are high for DABS and substantial for the investment program, necessary mitigation is under way. DABS' annual financial statements (FY2010--FY2014) have been audited with disclaimers and qualified opinions. Project financial statements have been prepared, audited, and submitted to ADB since 2010. The 2015 procurement capacity assessment confirms that the country's procurement system is weak but improving. The National Procurement Authority undertakes due diligence for the approval of all contract packages, and is chaired by the President of Afghanistan. DABS has been implementing development partner-assisted projects, including those from ADB and the World Bank, and the PMO is extremely proficient with the procurement procedures of donors.

24. The United States government is implementing a capacity support component in DABS to introduce a new accounting manual and system. Tranche 1 will (i) make use of the existing PMO and maintain separate project accounts, (ii) recruit an international firm to assist in project implementation, (iii) establish direct payment and commitment procedures for disbursements to contractors and consultants, and (iv) require that DABS engage an independent auditor acceptable to ADB to audit project and corporate financial statements annually in accordance with ADB requirements.

25. Tranche 1 will support DABS to develop its business plan, and tariff model and framework by 30 June 2018. Adequate financial and operational covenants will be instituted in subsequent tranches, following the formulation of the business plan and the tariff model.

26. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and DABS. The FAM details the specific requirements and measures.

## D. Poverty and Social

27. The MFF will improve socioeconomic conditions through increased grid connectivity and substitution of diesel generators, which will improve the environment. Tranche 1 does not entail direct impacts on affordability or operational employment opportunities. During construction, the contractor will be required to ensure equal opportunities for all social groups, equal pay for equal work regardless of gender, and the prohibition of child labor.

28. The MFF and tranche 1 are categorized as no gender elements, so gender monitoring is not required. The benefits of electrification would benefit all, regardless of gender.

## E. Safeguards

29. Tranche 1 is category B for environment. Any category A project will be financed as a stand-alone investment project instead of through this MFF. DABS, in consultation with other executing agencies, has prepared the environmental review and assessment framework for the MFF and an initial environmental examination report for tranche 1, including an environmental management plan (EMP) in accordance with ADB's Safeguard Policy Statement (2009). It was disclosed on ADB's website on 22 October 2015. The environmental impacts are envisaged as site-specific and temporary, and can be mitigated through EMP implementation. Detailed public consultations will be conducted, and the initial environmental examination and the EMP will be updated before construction. EMP implementation will be reported through environmental monitoring reports, submitted to ADB semiannually. Environmental specialists of the consultant will provide support to DABS. Initial climate change screening has rated the project risk medium, and the foundation design of towers will be modified to mitigate this risk.

30. Tranche 1 is category C for indigenous peoples. The field survey found that no ethnic minority, as defined by the safeguard policy, is involved or affected. The project is category B for involuntary resettlement. Based on the preliminary project design, a land acquisition and resettlement framework for the MFF and a land acquisition and resettlement plan (LARP) for tranche 1 have been prepared in consultation with affected households. These documents were disclosed on ADB's website on 20 October 2015, in accordance with ADB's Safeguard Policy Statement. Nearly 368 households (3,312 people) will be directly or indirectly affected. However, only 19 households are likely to experience severe impacts of physical displacement. Once the contractor completes the detailed design, DABS will update the LARP and submit it to ADB for approval. No civil works will start until DABS has fully implemented the LARP. Implementation of the LARP will be monitored semiannually, with reports submitted to ADB for its review.

31. DABS will develop and implement a corrective action plan agreed with ADB to rectify any default on the safeguard requirements covenanted in the legal agreements or any other failure to comply with safeguards. Such reports and plans will be disclosed on ADB's website.

## F. Risks and Mitigating Measures

32. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[30] The integrated benefits and impacts of the MFF are expected to outweigh the costs.

**Table 4: Summary of Risks and Mitigating Measures**

| Risks | Mitigating Measures |
|---|---|
| Reduced availability of power supply from Turkmenistan and lesser demand potential in Afghanistan | A power purchase and sales agreement between the two countries agrees and confirms tariff, volume, and penalties until 2028. Turkmenistan is adding 1,450 megawatts of new gas-to-power generation and has completed its 500 kV line up to the Afghan border. The 2012–2032 power master plan of Afghanistan confirms adequate demand to utilize this imported power, and requisite downstream investments are under implementation. |
| Weak financial management capacity in DABS | The financial management assessment 2015 finds that premitigation risks are high for DABS and substantial for the program. Requisite improvements and restructuring is under implementation under ongoing ADB investments and financing by other development partners. Moreover, necessary funds have been provided and reforms have been covenanted in this program to address these issues. All procurement and consultant recruitment will require the prior approval of ADB. |

[30] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

| Risks | Mitigating Measures |
|---|---|
| Delays in procurement and implementation and deteriorating security leading to cost overruns | Procurement packaging will be minimized with turnkey contract packages. Qualified international contractors and consultants are implementing 500 kV systems in Afghanistan. An international consulting firm will be recruited under the project to support procurement activities. Adequate funds are budgeted for contingencies, including providing and financing of security plans at project sites. |
| Governance and capacity issues could negatively affect the project. | Procurement oversight is complemented by a complaint review mechanism with the government's National Procurement Authority and through access to procurement-related information via government websites. ADB's ongoing multitranche financing facility is providing capacity support to DABS in its technical, financial and economic, social safeguards, and procurement functions. This has instituted adequate systems in program management. Requisite training and capacity support component for DABS has been built in multitranche financing facility to manage 500 kV transmission system. |

ADB = Asian Development Bank, DABS = Da Afghanistan Breshna Sherkat (Afghanistan power utility), kV = kilovolt.
Sources: Afghanistan Energy Information Center, quarterly reports of the Inter-Ministerial Commission for Energy.

## IV. ASSURANCES AND CONDITIONS

33. The government, including MEW, MOMP, and DABS, have assured ADB that implementation of the Energy Supply Improvement Investment Program shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the FAM and the grant documents.

34. The government, including MEW, MOMP, and DABS have given ADB certain undertakings for the MFF, which are set forth in the framework financing agreement. Specific covenants agreed by them with respect to individual tranches under the MFF are set forth in the grant and project agreements for the respective tranches.

35. Where DABS is an executing agency, the ADF and AITF grant agreements for the tranche will not become effective until, among others, the subsidiary loan agreement between Afghanistan and DABS, under which the proceeds of both the ADF and AITF grants will be relent to DABS, shall have been executed and become effective in accordance to its terms.

## V. RECOMMENDATION

36. I am satisfied that the proposed multitranche financing facility would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the multitranche financing facility to the Islamic Republic of Afghanistan for the Energy Supply Improvement Investment Program in an aggregate principal amount not exceeding the equivalent of $1,200,000,000, which comprises:

(i) the provision of grants from ADB's Special Funds resources, with terms to be determined in accordance with ADB's applicable policies relating to Special Funds resources; and

(ii) the provision and administration of grants from the Afghanistan Infrastructure Trust Fund, with terms to be determined in accordance with ADB's applicable policies relating to the Afghanistan Infrastructure Trust Fund.

Takehiko Nakao
President

12 November 2015

## DESIGN AND MONITORING FRAMEWORK FOR THE INVESTMENT PROGRAM

**Impact the Program is aligned with:**

Improved access to sustainable energy supplies across Afghanistan, aligned with the targets of the National Energy Supply Program of the Government of Afghanistan

| Results Chain | Performance Indicators with Targets and Baselines | Data Sources and Reporting | Risks |
|---|---|---|---|
| **Outcome** | | | |
| Increased supply of imported and indigenous power | a. Power grid capable of transmitting and distributing 1,500 MW of power by 2028 from 450 MW in 2015 | a. DABS annual report | Cost of imported power not competitive compared with cost of power in Afghanistan. |
| | b. Electrification rate increased from 30% in 2015 to 50% by 2028 | b. Quarterly reports by the Inter-Ministerial Commission for Energy | Quality contractors and consultants may not be available because of the poor security conditions in Afghanistan. |
| **Outputs** | | | |
| 1. New 500 kV and 220 kV power transmission lines, power distribution networks, and high-voltage, direct-current, back-to-back convertor commissioned | 1a. NEPS transmission capacity increased from 300 MW in 2015 to 1,200 MW of connected load by 2025 | 1a. DABS annual report | Reduced availability of power supply from Turkmenistan and lesser demand potential in Afghanistan. |
| 2. Renewable energy projects constructed | 2a. Domestic generation installed capacity increased from 519 MW in 2015 to 530 MW in 2025 | 2a. Quarterly reports by the Inter-Ministerial Commission for Energy | Delays in procurement and implementation and deteriorating security leading to cost overruns. |
| 3. Domestic gas production and imported volume of natural gas from TAPI gas pipeline increased | 3a. Domestic gas production increased from 1.2 million cubic meters/day in 2015 to 2.5 million cubic meters/day in 2025<br>3b. Annual gas imports increased from 0 in 2015 to 0.25 billion cubic meters in 2025 | 3a–b. Afghanistan Central Statistics Organization publications | Increased security risk during project implementation. |
| 4. Project preparation and management capacity of energy ministries and agencies improved | 4a. DABS-managed projects and network operation and maintenance without external assistance (funds and contractors) starting from 2025 | 4a–b. DABS annual report | Governance and capacity issues could negatively affect the project. |

| Results Chain | Performance Indicators with Targets and Baselines | Data Sources and Reporting | Risks |
|---|---|---|---|
| 5. DABS business plan, and tariff model and framework developed | 5a. DABS established its investment, financing, and operating costs and requirements starting from 2019 | 5a. DABS annual report | Weak financial management capacity in DABS. |

**Key Activities with Milestones**

Tranche 1
1.1 Implementation consultants for tranche 1 projects recruited and mobilized (Q3 2016)
1.2 Future projects' preparation consultants recruited and mobilized (Q4 2016)
1.3 Bidding documents for two turnkey contracts issued (Q1 2016)
1.4 Contractors mobilized (Q4 2016)
1.5 Program management consultants mobilized (Q4 2016)
1.6 Projects for tranche 2 prepared along with bidding documents (Q2 2017)
1.7 Projects for tranche 3 prepared along with bidding documents (Q2 2018)
1.8 Projects for tranche 2 prepared along with bidding documents (Q2 2020)
1.9 Commissioning of tranche 1 projects (Q2 2020)

Tranche 2
2.1 Tranche 2 (PFR 2) approved (Q2 2017)
2.2 Bidding documents issued for tranche 2 projects (Q4 2017)
2.3 Contractors mobilized for tranche 2 projects (Q2 2018)
2.4 Commissioning of tranche 2 projects (Q4 2022)

Tranche 3
3.1 Tranche 3 (PFR 3) approved (Q2 2018)
3.2 Bidding documents issued for tranche 3 projects (Q4 2018)
3.3 Contractors mobilized for tranche 3 projects (Q3 2019)
3.4 Commissioning of tranche 3 projects (Q4 2023)

Tranche 4
4.1 Tranche 4 (PFR 4) approved (Q2 2020)
4.2 Bidding documents issued for tranche 4 project (Q4 2020)
4.3 Contractors mobilized for tranche 4 project (Q1 2021)
4.4 Commissioning of tranche 4 project (Q2 2025)

**Program Management Activities**
Procuring goods, recruiting consultants, reporting, monitoring, accounting, and auditing

**Inputs**

Multitranche Financing Facility:
ADB: $750 million (ADF grant)
Government: $20 million
AITF: $450 million grant[a]

Tranche 1:
ADB: $200 million (ADF grant)
Government: $5 million
AITF: $75 million grant

**Assumptions for Partner Financing**
Development partners remain interested in infrastructure financing for Afghanistan.

ADB = Asian Development Bank, ADF = Asian Development Fund, AITF = Afghanistan Infrastructure Trust Fund, DABS = Da Afghanistan Breshna Sherkat (Afghanistan's state-owned power utility), kV = kilovolt, MW = megawatt, NEPS = North East Power System, PFR = periodic financing request, Q = quarter, TAPI = Turkmenistan–Afghanistan–Pakistan–India.

[a] Instruments of contribution to the AITF totaling $75 million have been executed. Discussions are ongoing with the governments of Australia, Belgium, Canada, Germany, Japan, the Netherlands, and the United Kingdom for the contribution of further amounts totaling $375 million. For every tranche that will be supported by AITF cofinancing, instruments of contribution to the AITF in the total amount of the said AITF cofinancing will be executed prior to the approval of the tranche.

Source: Asian Development Bank.

## LIST OF LINKED DOCUMENTS

http://adb.org/Documents/RRPs/?id=47282-001-3

1. Framework Financing Agreement
2. Periodic Financing Request for Project 1
3. Sector Assessment (Summary): Energy
4. Facility Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Economic and Financial Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Initial Environmental Examination
11. Environmental Assessment and Review Framework
12. Resettlement Plan
13. Resettlement Framework
14. Risk Assessment and Risk Management Plan

**Supplementary Documents**

15. Procurement Assessment of Da Afghanistan Breshna Sherkat
16. Financial Management Assessment of Da Afghanistan Breshna Sherkat
17. Project Climate Risk Assessment and Management Report
18. Comparative Matrix (Justification for Use of a Multitranche Financing Facility)