



Report and Recommendation of the President to the Board of Directors

Project Number: 51228-001
June 2018

Proposed Loan Indian Railway Finance Corporation Railways Track Electrification Project (India)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 5 June 2018)

Currency unit	–	Indian rupee/s (₹)
₹1.00	=	\$0.0149
\$1.00	=	₹67.18

ABBREVIATIONS

ADB	–	Asian Development Bank
CORE	–	Central Organisation for Railway Electrification
EPC	–	engineering, procurement, and construction
IRFC	–	Indian Railway Finance Corporation
km	–	kilometer
m	–	meter
mm	–	millimeter
MOR	–	Ministry of Railways
SPS	–	Safeguard Policy Statement
TA	–	technical assistance

NOTES

- (i) The fiscal year (FY) of the Indian Railway Finance Corporation ends on 31 March. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2018 ends on 31 March 2018.
- (ii) In this report, "\$" refers to United States dollars, unless otherwise stated.

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Confidential information deleted.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to \$750,000,000 in Indian rupee equivalent to the Indian Railway Finance Corporation (IRFC) for the Railways Track Electrification Project in India.

2. The project involves electrification of approximately 3,378 route kilometers (km) of existing railway tracks spread across 13 states in India.¹ In the Indian context, electric traction has several advantages. First, it is substantially cheaper to run trains on electric traction compared with diesel-powered trains. Despite carrying 65.4% of all freight and 51.2% of the passenger load of Indian Railways, electric traction accounts for only 36% of the total energy bill, with diesel accounting for the balance 64%. Second, electric traction is not dependent on a specific primary source of energy (in contrast to diesel) and can therefore be sourced from a range of energy forms taking price and other characteristics into consideration, such as increasing renewable energy capacity in India. Third, electric traction makes regenerative braking possible, where energy is recovered from braking or slowing down of the train and thereby saving energy by up to 20%.² Finally, it reduces dependence on imported energy (diesel), thereby helping manage the current account deficit, and removes variability of input energy prices which are dependent on international crude oil price movements. Moreover, ADB's 20-year loan will allow IRFC to match the cash flows from the assets to loan repayment with no foreign exchange risk.

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

3. The Government of India has placed significant emphasis on investing in infrastructure, and has developed a 5-year, \$132 billion capital expenditure program for the modernization of Indian Railways, which it owns through the Ministry of Railways (MOR). The program comprises of network expansion and decongestion, enhancement of safety and passenger amenities, development of dedicated freight corridors, station redevelopment, and procurement of rolling stock and other related assets. The electrification of railway tracks is part of this overall master plan, which is critical for the movement of goods and people within the country. Indian Railways launched Mission Electrification in November 2016 under the guidance of MOR, and has set an electrification target of 38,000 route km by FY2022.³ With a substantial part of its network electrified, Indian Railways is expected to achieve cumulative savings of ₹260 billion over a decade because of reduced diesel bills from FY2021 onwards.⁴

4. Indian Railways is the third largest railway network in the world, comprising over 121,407 km of total track length and a total route length⁵ of 67,368 km as of 31 March 2017.⁶ In FY2017, Indian Railways carried over 8.2 billion passengers and 1.1 billion tons of freight. As of 31 March 2017, 25,367 route km were electrified out of the total 61,680 route km of broad-gauge network.⁶

¹ Government of India, Ministry of Railways. 2017. [List of Railway Electrification Projects](#). New Delhi.

² Government of India, Ministry of Railways. 2017. [Mission 41k](#). New Delhi.

³ Government of India, Ministry of Railways. 2017. [Electrification of Railway Tracks](#). New Delhi.

⁴ Government of India, Ministry of Railways. 2017. [Mission Electrification](#). New Delhi.

⁵ A route may consist of one or more than one track.

⁶ Government of India, Ministry of Railways. 2018. [Indian Railways Statistical Summary 2016-17](#). New Delhi.

5. Existing sources of funds for Indian Railways include internal cash generation, sovereign-backed loans from multilateral and bilateral agencies, budgetary support from the government, joint ventures with other state-owned enterprises, resource mobilization by undertaking public-private partnerships, commercial borrowings from banks, financial institutions, and capital markets. In its effort to mobilize funding from a new avenue, MOR, through IRFC (its fully owned and captive financing vehicle), has approached the Asian Development Bank (ADB) to consider a nonsovereign loan to meet a part of the funding requirements for railway track electrification. The proposed financing, aimed at supporting key infrastructure development, represents a unique opportunity for ADB to engage with a commercially viable and professionally managed state-owned enterprise, which has embarked upon a highly ambitious fund-raising plan to support the government's railway modernization aspirations. To ensure success of this initiative, IRFC needs to explore all possible sources of long-term financing, including from multilateral development banks. ADB will play a critical role in funding this capital expenditure program.

2. Project Design

6. **Payment structure:** The figure below shows the payment structure for the project. ADB will enter into a facility agreement with IRFC. IRFC (the owner of the assets financed by the ADB loan) will be entering into a lease agreement with MOR. In addition, ADB, IRFC, and MOR will be entering into a substitution agreement. ADB will have substitution rights under the substitution agreement, which will enable it to replace IRFC with a nominated company in case of its nonperformance.

Confidential information deleted.

7. **Project implementation.** For electrification, MOR currently relies on in-house agencies: Central Organisation for Railway Electrification (CORE), Rail Vikas Nigam Limited, and railways zonal offices, which historically have undertaken the track electrification work. To achieve the electrification target, MOR has increased the number of agencies executing electrification projects from the existing 3 to 6 by entrusting works to new agencies—the Indian Railway Construction Company Limited, Rail India Techno Economic Service Limited, and the Power Grid Corporation of India Limited. CORE was set up in 1979 and since then has been the key executing agency for railway electrification, having electrified 22,522 route km of tracks.⁷ For the railway tracks to be electrified under the ADB project, CORE would be the implementing agency.

8. **Execution and monitoring strategy.** MOR has allocated sections of the track to the implementing agency based on its capacity to implement. Since CORE is the most experienced and largest agency, it has secured most of the work, followed by other agencies. CORE and other implementing agencies have been advised by MOR to implement electrification on an engineering, procurement, and construction (EPC) basis. The selection of the contractor is based on the contractor's technical and financial capacity. The EPC contracts awarded are typically lump sum, turnkey contracts. EPC contracts follow open tendering and are awarded after completion of the predevelopment work such as acquisition of land (if required), procurement of various consents and permits, and completion of design and technical specifications. The technical specifications are provided by the Research Designs and Standards Organisation, which is the research arm of Indian Railways. Monitoring of the construction activity is undertaken by an independent technical firm and an authorized representative of CORE.

⁷ Central Organisation for Railway Electrification. 2017. *Year-wise Progress*. Allahabad.

9. The railway track electrification consists of civil and electrical works (such as traction overhead equipment, low-tension supply transformer stations, and others). The project also involves construction of traction substations and the installation of electricity poles along the railway track.

Confidential information deleted.

10. **Location, land, and project details.** A long list of electrification subprojects (sections) is currently under consideration. These sections are located in 13 states: Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, and Uttar Pradesh. Two subprojects—Rohtak–Panipat (location: Haryana, length: 71 route km, cost: ₹713 million) and Ranchi–Lohardaga–Tori (location: Jharkhand, length: 116 route km, cost: ₹1,050 million)—have been selected for the initial safeguards due diligence, and the due diligence has been completed. Other sections to be funded under the project will be selected from this long list based on a pre-agreed set of screening and due diligence criteria to arrive at approximately 3,378 route km of subprojects. Land required for the traction overhead equipment is owned by Indian Railways and additional land acquisition is not envisaged. However, transmission lines from the nearest feeder substation to the track substation will involve right-of-way acquisitions. As confirmed by CORE, the transmission line works from feeder substations to track substations are executed by the respective state transmission utility.

Confidential information deleted.

11. **Financing strategy.** Based on the average cost of electrification per route km, it is estimated that the \$750 million of the ADB loan can finance the electrification of approximately 3,378 route km of existing railway tracks. Debt financing is being structured as a standard secured project finance loan for a tenor of 20 years.

3. Borrower and Sponsors

12. **Borrower.** IRFC was set up in 1986 as the dedicated financing arm of Indian Railways for mobilizing funds from domestic and international capital markets. It is fully owned by the government and is registered as a nonbanking finance company. IRFC's principal business is to raise funds from the financial markets to finance the acquisition or creation of assets which are then leased out to MOR. IRFC is rated BBB– by S&P Global Ratings and Fitch Ratings, Baa2 by Moody's Investors Service, which are at par with India's sovereign rating, and AAA by all three domestic rating agencies (Crisil, ICRA, and CARE).

13. **Borrower financials.** The 3-year historical financials of IRFC are shown in Table 1.

Table 1: Indian Railway Finance Corporation Historical Financials

Confidential information deleted.

14. **Sponsor.** Indian Railways is India's national railways system operated by MOR. For the year ending 31 March 2017, Indian Railways generated revenues of ₹1,653 billion, consisting of

₹1,043 billion in freight earnings, ₹463 billion in passenger earnings, and ₹147 billion in nonfare earnings.⁸

15. **Disclosure on ultimate beneficial owners.** Integrity due diligence was conducted.⁹ The Government of India owns 100% of IRFC through MOR. No significant or potentially significant integrity risks were identified. Tax integrity due diligence was not required.

B. Development Impacts, Outcome, and Output

16. **Impact.** The project is aligned with the following impacts: Indian Railways' goals of (i) providing an efficient, affordable, customer-focused, and environmentally sustainable integrated transportation solution; and (ii) securing at least 10% of its total energy requirements from renewable energy sources such as solar and wind power and biomass by 2020, apart from using electricity from the national grid, which also has a component of clean and renewable energy.¹⁰ Following ADB guidelines to calculate climate change mitigation from projects of this nature, and given the high grid emission factor of the current Indian electricity grid, no net emission reductions from the project can be identified at this stage. However, a significant shift towards renewable energy is expected in the Indian grid mix in coming years. Moreover, the Indian Railways has itself made strong commitments to directly source electricity from renewable sources. These two developments will contribute to climate change mitigation benefits from the project in the future, although it is not possible to quantify such benefits at this stage.

17. **Outcome.** The project will have the following outcome: Increased number of passengers and cargo transported by electric traction on the additionally electrified tracks.

18. **Output.** The output of the project is that 3,378 km of railway routes are electrified. The work related to the electrification will also generate employment for the local community and stimulate the local and national economy.

C. Alignment with ADB Strategy and Operations

19. **Consistency with ADB strategy and country strategy.** The project supports infrastructure, one of ADB's five core operational areas, which are based on ADB's Strategy 2020 and reaffirmed through its Midterm Review of Strategy 2020.¹¹ ADB's country partnership strategy, 2018–2022 for India is based on three development pillars: (i) boosting economic competitiveness to create more and better jobs, (ii) inclusive provision of infrastructure networks and services, and (iii) addressing climate change and increasing climate resilience.¹² The project particularly supports pillars (i) and (ii).

20. **Consistency with sector initiative and relevant ADB operations.** The project is consistent with ADB's Sustainable Transport Initiative which defines a sustainable transport

⁸ Government of India, Indian Railways. 2018. [Revenue Receipts Expenditure FY2019](#). [Revenue Receipts Expenditure FY2018](#). New Delhi.

⁹ ADB. 2003. *Enhancing the Asian Development Bank's Role in Combating Money Laundering and the Financing of Terrorism*. Manila.

¹⁰ Government of India, MOR. 2009. *Vision 2020*. New Delhi.

¹¹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila; and ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

¹² ADB. 2017. *Country Partnership Strategy: India, 2018–2022—Accelerating Inclusive Economic Transformation*. Manila.

system as one that is accessible, safe, environmentally friendly, and affordable.¹³ This project is aligned with all of the above. In 2011, ADB approved a \$500 million multitranche financing facility for the Railway Sector Investment Program.¹⁴ Part of tranche 1 within the multitranche financing facility was used towards electrification of 640 km of railway tracks. Lessons learnt from the implementation of the multitranche financing facility have been considered in designing this project. One of the key lessons learnt was that the project implementation gets delayed due to land acquisition issues. This lesson has been incorporated in the project design. Initial selection of the subprojects will be undertaken to minimize land acquisition, and payment under the lease agreement will start on a pre-specified date irrespective of the subproject construction progress.

D. Project Cost and Financing Plan

21. Confidential information deleted.

22. Confidential information deleted.

E. Implementation Arrangements

23. Table 3 summarizes the implementation arrangements.¹⁵

Table 3: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	Indian Railways initiated the Mission Electrification program with the intention to electrify 38,000 route km by FY2022. The Ministry of Railways (MOR) regulates the track electrification and has entrusted the following government entities to achieve the target set by Indian Railways: Central Organisation for Railway Electrification, Rail Vikas Nigam Limited, Indian Railway Construction Company, Rail India Techno Economic Service Limited, Power Grid Corporation, and Indian Railways zonal offices.
Implementation period	The track electrification work for the project has commenced and will be completed in sections. EPC contractors for one of the sections (in Jharkhand) have been appointed. Bids for the other sections will progressively be called. The construction of all the identified sections, which together comprise the project, is expected to be completed by December 2022.
Construction arrangements	Track electrification will be executed through multiple turnkey EPC contracts, which will be awarded by the Central Organisation for Railway Electrification. Qualified private contractors are expected to undertake the construction responsibility for electrifying each specific section of track.
Operations arrangements	
Revenue structure	The Indian Railway Finance Corporation (IRFC) will sign a lease agreement with MOR under which IRFC will lease the assets to MOR on a long-term basis. The semiannual lease rentals would be sized to cover Asian Development Bank's loan principal and interest payments, as well as an operating margin to IRFC.
Operation and maintenance	Indian Railways will be responsible for the operation and maintenance of the electrification assets.
Performance monitoring	Key performance indicators, including output and outcome indicators, will be reported by IRFC and monitored by the Asian Development Bank.

Source: Indian Railway Finance Corporation.

F. Projected Financial and Economic Performance

24. Confidential information deleted.

¹³ ADB. 2010. *Sustainable Transport Initiative*. Manila.

¹⁴ ADB. India. [IND: Multitranche Financing Facility – Railway Sector Investment Program](#) (Facility).

¹⁵ Details of Implementation Arrangements (accessible from the list of linked documents in Appendix 2).

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

25. ADB will provide a project finance loan up to \$750 million in Indian rupee equivalent to IRFC for the project. The 20-year tenor comprises of a 4-year availability period and a 16-year repayment period. Customary project finance security package will be available to ADB.

26. A proposed technical assistance (TA) grant to Indian Railways, with CORE acting as the implementing agency is being separately processed for ADB internal approval. This TA will help build capacities on environmental and social safeguards systems required for implementing the proposed railway electrification subprojects. The TA support will include deployment of a team of consultants to assist the corporate and subproject teams of CORE in implementing ADB's safeguards provisions. Through the establishment of an environmental and social management system and procedures, the TA will strengthen CORE's position as a safeguards-compliant organization with adequate capacities to mitigate and manage environmental and social impacts in its railways electrification program. The TA will be implemented over a period of 36 months.

B. Value Added by ADB Assistance

27. The value additions of ADB's assistance are as follows:

- (i) ADB is providing a 20-year amortizing local currency loan. Structuring the transaction in this manner allows IRFC to match the cash flows from the assets to loan repayment with no foreign exchange risk.
- (ii) The aggregate funding requirements of Indian Railways for its ongoing modernization program is immense—about \$132 billion. ADB's participation will help crowd-in private sector insurance companies by way of unfunded risk transfers, which is an important and new source of mobilization. The precedent set through this transaction will encourage other private sector institutions to provide financing to IRFC for its project pipeline.
- (iii) ADB's TA will help Indian Railways enhance its environmental and social safeguard evaluation and monitoring systems. This will help Indian Railways achieve the international norms for safeguard compliance, thus improving its access to various other international funding sources.

C. Risks

28. **Lease agreement framework.** Under the lease agreement framework, MOR undertakes to provide sufficient funds to IRFC to meet its debt service obligations under the ADB loan.

Confidential information deleted.

29. **Substitution agreement framework.** The substitution agreement will enable ADB to nominate a replacement (including itself), which will inherit the rights of IRFC, including receipt of lease payments directly from MOR. ADB's legal advisor has confirmed the enforceability of claims under the substitution agreement provided certain arrangements (included in the conditions precedent to loan signing) are obtained.

Confidential information deleted.

30. **Dependence on the Government of India.** Confidential information deleted.

31. **Sovereign risk.** The GOI is rated BBB-/Baa2/BBB- by S&P Global Ratings, Moody's¹⁶ and Fitch, respectively. India's primary credit strengths are its large and diversified economy, robust medium-term growth outlook, and healthy savings rate.¹⁷

Confidential information deleted.

32. Confidential information deleted.

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

33. In compliance with ADB's Safeguard Policy Statement (SPS) (2009), the project is classified category B for environment, involuntary resettlement, and indigenous peoples.

34. The potential environmental and social impacts of the project have been identified, and measures to avoid, minimize, mitigate, and compensate for the adverse impacts are incorporated in the safeguard reports and plans, that include the environmental assessment and review framework, resettlement framework, and indigenous peoples planning framework.¹⁸ Preparation of safeguard reports and plans, in line with ADB safeguard requirements, for the entire 3,378 route km is not possible at this stage, since the alignments and their designs have not been finalized and therefore there is limited degree of preparedness resulting in appraisal of only two subprojects as a first step. Initial environmental examinations and resettlement plans for these two identified subprojects (Rohtak–Panipat and Ranchi–Tori sections) were prepared in line with ADB's SPS requirements and reviewed by ADB. An environmental compliance audit was additionally undertaken as part of the initial environmental examination for ongoing construction projects of the Ranchi–Tori section. Safeguard documents for other subprojects will be prepared by CORE, on behalf of IRFC, prior to disbursement, to ADB's satisfaction, and in line with ADB's safeguard frameworks. Subprojects categorized A for any of the three safeguard categories will not be taken up for ADB funding. The institutional capacity and commitment of IRFC and CORE to manage the project's social and environmental impacts are deemed adequate.

35. **Environmental safeguards.** The potential environmental impacts of track electrification subprojects are generally site specific, reversible, and mostly caused by associated construction activities. These impacts typically include land and vegetation clearing for site preparation, transportation and delivery of equipment and materials, and excavation and laying of foundations for electricity poles and transmission towers. Issues may potentially include occupational and community health and safety during the construction phase, which includes short-term and localized generation of dust, air emission, noise, wastes, soil erosion, and water pollution. There are no protected areas or environmentally sensitive areas along these two corridors. The transmission lines will be aligned through agricultural or government land avoiding residential areas or lands, and any impacts on forests or water bodies. Recommended mitigation measures to address the project environmental impacts are presented in the environmental management plan and will be monitored. IRFC through CORE commits to implement the corrective actions

¹⁶ India's sovereign rating is upgraded by Moody's from Baa3 to Baa2, with outlook changed from positive to stable.

¹⁷ Sources: (i) S&P Global Ratings. November 24, 2017. Research Update: Ratings on India affirmed at BBB-/A-3; Outlook Stable; (ii) Moody's Investor Service. November 17, 2017. Credit Opinion Update: Government of India - Baa2 Stable; and (iii) Fitch Ratings. May 29, 2017. Full Rating Report: India.

¹⁸ MOR commits to implement the safeguard frameworks established under ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to India for the Railway Sector Investment Program*. Manila. The framework is outlined in the linked document.

identified in the environmental audit to address the improvements to occupational health and safety practices during construction of the Ranchi–Tori section. The respective state power transmission agencies will implement the transmission lines.

36. **Social safeguards.** The railways electrification will be carried out along the existing tracks within land owned by Indian Railways and is unlikely to result in physical or economic displacement impacts. New facilities such as traction substations and sectioning and paralleling posts will be located on railway land. No permanent land acquisition will be carried out for the transmission line alignments. These alignments will be finalized to avoid impacts on structures and permanent assets and minimize impacts on agricultural land. Compensation for temporary damage to crops and trees will be paid at replacement costs to the landowners. In addition, IRFC, through CORE and the state power transmission agencies, commits to implement the guidelines of the Ministry of Power of the Government of India to compensate 85% of the land value for the footprint of the transmission towers and 15% of the land value for the corridor impacted by the stringing of the transmission lines. A section of the 8.8 km transmission line for the Ranchi–Tori subproject passes through scheduled areas occupied by tribal groups. The impacts will be limited to temporary crop damage during construction. Preliminary consultations along the tentative alignments indicate that the lands are privately owned without any traditional or customary rights. Upon finalization of the alignment, vulnerability assessment of the households will be carried out and provisions of the safeguard frameworks will be applied.

37. **Social dimensions.** IRFC, through CORE, will comply with national labor laws and, pursuant to ADB’s Social Protection Strategy (2001), will take measures to comply with the internationally recognized core labor standards.¹⁹ IRFC, with inputs from CORE, will report regularly to ADB on (i) its (and its contractors’) compliance with such laws, and (ii) the measures taken. IRFC, through CORE, is committed to incorporate provisions in subproject contract agreements that provide for equal opportunities and support non-discrimination of women in the employment opportunities generated. The project is classified as having no gender elements. Information disclosure and consultations with affected people will be conducted in accordance with ADB requirements.

B. Anticorruption Policy

38. IRFC was advised of ADB’s policy of implementing best international practices relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Investment Limitations

39. Confidential information deleted.

D. Assurances

40. Consistent with the Agreement Establishing the Asian Development Bank (the Charter),²⁰ ADB will proceed with the proposed assistance upon establishing that the Government of India has no objection to the proposed assistance to IRFC. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the ADB Board of Directors.

¹⁹ ADB. 2003. *Social Protection*. Manila (adopted 2001).

²⁰ ADB. 1966. *Agreement Establishing the Asian Development Bank*. Manila.

V. RECOMMENDATION

41. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan of up to \$750,000,000 in Indian rupee equivalent from ADB's ordinary capital resources to the Indian Railway Finance Corporation for the Railways Track Electrification Project in India, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board; and
- (ii) the waiver of the single exposure limit as set forth in para. 39 of this report.

Takehiko Nakao
President

8 June 2018

DESIGN AND MONITORING FRAMEWORK

Impacts the Project is Aligned with			
Indian Railways' goal of providing efficient, affordable, customer-focused, and environmentally sustainable integrated transportation, and its intention to secure at least 10% of its total energy requirements from renewable sources such as solar and wind power and biomass by 2020. ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
<p>Outcome</p> <p>Number of passengers and cargo transported by electric traction on the additionally electrified tracks increased</p>	<p>By 2022:</p> <p>At least 24,100 million passenger GTKM and 32,200 million freight GTKM are provided annually by electric traction on the newly electrified routes funded by ADB. (baseline March 2018: 0)^b</p>	<p>Indian Railways (IR) Annual monitoring report</p>	<p>Acceptance of railway services for freight and travelling decreases</p> <p>Changes in regulatory environment</p> <p>Problems with supply of uninterrupted electricity</p>
<p>Outputs</p> <ol style="list-style-type: none"> 1. Existing railway track is electrified 2. Local employment generated 3. Growth of local and national economy supported 	<p>By 2022:</p> <ol style="list-style-type: none"> 1. Network of electrified railway track is extended by 3,378 route kilometers (Baseline March 2018: 0) 2. Number of additional jobs provided related to ADB-funded electrification amount to at least 4,215 annually (Baseline: 0) 3a. Total additional payments to the government of at least \$90 million provided during the construction phase in relation to ADB-funded electrification (Baseline: 0) 3b. Total domestic purchases of at least \$533 million done during the construction phase in relation to ADB-funded electrification (Baseline: 0) 	<p>1–3. IR annual monitoring report</p>	<p>Construction delays because of force majeure events</p> <p>Cost overruns</p>
Key Activities with Milestones			
<p>Outputs 1–3. Track electrification completed</p> <ol style="list-style-type: none"> 1. ADB executes loan agreement with IRFC by 31 July 2018. 2. Complete installation of the poles, power lines, and substations by 31 March 2022. 3. Commission overhead power lines by 31 March 2022. 			

Inputs
ADB: \$750 million (loan)
Assumptions for Partner Financing
Not applicable

ADB = Asian Development Bank, GTKM = gross tonnage kilometer, IRFC = Indian Railway Finance Corporation.

^a Government of India Ministry of Railways (Railway Board). 2009. *Indian Railways Vision 2020*. New Delhi.

^b GTKM details are derived from a list of railway electrification projects shared by the Ministry of Railways, assuming that 16 average subprojects with approximately 3,378 route kilometers with a total cost of \$750 million are the equivalent scope of this project.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

Confidential information deleted.