

SBF Project Completion Note¹

Azerbaijan: Trans-Anatolian Natural Gas Pipeline (TANAP) Project

1. Project Information

Project ID:	000011	Investment Number:	LN0011
Member:	Azerbaijan	Region:	Western Asia
Sector:	Energy	Sub-sector:	Oil and gas transmission and distribution
Financing Type:	<input checked="" type="checkbox"/> Loan <input type="checkbox"/> Guarantee	E&S category:	A
AIIB financing amount:	US\$600 million		
Co-financier(s):	World Bank's International Bank for Reconstruction and Development (IBRD) – US\$400 million. ² IBRD is the lead co-financier for this project. IBRD administered and supervised the AIIB loan on behalf of AIIB ³ .		
Borrower ⁴ :	Southern Gas Corridor Joint Stock Company (SGC)		
Guarantor:	Republic of Azerbaijan		
Implementing Entity:	TANAP Natural Gas Transmission Company ⁵ (TANAP)		
Other entities involved:	<p>The shareholding structure of the TANAP Company at the time of project approval⁶ was the following:</p> <ul style="list-style-type: none"> ▪ <u>Southern Gas Corridor Closed Joint Stock Company (SGC)</u>. SGC is a joint investment vehicle for the Southern Gas Corridor Program. It was established by the Government of Azerbaijan and the State Oil Company of the Azerbaijan Republic (SOCAR) and holds <u>58%</u> of the shares of TANAP. SGC is the borrower for the portion of Program jointly financed by AIIB and IBRD. 		

¹ Prepared on 31 January 2022 and finalized on 12 April 2022 following consultations with internal and external stakeholders.

² In addition to the US\$400 million jointly co-financed with AIIB, IBRD provided an additional US\$400 million loan to BOTAS (another shareholder on the TANAP company). Subsequent sections of this PCN provide additional information on the shareholding structure of TANAP.

³ The IBRD loan closing date was the same as the AIIB loan. The timeline for preparing the project completion report was the same for IBRD and AIIB. As part of the final technical meeting held in December 2021, AIIB had a chance to review the draft Implementation Completion and Results Report (ICR) prepared by the IBRD to ensure data consistency and alignment of findings.

⁴ This refers exclusively to the portion of Program co-financed by AIIB and IBRD.

⁵ In Turkish, TANAP Doğalgaz İletim Anonim Şirketi, a special purpose private company established in 2014 under the Turkish Commercial Code to implement the TANAP project and own it and operate it after its completion.

⁶ During project implementation, SGC sold 7% of its shares to SOCAR Turkey Enerji A.Ş (STEAS). This transaction did not affect project implementation.

	<ul style="list-style-type: none"> ▪ <u>Boru Hatları İle Petrol Taşıma Anonim Şirketi (BOTAS)</u>. This is Turkey's national gas company, and it holds <u>30%</u> of the shares of TANAP. ▪ International oil and gas company <u>BP plc</u> (formerly British Petroleum) - <u>12%</u> of the shares of TANAP. <p>The TANAP project is part of a program called the Southern Gas Corridor Program (further description provided below).</p>
Project Team Leader(s):	<p><u>PTL (original)</u>: Hari Bhaskar, Principal Investment Operations Specialist, Infrastructure Investment Department Region 1</p> <p><u>PMO (current)</u>: Alok Dayal, Principal Portfolio Management Officer, Implementation Monitoring Department (IMD)</p>
Project Team Members:	<p>Somnath Basu, Principal Environment and Social Development Specialist, Operational Services Department (OSD)</p> <p>Yi Geng, Senior Financial Management Specialist (OSD)</p> <p>Rabindra Shah, Procurement Associate (OSD)</p> <p>Aditi Khosla, Counsel, Legal Department (LEG)</p>
Site Visits:	<ul style="list-style-type: none"> ▪ April 2017 ▪ September 2017 ▪ April 2018 ▪ October 2018 ▪ February 2018 (IBRD only) ▪ September 2019 ▪ February 2020 (IBRD only) ▪ September 2020 (virtual mission) ▪ June 2021 (virtual mission) ▪ Given the satisfactory project performance and in the absence of any major outstanding issues, IBRD and AIIB held a final virtual technical meeting with the borrower in lieu of a formal mission in December 2021.

2. Project Summary and Objective

The Trans-Anatolian Natural Gas Pipeline (TANAP) Project (“the Project”, to which this PCN refers) forms part of the Southern Gas Corridor Program (“the Program”).

The objective of the Program is to transport gas from fields in Azerbaijan to Italy, through Georgia, Turkey, Greece, and Albania. It seeks to strengthen the connectivity and transit role of Azerbaijan and contribute to increased and diversified energy supply in Turkey and in the EU. Three infrastructure projects are included in the Program, TANAP being one of them. In geographic sequencing, the three projects are:

- SD2 - Expansion of the South Caucasus Pipeline transporting gas from the Shah Deniz 2 field in Azerbaijan across the country and across Georgia to the Turkish border;

- TANAP -Transporting gas from the border across Turkey to Greece, with two offtake points in Turkey; and
- New Trans Adriatic Pipeline (TAP) - Carrying gas through Greece and Albania (with offtake points in both countries), and on to Italy crossing the Adriatic Sea, for further connection to the Italian natural gas network.

The Program responds to the need of enhancing energy supply diversification (both source and route) for European markets, especially in the Baltic area and in Central and South-East Europe. The Program is also supposed to have a positive impact on the economic development of the countries involved, particularly Turkey and Azerbaijan. This includes not only energy supply diversification and gas storage capacity, but also employment generation and – for Azerbaijan specifically - integration into the European energy market and diversification of the revenue stream from the declining oil sector.

In December 2016, AIIB's Board of Directors approved the Trans-Anatolian Natural Gas Pipeline project loan of US\$600 million to TANAP, with the Government of Azerbaijan as guarantor. IBRD is the lead co-financier. TANAP is a special purpose private sector company established under the Turkish Commercial Code. Upon project completion, TANAP will own and operate the TANAP pipeline system.

The project objective for the TANAP segment of the Program is “to diversify Azerbaijan's gas export markets and improve the security of Turkey's and South-East Europe's energy supply”. Accordingly, the project-level indicators included in the results monitoring framework (RMF) refer to the three dimensions forming part of the project objective: (i) gas exports from Azerbaijan to new off-take markets; (ii) gas imports by Turkey; and (iii) gas imports by Europe – all expressed in billion cubic meters (bcm) per annum. TANAP accounts for 1,811⁷ km of pipeline within the broader program, which corresponds to slightly more than 50% of the total length of the pipeline involved (approximately 3,500 km).

The TANAP project had three Components:

- Component 1: Construction of pipeline infrastructure and associated control systems from the Turkish border with Georgia to the Turkish border with Greece;
- Component 2: Land acquisition, including cash compensation, livelihood restoration plans, and Resettlement Action Plans (RAPs). All activities under this component were funded by the Borrower; and
- Component 3: Consultancies for project design, engineering, procurement, construction, supervision, and monitoring.

The IBRD-AIIB loans funded activities under Component 1 and Component 3.

3. Key Dates

Approval:	December 21, 2016	Signing:	January 26, 2017
Effective:	February 20, 2017	Restructured (if any):	-
Orig. Closing:	July 31, 2021	Rev. Closing (if any):	-

4. AIIB Disbursement Summary (USD million)

a) Committed:	600.0	b) Cancelled (if any):	-
---------------	-------	------------------------	---

⁷ 1,850 estimated at appraisal.

c) Disbursed:	600.0	d) Last disbursement: (amount /date)	8.7 (June 30, 2018)
e) Undisbursed (if any):	0	f) Disbursement Ratio (%) ⁸ :	100.0%

5. Estimated and Actual Costs of the Project (US\$ million)

At the time of project appraisal, it was estimated that the shareholders of TANAP would contribute⁹ according to the following distribution:

- SGC: US\$5.0 billion or 58% of total financing
- BOTAS: US\$2.6 billion or 30% of total financing
- BP plc: US\$1.0 billion or 12% of total financing
- **Total: US\$8.6 billion**

Besides the portion of the project directly co-financed by IBRD/AIIB, the overall financing plan involved two other International Financing Institutions (IFIs): European Bank for Reconstruction and Development (EBRD) and European Investment Bank (EIB). The total amount of financing foreseen from IFIs was US\$3.2 billion. The appraisal stage contribution of the four IFIs involved in the project followed the distribution illustrated in Table 1.

Table 1. IFIs intended contribution to the TANAP project, by TANAP shareholder (appraisal stage)

	TANAP Shareholder			
		BOTAS (US\$ billion)	SGC (US\$ billion)	Total (US\$ billion)
IFI	IBRD	0.4	0.4	0.8
	AIIB	-	0.6	0.6
	EIB	0.8	0.5	1.3
	EBRD	-	0.5	0.5
	Total	1.2	2.0	3.2

The total financing plan by funding source foreseen at appraisal stage and actually realized at project closing is illustrated in Table 2, while Table 3 compares estimated and actual costs by activities funded (appraisal stage vs project closing).

Table 2. Estimated and actual financing plan, by funding source¹⁰

Financier	Estimated amount (US\$, appraisal stage)	Actual amount (US\$, project closing stage)
AIIB	600,000,000	600,000,000
EBRD	500,000,000	500,000,000
EIB	1,300,000,000	270,000,000
IBRD	800,000,000	800,000,000

⁸ Disbursement Ratio is defined as the volume (i.e., the dollar amount) of total disbursed amount as a percentage of the net committed volume, i.e., $f = c / (a - b)$.

⁹ Through funding received from lenders, including IFIs, as well as own resources.

¹⁰ As explained in sections 1, 2 and 5 –AIIB and IBRD financed part of the project covered in this PCN as part of the contributions of SGC and BOTAS. Regarding the EIB loan, this was only approved in March 2018, well after the approval (and disbursement of most of the loans from AIIB, EBRD and IBRD). The EIB loan was disbursed against the remaining outstanding expenses, and it remained underutilized given the savings between planned and actual costs.

Borrowers (TANAP shareholders)	2,400,000,000	2,980,260,000
Private commercial sources	2,000,000,000 ¹¹	159,000,000
Foreign private commercial sources	1,000,000,000	1,000,000,000 ¹²
Total	8,600,000,000	6,309,260,000

Table 3. Estimated and actual project costs, by Component

Component	Estimated cost (US\$, appraisal stage)	Actual cost (US\$, project closing stage)
Component 1: Pipeline infrastructure	7,700,000,000	5,411,818,000
Component 2: Land acquisitions	200,000,000	157,078,000
Component 3: Consultancies	700,000,000	740,360,000
Total	8,600,000,000	6,309,256,000¹³

The actual costs incurred by the project were lower compared to the estimate made at appraisal stage and reached **a total level of US\$6.3 billion** – representing savings of approximately 27%. The cost estimate at appraisal of US\$ 8.6 billion included a conservative US\$ 1.4 billion as a contingency provision. Among the reasons for the savings observed were the following:

- The overall budget was prepared at the beginning of the construction phase, and it was developed on a conservative basis;
- A reduction in steel prices were observed at the time of contract negotiation;
- The actual aggregated increase in the contract prices due to change orders was only 8.15% of the cumulative contract prices; and
- The cumulative amount of contingency used was less than 1% of the cumulative contract prices, a small value for a project the scale of TANAP.

AIIB's contribution to the project (US\$600 million, to fund activities under Components 1 and 3) remained at the same level planned at approval stage, and funds were disbursed in their entirety. A breakdown of AIIB contribution to the project, by expenditure category, is provided in Table 4.

Table 4. AIIB financing, by expenditure category

Category	Amount of loan allocated (US\$)
Goods, works, non-consulting services, and consulting services for the project	581,500,000
Front-end fee	1,500,000
Interest and other charges under the loan	17,000,000
Total	600,000,000

¹¹ Includes a US\$1 billion non-honoring sub-sovereign guarantee from MIGA, of which only US\$159 million were actually disbursed. The loan principal was prepaid in full and remaining loan funds were cancelled due to savings in the project. The guarantee was issued in 2018 and terminated in 2019.

¹² Raised in Eurobonds by SGC.

¹³ Minor discrepancy is the result of rounding up.

Project Implementation, including major changes to the original Objective, Project Design, Project Implementation Plan, and Results Indicators

(A) Project Design

Project design was carried out in alignment with AIIB's mission, and with the underlying principles of AIIB's engagement in the energy sector (see Section 9 below for additional information on alignment and compliance). Given the role of IBRD as lead co-financier, the World Bank's policies and procedures on safeguards, procurement, financial management, and project monitoring/reporting were adopted.

Some of the procurement and construction activities were already initiated during project appraisal, given the scale of the project and its importance in the broader context of the Southern Corridor Program, of which TANAP represents the central segment.

(B) Project Components

TANAP consists of a 1,811 km¹⁴ pipeline system transporting natural gas produced at SD2 field in Azerbaijan across Georgia and Turkey onto Europe. Part of the gas production (approximately 37% according to estimates made at appraisal stage) was intended for consumption in the Turkish market; the remaining part was to be contracted by several gas traders in Europe for their South-Eastern market. A further description of planned and actual volumes of gas deliveries is presented in Sections 6.B and 7 below, as well as in *Annex 2 – Results Monitoring Framework*.

As illustrated above, the project had three components, respectively funding: (i) pipeline infrastructure construction; (ii) land acquisitions; and (iii) consulting services.

Pipeline infrastructure construction activities were articulated around two phases:

- Phase 0 “Gas to Turkey”, starting off with the delivery of natural gas to Turkey (connection to the SD2 segment of the South Corridor Program); and
- Phase 1 “Gas to Europe”, delivering gas to Europe through the Trans-Adriatic Pipeline (connection to the TAP segment of the South Corridor Program).

(C) Overall Implementation Status as of Reporting Date

The project became fully effective in a short timeframe and with no delays. The co-lenders agreement between IBRD and AIIB was also promptly signed (in February 2017) and there were no restructurings or major deviations/substantial changes compared to the appraisal stage.

The project has achieved full operational efficiency for both Phase 0 (Gas to Turkey) and Phase 1 (Gas to Europe). All the planned targets for gas delivery indicators were achieved, in some cases surpassed (further information on each indicator is available in Section 7).

Gas deliveries to the TAP pipeline started at the end of December 2020 and subsequently surpassed their 2021 target figure. It is expected that the pipeline will reach a plateau of 10.5 bcm/annum in the first quarter of 2022 – a higher level than it had been foreseen at appraisal (10 bcm/annum). A cumulative total of 13,47 bcm/annum of gas has been delivered to Turkey and total of 7.28 bcm/annum of gas has been delivered to Europe as of end November 2021.

¹⁴ Appraisal estimate: 1,850 km.

Table 5. Overall Implementation and Compliance Status

Physical Progress	Environmental & Social Compliance	Procurement	Financial Management
<p>100% completed. Physical works included the construction of a pipeline and the associated control systems (on-land and offshore pipeline lots, compressor stations, metering stations, pig launchers, supervisory control and data acquisition system, and the main control center). Due to the significant scale of the project, some of the construction works were already initiated during the appraisal phase. Gas transmission to Europe was established in December 2020 with some minor delays due to slow construction progress in the TAP segment of the Southern Corridor Program, which was impacted by the COVID-19 pandemic.</p>	<p>In compliance. For this project, AIIB agreed to follow the World Bank's E&S policies and safeguards. Four of the WB's safeguard policies were applied to TANAP: OP/BP 4.01 Environmental Assessment, OP/BP 4.04 Natural Habitats, OP/BP 4.11 Physical Cultural Resources, and OP/BP 4.12 Involuntary Resettlement. Under such policies, TANAP was classified as a Category A project. Further details on E&S aspects are provided in Section 10.</p>	<p>100% completed. For this project, AIIB agreed to follow the World Bank's procurement policies. Given the scale of the project, major contracts had already been awarded as advance procurement during the appraisal stage. Procurement activities conducted by TANAP were reviewed by IBRD and found to be broadly consistent with the World Bank's core procurement principles. All contracts were completed satisfactorily and with no significant changes (e.g., material time extensions, price increase in major contracts, terminations).</p>	<p>In compliance. TANAP maintained satisfactory financial management arrangements throughout implementation, the unaudited interim financial report and annual audited project statements were timely provided.</p>

(D) Disbursements

The AIIB loan of US\$600 million was disbursed in its entirety and in accordance with the AIIB General Conditions for Sovereign-backed Financing, the project Loan Agreement and the loan Disbursement Letter.

The actual annual disbursements are presented in the following table.

Table 6. Actual Disbursements (US\$ million)

Year	Actual Disbursements			
	Loan Annual Disbursement	% of Total	Total Cumulative Disbursement	% of Total
2017	591.3	98.5 %	591.3	98.5 %
2018	8.7	1.5%	600.0	100.0%
Total	600.0	100.0%	600.0	100.0%

(E) Project Schedule

Given the significant scale of the project, contract awarding and physical construction were already partially underway at the time of project appraisal. This increased the implementation readiness of the project and contributed to its overall effectiveness in achieving planned results.

Project implementation proceeded according to schedule, with the exception of some minor delays in the establishment of gas transmission to Europe (Phase 1). As TANAP represents the second out of three pipelines forming part of the Southern Corridor Program, delays in physical construction of the TAP segment (the third pipeline) resulted in minor delays on the operational schedule of TANAP itself. Delays in the TAP projects are the result of the impact of the COVID-19 pandemic, and the operational efficacy of TANAP was immediately restored once gas transmission to Europe was eventually established. Key project milestones are summarized in Annex 3.

6. Results Achieved against the original indicators

The complete list of project-level and intermediate indicators with annual target values and actual achievements is provided in Annex 2 to this PCN, while this section provides a narrative update.

The Results Framework for TANAP included three Project Objective indicators, all of which were fully achieved at the time of project closing.

Project level indicator #1: Diversifying Azerbaijan's Gas Export Markets. After experiencing some minor delays caused by circumstances out of TANAP's control, gas deliveries to the TAP pipeline started at the end of December 2020 and subsequently surpassed their 2021 target figure. At the time of writing this PCN, approximately 9.4 bcm/annum (annualized delivery) had been reached. It is expected that the pipeline will reach a plateau of 10.5 bcm/annum in the first quarter of 2022 – a higher level than it had been foreseen at appraisal (10 bcm/annum).

By reaching this target, the project delivered on its intended objective to increase and diversify gas export markets in Azerbaijan. This is considered critical for the country's recovery from the macroeconomic crisis due to low international energy prices, as well as for its economic integration with Europe.

Project level indicator #2: Improving the security of Turkey's energy supply. TANAP's gas transmission capacity to Turkey was fully established in June 2018, as foreseen at the time of project approval. Gas deliveries reached and surpassed the target of 4.5 bcm/annum in the year 2020. A plateau of gas deliveries of 5.7 bcm/annum was reached in July 2021, a higher level than it had been foreseen at appraisal (5.4 bcm/annum).

By reaching this target, the project delivered on its intended objective of contributing to energy supply security and macroeconomic stability in Turkey.

Project level indicator #3: Improving the security of South-East Europe's energy supply. This indicator mirrors project level indicator #1 by measuring South-East Europe's gas imports from a new source (Azerbaijan). Therefore, this indicator also fully achieved its intended results.

The three project level indicators were underpinned by a total of seven intermediate result indicators seeking to measure results under the following aspects:

- Availability of gas to Turkey and Turkish gas consumers benefitting from gas supply;
- Grievances being addressed;
- Community consultations being held, and consultations held for women specifically;
- Women's employment; and
- Registration of affected private land parcels.

Planned targets were met or surpassed for all the intermediate results indicators, with the exception of *Intermediate result indicator #7: Progress in registration of affected private land parcels*. A target of 100% was set under this indicator, and the result achieved at the time of PCN preparation stood at 99.62% approximately. It is not expected that the target will be fully met, due to ongoing land consolidation and cadastral renewals.

7. Investment Sustainability (operational, financial/commercial, institutional)

TANAP is a special purpose private company established in 2014 under the Turkish Commercial Code to implement the TANAP project and own it and operate it after its completion. TANAP also benefits from a solid and well-established shareholding structure, well equipped and resourced to ensure sustainability of this large-scale investment. From a technical standpoint, over the course of project implementation, TANAP demonstrated high capacity and commitment to manage the operations of the gas pipeline and its related facilities. Experience built through project implementation strengthened the already high operational capacity of TANAP. As a result of the engagement with IBRD and AIIB, TANAP built up state-of-the-art capacity on pipeline operations, including environmental and social issues, and is now well positioned to manage the daily operations of the infrastructure over its lifetime. Dedicated Operations and Maintenance (O&M) personnel has been recruited to optimize operational sustainability over time. TANAP's excellent performance as an implementing agency is also demonstrated by the high number of awards received by the company since its establishment. Among these, the 2019 *Green World Award* for best environmental practices; the 2019 *International CSR Excellence Award* for sustainability, and the 2020 *Project of the Year* award from the Project Management Institute (PMI).

8. Compliance and Alignment with AIIB's Policies and Strategic Priorities

At the time of project approval, AIIB did not have a strategy to guide and inform its investments in the energy sector. However, a discussion had been initiated via an Issues Note circulated for public consultation. The project was designed in alignment with the overall strategic direction and focus agreed with the Board and aligns to the key guiding principles of the Issues Note¹⁵ – which were later translated in the current *Energy Sector Strategy: Sustainable Energy for Asia* – to which the project remains highly relevant. In particular, the TANAP project responded to the Issues Note principles to:

- Ensure energy security and equality: “It is proposed that AIIB support regional energy infrastructure connectivity projects to improve reliable energy and power supply [...]”; and
- Promote regional cooperation: “AIIB’s founding members stressed the need to increase regional connectivity of energy systems in Asia, especially power and gas, with a view to strengthening systems, improving the security and efficiency of energy supply [...]”.¹⁶

Furthermore, the current Energy Strategy embeds the guiding principle to “promote regional cooperation and connectivity”. Under said principle, one of the recommended indicators for inclusion at the project level is the delivery of natural gas, measured in bcm/annum, which is fully consistent with the RMF of the TANAP project. Connectivity is also a thematic priority under AIIB’s Corporate Strategy, according to which “AIIB will prioritize projects that facilitate better domestic and cross-border infrastructure connectivity within Asia and between Asia and the rest of the world”¹⁷.

Lastly, undertaking this project in partnership with IBRD as a co-financier fulfills AIIB’s purpose to “promote regional cooperation and partnership in addressing development challenges by working

¹⁵ As available at the time of project approval.

¹⁶ [AIIB Energy Strategy: Issues Note for discussion \(October 2016\)](#)

¹⁷ [AIIB-Corporate-Strategy.pdf](#)

in close collaboration with other multilateral and bilateral development institutions” as defined in the Bank’s Articles of Agreement.

9. Implementation of project-specific Environmental and Social instruments

AIIB agreed to use the World Bank’s E&S policies and safeguards in the implementation of the TANAP project. Four safeguard policies were applied to TANAP: OP/BP 4.01 - Environmental Assessment; OP/BP 4.04 - Natural Habitats; - OP/BP 4.11 Physical Cultural Resources; and OP/BP 4.12 - Involuntary Resettlement. Under such policies, TANAP was classified as a Category A project.

Resettlement Action Plan: The implementation of TANAP involved a sizeable amount of land acquisitions (over 4,500 hectares of private land), impacting more than 115,000 landowners. The project included two Resettlement Action Plans (RAPs): one for pipeline infrastructure and a second one for above-ground installations. Resettlement implementation progress is monitored in the RMF through a specific indicator on the registration of affected private land parcels. Similar to procurement and physical construction activities, RAP implementation was also already ongoing during project appraisal. A RAP audit was therefore carried out to ensure compliance of the existing RAP activities. The audit identified a total of 15 corrective actions to improve the RAP, for example in terms of support to vulnerable people, grievance redress mechanism (GRM) processes, stakeholders’ engagement, and others. All corrective actions identified by the RAP audit are now complete with the exception of residual ones on private land parcels registration (see Section 7), and some ongoing grievance redressals. Other E&S-related indicators included in the RMF, including gender-specific indicators, met or exceeded their intended targets.

Social and Environmental Investment Program: As an additional E&S instrument, TANAP established a Social and Environmental Investment Program (SEIP). The SEIP is a grant-based mechanism providing support to people or entities living on the pipeline route. SEIP provided over US\$53 million in grants across more than 1,000 micro-projects to farmers, cooperatives, unions, municipalities, villages, schools, universities, provincial authorities, and non-Governmental organizations (NGOs) directly or indirectly affected by pipeline construction (total beneficiaries exceeded 40,000 people). Establishing a SEIP, which provides for participation of the stakeholders and affected population in a direct and immediate way, can improve the sustainability of the project as it enhances the population’s sense of project ownership.

Grievance Redress Mechanism: The project benefitted from a solid and well-functioning GRM. The top three types of grievances received during the construction period and the first years of the operations were related to damage to lands and crops, damage to infrastructures/community assets, and reinstatement. At the time of PCN writing, the GRM had received a total of 5,364 grievances – of which over 98% were closed. Grievances still ongoing are mostly related to reinstatement cases, and they will be addressed in the coming months. The RMF includes a specific intermediate indicator on grievance redress, for which the target has been achieved and surpassed.

In the event of the GRM not being able to address cases to the complainants’ satisfaction, four appeal committees with independently appointed local experts were put in place, in line with international good practice for large infrastructure projects (one per each construction lot in the pipeline). The four committees received a total of 25 cases, of which 3 are open at the time of PCN writing, 4 were escalated to the courts, and 18 were solved. For the operations phase, TANAP has updated the GRM and established an in-house system for grievance recording and processing.

Biodiversity monitoring: All reinstatement activities have been completed, including bio-restoration and reforestation. A biodiversity offset management strategy was finalized, under which site-specific plans will be completed in the first quarter of 2022.

10. Lessons Learned

In implementing this project, AIIB was able to benefit from close collaboration with and use of IBRD's systems. This substantially reduced the risks of project delays and difficulty in achieving the expected results. TANAP is a successful large-scale project, involving extensive construction works and a sizeable amount of land acquisitions. Its implementation resulted in the identification of a number of lessons and good practices which can be relevant for future projects of a similar nature that AIIB may finance in the energy sector.

This section goes beyond the description of lessons learned, and also includes examples of good practices implemented by IBRD as the lead co-financier for this project, in response to project events and/or based on previous experience. The list below includes both technical and process-related observations. Joint consideration of lessons along with good practices deployed by a more experienced co-financier is expected to be useful to AIIB, particularly in view of upcoming stand-alone projects in which the Bank may be the only IFI involved.

GHG emissions from natural gas sources. A gas leak was observed at one of the project's block valve stations in May 2021 (an incident investigation to determine the cause of the leak is ongoing at the time of PCN writing). Incident response action was promptly triggered to secure, inspect, and test the affected area. While safe gas delivery to Turkey and Europe was resumed three days after incident reporting, it is estimated that a total of around 3 million cubic meters of gas (2 hours of throughput) were vented as a result of the incident, corresponding to around 55 ktCO₂-eq. Following the incident, IBRD concluded that, at design stage, the project would have benefitted from a more comprehensive and conservative assessment of greenhouse gas (GHG) emissions impact. Indeed, the assessment carried out at appraisal stage focused on gas-powered compressor stations, as the only major source of GHG emissions from the project, which seriously underestimated the potential impact of leaking incidents and gas venting.

Operational Health and Safety issues. The project struggled with Operational Health and Safety (OHS) issues during the construction phase. Nine fatalities were reported since the beginning of construction works (this includes some occurred prior to project approval), as well as other non-fatal incidents and high-potential near misses. Concerned by the poor OHS performance of contractors and sub-contractors, IBRD conducted an OHS review and issued a series of recommendations for TANAP follow-up. Pursuant to this, TANAP reviewed and strengthened its incident reporting system, re-organized the OHS team with the appointment of a Director reporting directly to its General Manager, carried out an independent audit for further investigation, and introduced incentive and recognition programs to promote safe behavior. No fatal accidents were recorded since October 2018. However, this experience showed the importance of updating OHS plans periodically. The World Bank explicitly included this recommendation in their updated Environmental and Social Framework, and this is also mentioned in AIIB's revised ESF¹⁸.

Overtime. Overtime hours exceeding the national labor legislations were observed during the due diligence process carried out by IBRD. This issue was addressed in a twofold manner: (i) by TANAP, ensuring that payment for overtime work would align to the prevailing national laws; and (ii) by IBRD, developing a Working Hours Action Plan to reduce overtime hours and monitoring the implementation of a Fatigue Management Plan to ensure workers' safety.

Retrenchment. While TANAP did not receive any grievances related to retrenchment, ten lawsuits filed by contracted workers in relation to retrenchment were reported to TANAP by project contractors. Those are still pending court decision at the time of preparing this PCN. TANAP will

¹⁸ [AIIB-Revised-Environmental-and-Social-Framework-ESF-May-2021-final.pdf](#) *Environmental and Social Standards*, para 52: "[...] implement the following measures designed to provide Project workers with safe and healthy working conditions [...] put in place a system for regular review of occupational health and safety performance and the working environment."

continue to monitor the working conditions of all personnel involved in the operations phase of the project.

Environmental and Social Impact Assessment (ESIA). IBRD put in place a rigorous ESIA process during baseline studies and construction phase, as part of which 12 new species of flora/fauna were discovered and a number of chance archeological finds were identified. TANAP was very active in following up on such discoveries and by reaching out to relevant authorities as appropriate. Biodiversity species discovery was publicized in scientific journals. Archeological finds were addressed by rerouting the pipeline and, when rerouting was not possible, objects were carefully excavated and handed over for further research. IBRD and TANAP will publish lessons learned notes (see below) which will focus prominently on E&S aspects, including ESIA.

Gender integration. The project successfully managed to integrate a gender perspective into its design and implementation. Two dedicated indicators were included in the RMF:

- Number of community consultations held for women (fully met); and
- Share of women employed by construction contractors (overachieved).

During the early stages of project design, a local skills analysis study was conducted. This included women as a specific group, with a view to targeting them as beneficiaries of catering and maintenance job opportunities. The SEIP also included gender-specific investment opportunities to ensure women would be appropriately targeted. Lastly, attention was devoted to ensuring that feedback mechanisms set up as part of the project would be equally accessible to men and women. IBRD collected gender-disaggregated data with the learning purpose of designing more gender-inclusive infrastructure projects in the future (as well as sensitizing the borrower and implementing agency and enhancing project staff capacity on this relevant topic).

Project implementation readiness. The project is a good model for implementation readiness and it had made considerable progress at the time of approval. This was a key factor in ensuring timely delivery, considering the very large scale of the investment. Some salient examples:

- The procurement of major contracts was conducted during appraisal. During this time, IBRD assessed procurement compliance according to their policies and standards;
- Some construction works were also carried out during appraisal and were funded through restorative financing;
- Institutional and implementation arrangements within TANAP were finalized before project approval; and
- The legal foundations of the project, including the MoU between the Governments of Azerbaijan and Turkey, were completed before appraisal. At the time of approval, all the necessary authorizations were in place and implementation could start immediately.

Implementing agency capacity and institutional arrangements. TANAP demonstrated high capacity to implement the project, thus providing ample reassurance on continued operational sustainability after project closing. The institutional arrangements put in place by TANAP were also considered conducive to successful implementation. Some examples include:

- Appointment of dedicated staff to manage each major project contract;
- Competitive selection of E&S and OHS specialists with prior experience in large infrastructure projects, tasked with overseeing the performance of personnel hired by contractors;
- Creation of a Directorate for E&S and OHS matters, and appointment of a Director with a direct reporting line with the General Manager of TANAP, which greatly facilitated communication and decision-making in these two key areas;
- Hiring of third-party monitoring companies to carry out independent E&S audits of all project activities; and

- Close and frequent interaction between external consultants hired by TANAP and the company's core staff team.

Project design and RMF. In spite of the large scale and potential complexity of the project, the design was simple and straightforward. The indicators included in the RMF were relevant, aligned to AIIB's vision for energy projects where applicable, and easily monitorable. Attribution of results to project activities through the RMF was straightforward. This notwithstanding, some observations are highlighted for consideration and uptake in future projects:

- The RMF did not include any detailed and sequenced indicators to measure progress during construction. These could have been added as intermediate result indicators, and they would have facilitated results aggregation at the portfolio level (project level results on gas delivery are meant to be collected within individual projects only).
- Two of the three project level indicators mirror each other as they measure market diversification from Azerbaijan (gas to Europe) and energy supply for Europe (gas from Azerbaijan). These two indicators are essentially measuring the same result from two different but related perspectives.

Frequency of reporting. It was agreed that TANAP would provide monthly report updates to their shareholders and to IBRD, the reports were also shared with AIIB throughout project implementation. This frequent reporting arrangement proved to be a very effective form of project-level M&E. It considerably simplified implementation monitoring from the financiers' side and facilitated the identification of potential issues. The monthly reports consisted of brief updates in narrative form, which covered, *inter alia*:

- Procurement and construction updates;
- E&S and OHS events, including tables for related KPIs; and
- Updates to the project risk matrix.

Knowledge dissemination. Lastly, both TANAP and IBRD placed great emphasis on the proactive dissemination of the rich knowledge and lessons generated by the project. At the time of PCN preparation, a lessons learned note was being drafted by IBRD, including recommended practices on E&S, OHS and overall project management aspects. Public dissemination is foreseen for said note, in the spirit of outreach to potential clients and peer learning among MDBs investing in infrastructure. TANAP, on the other hand, has prepared a complementary note, which compiles lessons learned with a greater focus on technical aspects such as construction and procurement¹⁹. The possibility to organize knowledge sharing events in 2022 was also being considered.

11. Borrower's Feedback

TANAP provided responses to AIIB's Client Feedback Questionnaire on 10 January 2022. As IBRD acted as a lead co-financier for this project, direct interaction with AIIB was only applicable to a restricted number of interactions. This notwithstanding, TANAP expressed positive feedback on the responsiveness and client-orientation of the AIIB team. One strong point in the performance of AIIB as a borrower, according to TANAP, refers to the decision to rely on IBRD's policies and procedures in a number of aspects, such as E&S safeguards and procurement. Doing so eliminated the need for double reporting and considerably helped overall efficiency in project implementation.

One suggestion extended by the TANAP team for future projects refers to the AIIB process for loan closure. TANAP invited AIIB to consider clarifying the requirements for loan closure earlier on in the process, and also administering the Client Feedback Questionnaire in the early stages of closure preparations.

¹⁹ [TANAP lessons learned handbook.pdf](#)

12. Any Pending issues and Follow-up actions, if applicable

The project was completed according to the planned schedule and with all project-level objectives meeting or even surpassing their targets. All but one intermediate results indicator achieved their targets. The one indicator below target is only marginally lagging behind (99.62% against a target of 100%). Moreover, the project demonstrates good potential for operational sustainability. No pending issues or matters requiring follow-up remain at the time of writing this PCN.

13. Achievement of Project Results

TANAP is a large and complex infrastructure project, involving multiple countries and playing a key role in the context of an even larger energy program of which it is a critical part. The project achieved all its objectives (in some cases surpassing the planned targets) and did so at a lower cost than envisaged at project appraisal.

TANAP was designed and implemented in alignment with the prevailing AIIB strategies at the time of approval. Moreover, the project may easily be scaled up if demand is present. Both TANAP and TAP pipelines have been designed to be expandable and reach higher capacity. Given the infrastructure already in place, investment needed would mainly be limited to additional compressor stations, which would call for a relatively modest investment requirement.

Lastly, the project is very rich in good practices and lessons learned, which may be useful for AIIB in the future, particularly in view of upcoming stand-alone investments.

Annex 1: Abbreviations and acronyms

BOTAŞ	Boru Hatları İle Petrol Taşıma Anonim Şirketi
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
ESIA	Environmental and Social Impact Assessment
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
IBRD	International Bank for Reconstruction and Development
IFI	International Financing Institution
NGO	Non-Governmental Organization
O&M	Operations and Maintenance
OHS	Operational Health and Safety
RAP	Resettlement Action Plan
RMF	Results Monitoring Framework
SD2	Shah Deniz 2
SEIP	Social and Environmental Investment Program
SGC	Southern Gas Corridor Joint Stock Company
SOCAR	State Oil Company of the Azerbaijan Republic
STEAS	SOCAR Turkey Enerji A.Ş
TANAP “Company”	TANAP Natural Gas Transmission Company
TANAP “Project”	Trans-Anatolian Natural Gas Pipeline
TAP	Trans Adriatic Pipeline

Annex 2: Results Monitoring Framework²⁰

Project Objective Indicators	Baseline	2016		2017		2018		2019		2020		2021		2022 ²¹
		Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Projection
Diversifying Azerbaijan's gas export markets (bcm/annum)	0.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.0	4.0	7.0	7.4	10.5 (10.0 at appraisal)
Improving the Security of Turkey's Energy Supply (bcm/annum)	0.0	n/a	n/a	n/a	n/a	1.0	0.8	2.5	2.8	4.5	4.0	5.0	5.7	5.7 (5.4 at appraisal)
Improving the Security of South East Europe's Energy Supply (bcm/annum)	0.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.0	n/a	7.0	7.4	10.5 (10.0 at appraisal)

²⁰ All target values are cumulative.

²¹ Project closing date is January 31, 2021. Values included in the original Results Monitoring Framework as "2022 Targets" are actually to be intended as projections, based on the project achieving full production capacity in the year 2022.

Intermediate Result Indicators	Baseline	2016		2017		2018		2019		2020		2021		2022 ²²
		Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Projection
Availability of TANAP for Gas Supply to Turkey (bcm/annum)	0.0	n/a	n/a	n/a	n/a	5.4	5.4	5.4	4.0	5.4	5.7	5.4	5.7	5.7 (5.4 at appraisal)
Turkish Gas Consumers benefitting from gas supply (million)	11	11	11	12	12	13	13	14	n/a ²³	15	17.5	<i>No targets set for 2021 and 2022</i>		
Registered grievances addressed within the stipulated timeframe (%) ²⁴	91	90	91	90	95	91	95	92	93	93	98.7	<i>No targets set for 2021 and 2022</i>		

²² Project closing date is January 31, 2021. Values included in the original Results Monitoring Framework as “2022 Targets” are actually to be intended as projections, based on the project achieving full production capacity in the year 2022.

²³ Updates on this indicator were not provided by IBRD for the year 2019.

²⁴ Does not include grievances subject to seasonality and third party assessments and decisions.

Intermediate Result Indicators	Baseline	2016		2017		2018		2019		2020		2021		2022 ²²
		Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Projection
Community consultations held as of the total number of communities along the actively worked sections of the pipeline (%)	100	100	100	100	100	100	100	100	100	100	100			<i>No targets set for 2021 and 2022</i>
Community consultations held for women as of the total number of communities along the actively worked sections of the pipeline (%) and consultations held separately for women (%) ²⁵	18	25	18	30	30	35	35	40	40	40	40			<i>No targets set for 2021 and 2022</i>

²⁵ The formulation of this indicator is potentially misleading. Mention of “community consultations held for women” and “consultations held separately for women” actually refers to the same platforms. For this reason, only one value is reported under this indicator, not two.

SBF Project Completion Note

Intermediate Result Indicators	Baseline	2016		2017		2018		2019		2020		2021		2022 ²²
		Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Projection
Progress in registration of affected private land parcels (number and %)	6,072 (32%)	6,572 (35%)	6,072 (32%)	11,267 (60%)	11,300 (60%)	16,900 (90%)	17,463 (93%)	18,590 (99%)	20,731 (98%) ²⁶	18,778 (100%)	21,279 (99.62%)	<i>No targets set for 2021 and 2022</i>		
Share of women employed by construction contractors out of total employee number (%)	5	5	5	5	5	5	6	5	n/a	5	6	<i>No targets set for 2021 and 2022</i>		

²⁶ Due to parcel consolidation and cadastral renewals, the actual numbers changed during implementation, and so did progress against the target.

Annex 3: Key Project Milestones

Milestone	Date
IGA and HGA Ratified	26 June 2012
GTA Signed FID Made	17 December 2013
EPCM Contract Award	16 April 2014
FEED Completed	8 June 2014
ESIA Positive Decision by MoEU	24 July 2014
Early Works Commenced	29 August 2014
56" Pipeline Construction Contracts Award	23 December 2014
Ball Valves Contract Award	26 February 2015
Delivery of RoW for the first 6*100 km	16 March 2015
56" Pipeline Construction Start	17 March 2015
Delivery of Camps 56" Pipeline Construction Contractors	17 April 2015
First Delivery of Linepipes	27 May 2015
Turbo Compressor Contract Award - 1	1 July 2015
Turbo Compressor Contract Award - 2	22 July 2015
SCADA Telecoms Contract Award	26 October 2015
48" Pipeline Construction Start	20 May 2016
Offshore Pipeline Construction Award	27 July 2016
Pipeline Commissioning Start	23 January 2016
First Gas Delivery to Turkey (Phase 0)	30 June 2018
Pipeline Commissioning Completed	15 June 2019
Completion of Stations Commissioning	26 November 2019
TANAP Project its system fully available by Start Date for commercial operation	01 July 2020

Completion of Transit Services for TAP Linefill under CGTA	19 December 2020
First Gas Delivery to Europe (Phase 1)	31 December 2020

Annex 4: Client Feedback Questionnaire²⁷

1. **Q: Are the services and support provided by the Project Team professional, sufficient and in time, during project preparation and project implementation? Please provide some specifics or examples as an illustration.**

A: At the beginning of the Loan Agreement process, it was agreed that AIIB, as the co-financer of the Project, would follow IBRD's procedures and policies and therefore, rely on IBRD's Implementation Team's assessment based on their Aide-Memoires and if needed join Mission Visits of IBRD. Therefore, no direct/close communication and one-to-one work, which could enable TANAP Team to get direct feedback or support from AIIB Project Team, had occurred and more importantly, not required. This was presumably because of the satisfactory performance of the TANAP Team, which had been reported by IBRD at the end of each Mission Visit since 2017 to 2021. On the other hand, whenever needed to communicate with the AIIB Team, they were always very responsive and collaborative.

2. **Q: Is it convenient to access to the Project Team's services and support? Please provide some specifics or examples as an illustration.**

A: Referring to the aforementioned position of AIIB in the TANAP Project, only feedback on this can be that the AIIB Team were always accessible and it was always possible to communicate when needed.

3. **Q: Does the Project Team demonstrate flexibility and efficiency during project preparation and project implementation? Please provide some specifics or examples as an illustration.**

A: Referring to the aforementioned position of AIIB in the TANAP Project, it was not applicable.

4. **Q: What is the value addition of AIIB's financing in the Project?**

A: AIIB financing was not directly issued to the Project. The financing was received by TANAPs' Shareholder(s), i.e. Borrower, and was dispersed to the Project. Nevertheless, it must be noted, that having sufficient funds and receiving uninterrupted financing during the Project implementation helped the TANAP Team to manage works as planned and complete the Project on time.

5. **Q: Will you consider working with the AIIB again in infrastructure development? Please provide a few specific reasons.**

A: TANAP, as the Project implementing entity, enjoyed working with AIIB and if there would be a need in the future, working with AIIB would be pleasure for TANAP Team.

6. **Q: Do you have any suggestion to the Project Team and/or the AIIB for them to improve their operations in the future?**

A: The fact that AIIB / Project Team chose to rely on IBRD's assessments helped TANAP Team to optimize its efforts, i.e. avoid double reporting, which would otherwise be required if separate assessments would have been carried out by the Banks. This good practice helped utilizing

²⁷ Submitted by TANAP on 10 January 2022.

resources efficiently and we would suggest such optimizations and collaborations are used by the AIIB, wherever possible.

7. **Q: Other comments, such as comments on the reporting requirements, approval of project changes, etc.**

A: Whilst not directly related to reporting, we would like to provide some feedback on the Project Closure process. At the last Virtual Mission Visit of the leading financier IBRD, where AIIB Team also attended in June 2021, a tentative planning and schedule for the project closing reporting was discussed; however, there was no specific mention of what might be required for the AIIB's closing report. As we, TANAP and IBRD, progressed developing the completion reports and also worked in good coordination with AIIB, the needs/requests of AIIB became much clear. Referring to this experience, TANAP would like to kindly suggest that "Client Feedback Questionnaire", which we understand that is a part of AIIB's standard practice, be delivered by the AIIB to the relevant Client at the earlier stages of closure report preparations.