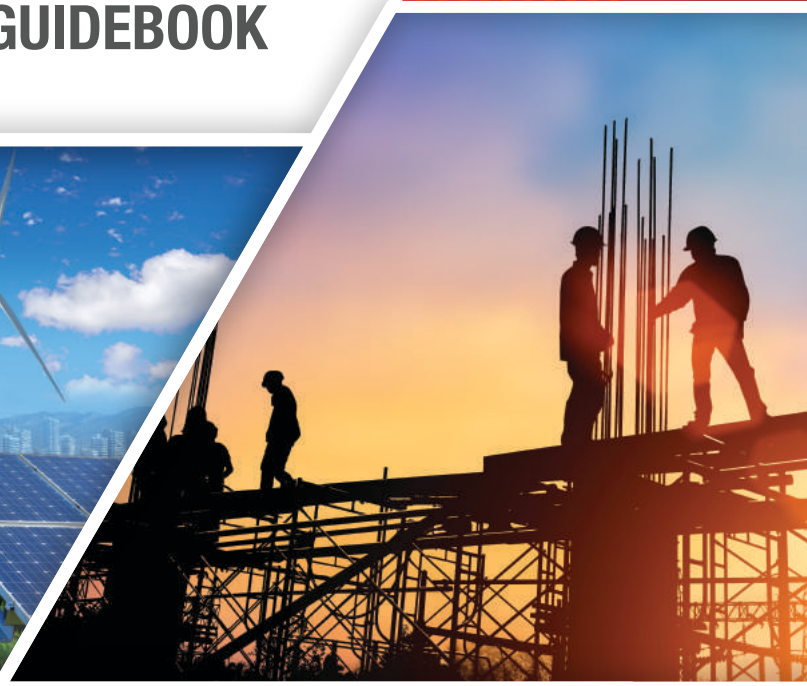
सत्यमेव जयते
NITI Aayog

NATIONAL MONETISATION PIPELINE

VOLUME I: MONETISATION GUIDEBOOK



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NITI Aayog

GOVERNMENT OF INDIA
NEW DELHI

Preface

Infrastructure is critically linked to growth and economic performance. Benefits of higher investment in good quality Infrastructure manifest in the form of increased employment opportunities, access to market and materials, improved quality of life and empowerment of vulnerable sections. Recognizing the importance of infrastructure, the Government has continued its focus on sustaining and stepping up the pace of infrastructure investment. Investment led growth is therefore, central to the economic agenda of the Government and one of the pre-requisites of Investment led growth is capital and asset recycling. Asset recycling and monetization is the key to value creation in Infrastructure by serving two critical objectives, unlocking value from public investment in Infrastructure and tapping private sector efficiencies in operations and management of infrastructure.

Under the Union Budget 2021-22, Monetization of Assets has been identified as one of the three pillars for enhanced and sustainable infrastructure financing in the country. The Budget also envisioned preparation of a "National Monetisation Pipeline" (NMP) to provide a direction to the monetisation initiative and visibility of investors. In pursuance of the same, NITI Aayog was tasked with creation of the National Monetisation Pipeline (NMP) for brownfield core infrastructure assets.

The NMP has been created to be co-terminus with the balance NIP period, 4 year period from FY2022 to FY2025. The NMP has been prepared based on inputs and consultations from the respective line ministries and departments along with an assessment of the total asset base available. The NMP document has been developed and is structured as two volumes (Volume I & II) wherein the Volume I is being developed as a Guidebook comprising of conceptual overview, instruments, steps involved and key reform imperatives. Volume II comprises of the pipeline of Central Government ministries / sector wise citation of assets along with phasing and overview of assets. The NMP is meant to serve as an essential roadmap for the Asset monetisation of various brownfield infrastructure assets across roads, railways, shipping, aviation, power, telecom, oil & gas, and warehousing sectors.

Asset monetisation, based on the philosophy of 'Creation through Monetisation', will tap institutional investment and long term patient capital into stable mature assets in turn generating financial resources for new infrastructure asset creation . This will enable

economic growth, generating employment opportunities and better prospects for country's youth.

Availability of a sustained and robust asset pipeline has been cited as a key concern by investors to the Government at various forums. A well laid out pipeline hence gives a comprehensive view to investors & developers of brown-field investment avenues in Infrastructure. The NMP will also form a baseline for the asset owning ministeries for monitoring and tracking performance of the potential assets. The NMP is aimed at creating a systematic and transparent mechanism for public authorities to monitor the initiative and for investors to plan their future activities. I hence consider the NMP document to be a critical step towards making India's Infrastructure truly world class.

The Government as part of a multi-layer institutional mechanism for overall implementation and monitoring of the Asset Monetization programme, has constituted an empowered Core Group of Secretaries on Asset Monetization (CGAM) under the chairmanship of Cabinet Secretary. Detailed deliberations with the line Ministries and Departments on the asset pipelines have been undertaken at the meetings of the CGAM chaired by the Cabinet Secretary.

The NMP is a culmination of insights, feedback and experiences consolidated through consultations with the concerned line Ministries and Departments, multi-stakeholder consultations and a series of one-to-one consultations with prominent global investors conducted over the last six months.

Asset Monetisation programme and the NMP took shape because of the vision and conviction of our Hon'ble Prime Minister who has always encouraged us to pursue excellence in delivering Infrastructure to common citizen of India. I am grateful to Hon'ble Finance Minister for the landmark Union Budget 2021, her inspiration and encouragement that made this report possible. In this endeavour, we owe our deepest gratitude to the Cabinet Secretary, under whose guidance, the Monetisation programme has and continues to gain momentum. I also thankfully acknowledge the support provided by the members of the CGAM, Secretary (DEA), Secretary (Revenue), Secretary (Expenditure), Secretary (DIPAM), Secretary (DPE), Secretary (Corporate Affairs), Secretary (Legal Affairs) and all the Secretaries of the relevant ministries and departments in development of the NMP.

None of this would have materialised without the unflinching support and guidance of the head of our institution, Dr. Rajiv Kumar, Vice Chairperson who inspired us in our endeavour to prepare and launch the NMP with a vision to serve as a roadmap for India's Asset Monetisation programme. Finally, a deep sense of gratitude to the Asset Monetisation team at NITI Aayog : Partha Sarathi Reddy, Alpna Jain, Arpana Bhatt and Sujit Jena, for their remarkable efforts in working relentlessly during the pandemic to research and create the NMP. Lastly, the support provided by CRISIL team towards our work on NMP needs a special mention.

We thank all the members for their support and contribution.

New Delhi
July, 2021

Amitabh Kant
CEO, NITI Aayog

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Acronym	Definition
Acronym	Definition
AAI	Airports Authority of India
BOO	Build-Own-Operate
BOQ	Bill Of Quantities
BOT	Build-Operate-Transfer
BPCL	Bharat Petroleum Corporation Ltd
BSE	Bombay Stock Exchange
BSNL	Bharat Sanchar Nigam Limited
CCO	Coal Controller's Organisation
CEO	Chief Executive Officer
CERC	Central Electricity Regulatory Commission
CIL	Coal India Limited
COD	Commercial Operations Date
CPSE	Central Public Sector Enterprise
CRWCL	Central Railside Warehouse Company Limited
CWC	Central Warehousing Corporation
DFCCIL	Dedicated Freight Corridor Corporation of India Limited
DFI	Development Finance Institution
DWT	Deadweight Tonnage
EPC	Engineering, Procurement and Construction
ESG	Environmental, Social and Governance
FBB	Fixed Broadband
FCI	Food Corporation of India

FDI	Foreign Direct Investment
GAIL	Gas Authority of India Limited
GIS	Geographic Information System
HAM	Hybrid Annuity Model
HPCL	Hindustan Petroleum Corporation Limited
IDBI	Industrial Development Bank of India
IOCL	Indian Oil Corporation Ltd.
IPA	Initial Portfolio of Asset
IRSDC	Indian Railway Stations Development Corporation Limited
JLN	Jawaharlal Nehru Stadium
JNPT	Jawaharlal Nehru Port Trust
LFP	Land Fall Point
LILO	Loop-In-Loop-Out
LMT	Lakh Metric Tonnes
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MCA	Model Concession Agreement
MCLR	Marginal Cost of Funds-based Lending Rate
MDO	Mine Developer and Operator
MFC	Multi-functional Complexes
MIRA	Macquarie Infrastructure and Real Assets
MIV	Maritime India Vision
MMLH	Multi Modal Logistics Hub
MMTPA	Million Metric Tonnes Per Annum
MTNL	Mahanagar Telephone Nigam Limited
MTPA	Million Tonnes Per Annum
MVA	Mega Volt Amp
NBFID	National Bank for Financing Infrastructure and Development
NDCP	National Digital Communications Policy
NHAI	National Highways Authority of India
NHPC	National Hydroelectric Power Corporation
NIP	National Infrastructure Pipeline
NITI	National Institution for Transforming India
NLC	NLC India Limited (formerly Neyveli Lignite Corporation Limited)
NMP	National Monetisation Pipeline
NRP	National Rail Plan
NSE	National Stock Exchange

NSEC	Netaji Subhas Eastern Regional Centre
NSSC	Netaji Subhas Southern Centre
NSWC	Netaji Subhas Western Centre
NTPC	National Thermal Power Corporation Limited
OFC	Optical Fibre Communication
OHE	Over Head Equipment
OMDA	Operations, Management and Development Agreement
OMT	Operate Maintain and Transfer
ONGC	Oil and Natural Gas Corporation Limited
ORR	Outer Ring Road
PEG	Private Entrepreneurs Guarantee
PFC	Power Finance Corporation
PFT	Private Freight Terminal
PGCIL	Power Grid Corporation of India Limited
PNGRB	Petroleum and Natural Gas Regulatory Board
PPP	Public-Private Partnership
PUA	Pipeline Usage Agreement
REC	Rural Electrification Corporation
REIT	Real Estate Investment Trust
RFP	Request for Proposal
RFQ	Request for Qualification
ROW	Right of Way
RPO	Renewable Purchase Obligations
RTM	Regulated Tariff Mechanism
SAI	Sports Authority of India
SAROD	Society For Affordable Redressal Of Disputes
SEBI	Securities and Exchange Board of India
SECI	Solar Energy Corporation of India
SJVNL	Satluj Jal Vidyut Nigam Limited
SPV	Special Purpose Vehicle
STPS	Super Thermal Power Station
TBCB	Tariff Based Competitive Bidding
TEU	Twenty Feet Equivalent Unit
TOT	Toll-Operate-Transfer
TSA	Transmission Service Agreement
USD	United States Dollar
WPI	Wholesale Price Index

1

Infrastructure Imperative

1.1 INFRASTRUCTURE: AN ENABLER OF GROWTH

Investment in infrastructure is pivotal for accelerated and inclusive socio-economic development of a country. In the absence of adequate and robust infrastructure facilities, the economy operates at a sub-optimal level remaining distant from its potential and frontier growth trajectory.

With such imperative–to bridge the existing infrastructure gaps and cater to its future potential and needs–the Government of India (GoI) undertook a first-of-its-kind and a whole-of-government exercise in FY 2019-20, to lay the infrastructure vision for the country. Pursuant to which, the National Infrastructure Pipeline ('NIP'), detailing the infrastructure vision for the country, was released in December 2019. As per the Report of the Task Force for NIP:

> '..The vision, mission and strategic goals would be towards improving the ease of living or physical quality of life for each individual in the country. And investment in infrastructure would aim to achieve the aspirational standards in consonance with SDG -2030 for same..'

Imperativeness of such vision and large-scale infrastructure investment has only been more pronounced with the recent coronavirus (COVID) pandemic. With the crisis taking an unprecedented toll on the economic activity in the country, significantly enhanced level of infrastructure investment is critical for reviving growth. Furthermore, the crisis has emphasised the need for resilient, environmentally sustainable and technologically advanced infrastructure systems, which in turn necessitates targeted approach towards SDG based aspirational standards under NIP.

Figure 1: Infrastructure Vision 2025: Meeting aspirations and improving ease of living

1.2 INVESTMENT PLAN & FINANCING UNDER NIP

During the twelfth plan period, infrastructure investment in India aggregated to Rs 36 lakh crore, averaging at ~5.8% of GDP. Further, for FY 2018 and 2019 it has been estimated at ~Rs 10 lakh crore[1]. Going forward, the NIP envisions a significant step-up from the current levels. This is largely in view of recommended infrastructure investment levels of 7-8% of GDP[2], so as to ensure requisite capacity and quality of infrastructure within the country.

NIP envisages infrastructure investment of Rs. 111 lakh crores over five-year period from FY 2020 to FY 2025. With annual average investment of ~Rs. 22 lakh crore, this is a significant step-up (~2.5 times) vis-à-vis historical levels of spending on infrastructure.

Achievement of incremental annual investment of 2-3% of GDP[3], as envisaged under NIP, has the potential to enable double digit economic growth (for corresponding period) for the country. Which in turn will ensure enhanced economic activity and employment opportunities in a post-crisis economy. Successful and timely implementation of projects planned under NIP, hence, remains a key focus area for both Central and State Governments.

One of the major pre-requisites for this, however, is the availability of capital. Under NIP, traditional sources are expected to finance 83–85%[4] of the envisaged capital expenditure. This includes ~18-20% financing through Centre's budgetary resources and 24-26% through the States' budgetary resources. Another ~40% is proposed to be raised through extra-budgetary resources/ private sector investment (in form of debt from bond markets/ banks/ non-banking financial companies, by way of equity from private developers/ internal accruals of PSUs and external aid from multilateral/ bilateral agencies).

Further, as estimated by the NIP task force report, about 15-17% of the outlay is to be met through innovative and alternative initiatives viz. asset monetisation, funding through a new Development Finance Institution (DFI) etc. Of which asset monetisation has been suggested as a tool to monetise operational assets at both Central and State levels.

<table>
<tr><th>Budgetary Sources</th><th>Private or Extra Budgetary Sources</th><th>Innovative and alternative financing sources</th></tr>
<tr><td rowspan="2">Central Budget (18-20%)</td><td>Financing by Banks (8-10%)</td><td rowspan="4">Innovative and alternative financing
(15-17%)</td></tr>
<tr><td>Bond Markets (6-8%)</td></tr>
<tr><td rowspan="2">State Budget (24-26%)</td><td>Infrastructure NBFCs (15-17%)</td></tr>
<tr><td>PSU Accruals, Equity and Others (8-15%)</td></tr>
</table>

Figure 2: Sources of financing for NIP

1 Report of the Task Force for National Infrastructure Pipeline (DEA, Ministry of Finance)

2 Economic Survey 2018-19

3 Based on envisaged outlay, as percentage of GDP, vis-a'-vis previous period investment during FY 2013-19

4 Report of the Task Force for National Infrastructure Pipeline (DEA, Ministry of Finance)

1.3 INITIATIVES UNDER UNION BUDGET 2021-22

GoI's commitment towards realising the vision for country's infrastructure has been further put in motion via the Union Budget 2021-22. In line with the recommendations of NIP task force report, Budget 2021-22 has laid out a three-pronged strategy for enhanced and sustainable infrastructure financing in the country. This entails:

i. Creation of institutional structures;

ii. Thrust on monetisation of assets, and

iii. Enhanced share of capital expenditure in Central and State budgets.

~Rs 3.8 lakh crore has been allocated as capital outlay for various infrastructure projects under Union Budget 2021-22[5]. This is broadly in line with the recommended quantum of funding for the corresponding period, through Central budgetary resources, under NIP. Such enhanced budgetary outlay[6], in addition to accelerating projects envisaged under NIP, is aimed at inducing a multiplier impact[7] towards fulfilling the more immediate objective of reviving economy in a post COVID scenario.

From a medium to longer term perspective, the Budget proposes the following initiatives for creating a sustainable institutional framework for funding of infrastructure assets in the country:

Development Finance Institution (DFI)	Asset Monetisation
Professionally managed DFI to act as provider, enabler and catalyst for infrastructure financing	**Monetising operating public infrastructure assets for new infrastructure construction**
◆ National Bank for Financing Infrastructure and Development Bill (2021) passed in March 2021 ◆ A body corporate with initial GoI holding of ~100% (more than 26% at all times) ◆ Initial share capital of Rs 20,000 crore ◆ Target Lending portfolio: Rs 5 lakh crore (3 years)	◆ National Monetisation Pipeline of potential brownfield infrastructure assets ◆ Asset Monetisation dashboard for tracking progress and for providing visibility to investors ◆ Various assets/ asset classes targeted for monetisation during FY 2021-22

Figure 3: Initiatives under Budget 2021-22[8]

1.4 ASSET MONETISATION – THE CONCEPT

Financing of infrastructure investments requires a diversified set of alternatives, especially so in emerging economies like India. And the scale at which it has been currently envisaged under NIP, it can only be made possible through a re-imagined approach, and a look

5 Union Budget 2021-22 – Expenditure Profile

6 2 times the Revised Estimates for FY 2020-21 as per Union Budget 2021-22 – Expenditure Profile

7 2X based on comparative assessment of countries by S&P Global ratings (2018);

8 Para 45 (DFI) and Para 47 (Asset Monetisation) under Budget 2021-22

beyond the traditional sources or models of financing. It is, therefore, that NIP has emphasized on innovative mechanisms–such as asset monetisation–for generating additional capital.

The need for adoption of such alternative mechanisms has only been further pronounced in the wake of COVID-19. On one hand, the budgetary imperatives of social sector priorities and economic stimuli limit fiscal headroom. While simultaneously, reduction in risk appetite of private developers/ equity investors and debt financiers. limit private investment in greenfield infrastructure. This invariably necessitates innovative mechanisms, structured around mature brownfield assets, for tapping of private sector investment.

> Monetizing operating public infrastructure assets is a very important financing option new infrastructure construction.
>
> —Union Budget 2021

A sizeable inventory of infrastructure assets has been created over the past decade through public investments. This can now be leveraged for tapping private sector investment and efficiencies.

The strategic objective of Asset Monetisation programme is to unlock the value of investments in public sector assets by tapping private sector capital and efficiencies. Which can thereafter be leveraged for augmentation/ greenfield infrastructure creation.

Asset monetisation, also commonly referred to as asset or capital recycling, is globally a widely used business practice. This consists of limited period transfer of performing assets (or disposing of non-strategic / underperforming assets) to unlock "idle" capital and reinvesting it in other assets or projects that deliver improved or additional benefits. Governments and public-sector organizations, which own and operate such assets and are primarily responsible for delivering infrastructure services, can adopt this concept to meet the ever-increasing needs of the population for improved quality of public assets and service. However, suitable structuring of such transactions is extremely critical from the perspective of public interest and service aspects.

Asset Monetisation, as envisaged here, entails a limited period license/ lease[9] of an asset, owned by the government or a public authority, to a private sector entity for an upfront or periodic consideration.

Transfer of such rights in lieu of an upfront/ periodic consideration is defined by a well-defined concession/ contractual framework. This enables a balanced risk sharing framework between the public authority and private party. The private sector entity is expected to operate and maintain the asset based on the terms of the contract/ concession, generating returns through higher operating efficiencies and enhanced user experience. Funds, so received by the public authority, are reinvested in new infrastructure or deployed for other public purposes. Such contracts include provision for transfer of asset back to the public authority at end of such contract.

9 Sale i.e. transfer of legal ownership of assets is only envisaged in cases such as disinvestment of stake etc.

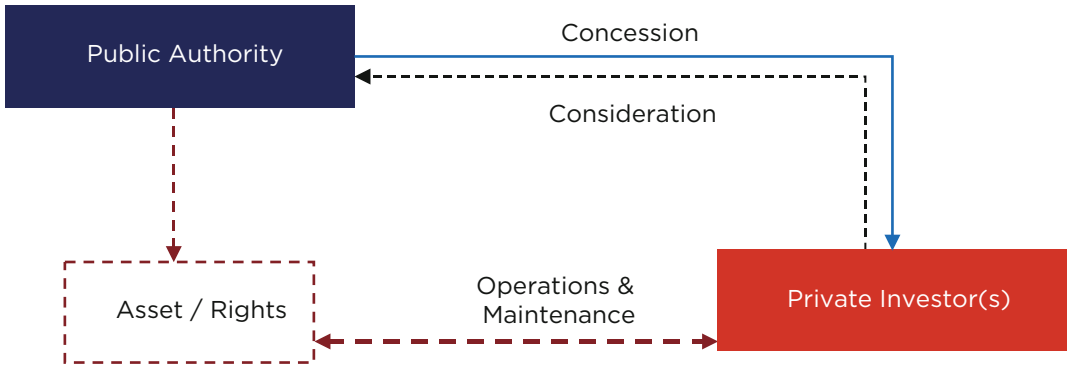


Figure 4: Asset Monetisation Structure

Asset Monetisation needs to be viewed not just as a funding mechanism, but as an overall strategy for bringing about a paradigm shift in infrastructure operations, augmentation and maintenance. This is especially considering the potential for resource and capital efficiencies as also the ability to dynamically adapt to the evolving global and economic reality.

It presents an opportunity for public asset owners to avail new financial structures[10] and vehicles for tapping capital from private sector investors (strategic, institutional, retail etc). In the process, it helps public sector authorities/ entities in easing fiscal constraints and freeing up the balance sheets for taking up more greenfield infrastructure creation. This enables deployment of resources by government towards social sector and other competing public priorities.

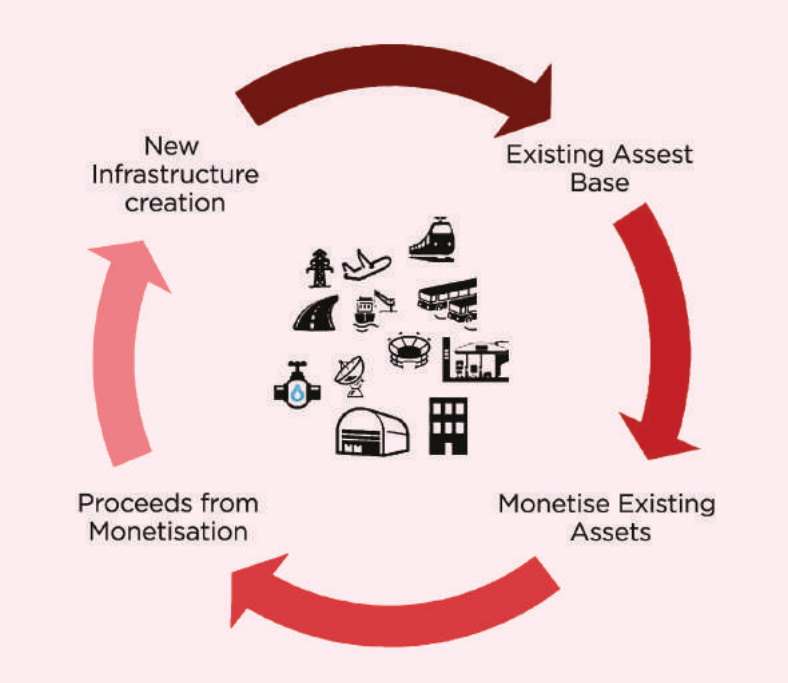


Figure 5: Infrastructure Asset Monetisation Cycle

10 Simplistic representation for purpose of conceptual understanding

1.5 NATIONAL MONETISATION PIPELINE

For Asset Monetisation initiative, to progress in the right direction, it is imperative that the Government makes available a strong pipeline of attractively structured, brownfield projects. Further, sustained flow of transactions and visibility on same, across asset classes, is a key pre-requisite of long-term investors. A robust asset pipeline, not only enables investors to plan their fund raisings and investment timelines, but also helps asset owners track and scan the performance of assets.

Within this context, National Monetisation Pipeline (NMP) was announced in the Union Budget 2021-22 and NITI Aayog has been entrusted with the mandate to develop National Monetisation Pipeline.

Asset Monetisation being inextricably linked to new infrastructure creation, NMP has been planned to be co-terminus with the remaining four-year period of the National Infrastructure Pipeline (NIP). NMP forms a baseline for the asset owning ministries for monitoring and tracking – investment, performance and data on potential assets, for the 4-year period from FY 22 to FY25. The Report on National Monetisation Pipeline has been structured as a (i) Guidance book for Asset Monetisation (Volume I) and (ii) Medium-term Roadmap including the pipeline of assets (Volume II). NIP and NMP, together, are envisaged to give a comprehensive view on greenfield and brownfield investment avenues in Infrastructure.

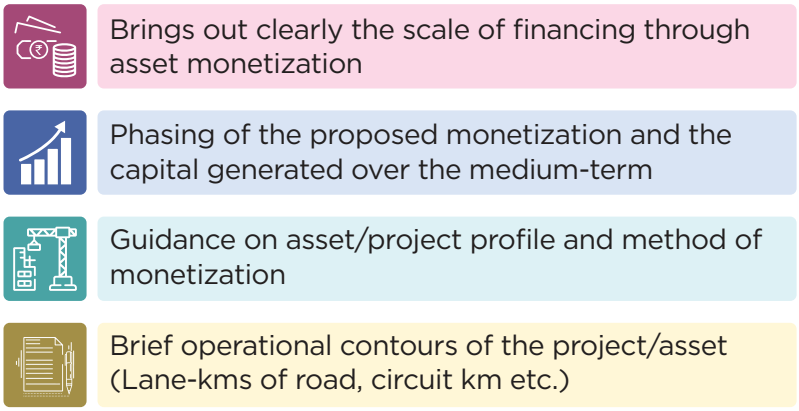


Figure 6: Objectives of the National Monetisation Pipeline

NMP will prima-facie help in evolving a common framework for monetisation of core assets. It will critically clarify its distinction from privatization, eventually helping to create a virtuous cycle of 'develop, commission, monetise and invest'. It will also help in identifying potential "Monetisation-ready" projects, across various infrastructure sectors/ ministries and simultaneously provide visibility to investors.

A well strategized Asset Monetisation programme:

- **Is structured around:**
  - Monetising assets with high appetite among investors; and
  - Reinvesting proceeds into assets/services that citizens desire.
- **Helps new asset creation:**
  - Without necessarily increasing debt levels or taxes or through reallocation of resources from other public services/ welfare activities;
- **Targets efficiency gains, competition** *and improved performance monitoring*
- **Enhances investment opportunities, depth and liquidity in** *infrastructure as an asset class*
  - Effectively incentivizing specialized investor classes (viz. domestic and foreign pension funds, etc.)

1.6 ORGANIZATION OF THIS GUIDEBOOK

Volume I (Guidance book) is structured as a ready-reckoner for public authorities and investors while going about the asset monetisation process, particularly in the context of India. It presents guidance on the various models, global case studies, preparatory actions, the regulatory framework and asset monetisation process.

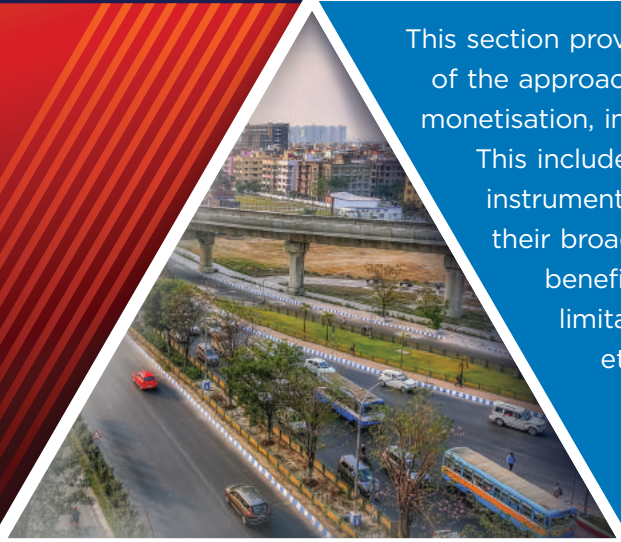
The Guidance book is divided into six sections aligned with the tasks to be carried out towards asset monetisation:

- **Section 1:** Infrastructure Imperative: Setting the context of the Asset Monetisation;
- **Section 2:** Asset Monetisation – Framework and Instruments: Categories, models and instruments for asset monetisation including examples for better understanding of structures;
- **Section 3:** Asset monetisation experience: India and beyond: Experiences on asset monetisation/ recycling from the developed and other emerging markets and key takeaways;
- **Section 4:** Preparatory Stage: Steps in identifying assets, selecting the right instruments etc. and approval and sanction process before initiating an asset monetisation transaction;
- **Section 5:** Transaction Stage: An overview of the regulatory framework for respective instruments;
- **Section 6:** Key imperatives for Monetisation: Imperatives for efficiency and efficacy of Asset Monetisation initiative.

2

Asset Monetisation— Framework and Instruments

This section provides an overview of the approach to core asset monetisation, in India's context. This includes key tools, instruments including their broad features, benefits and limitations etc.



2.1 CORE ASSET MONETISATION

The assets held by the government/ public sector entities/statutory bodies broadly include operational/ under-construction projects, land, buildings, investment in subsidiaries/ joint ventures etc . From amongst these,

> Assets which are central to the business objectives of such entity and are used for delivering infrastructure services to the public/ users are considered as Core Assets for the purposes of monetisation herein.

Infrastructure[11] includes asset classes such as transport (roads, rail, ports, airports), power generation, transmission networks, pipelines, warehouses etc. The other assets, which generally include land parcels and buildings, can be categorised as non-core assets.

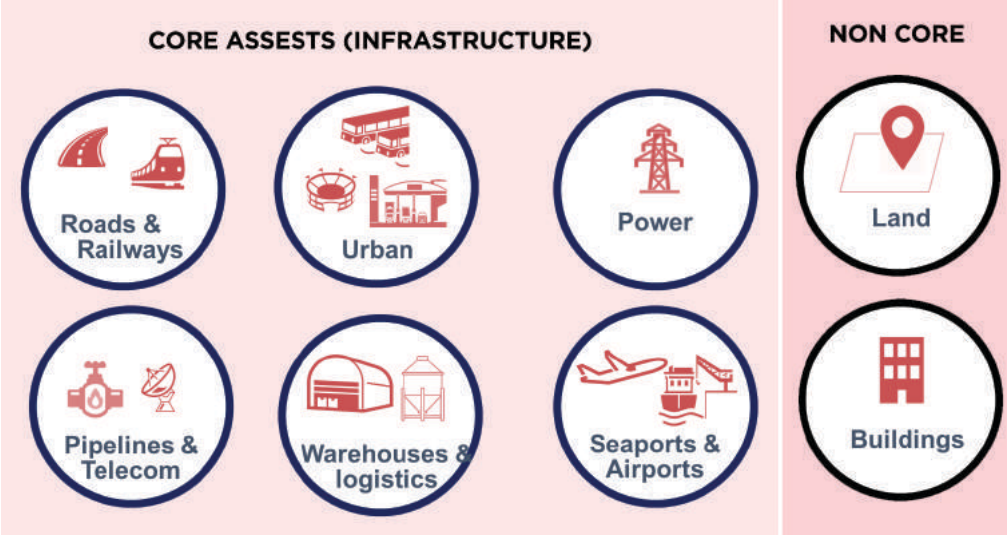


Figure 7: Core and Non-Core Asset Classes

Of the various Core Assets, assets which are currently generating revenue OR those which have substantially completed facilities and can be suitably augmented for future operations have been considered as potential Core Assets for monetisation herein.

2.1.1 Core Asset Base

Investment, as measured by Gross Fixed Capital Formation (GFCF), has on an average been 30% as a component of GDP in the previous 5-year period i.e. FY 2017 – FY 2021[12]. This capital formation has been led by mega public investment programmes such as Bharatmala, Sagarmala, Dedicated Freight Corridor, Jal Shakti and Pradhan Mantri Awas Yojana etc.

Owing to several years of such large-scale public investment programmes, a significant public infrastructure asset base has been created at the level of CPSEs, departments and

11 Based on the Harmonized Master list of Infrastructure sub-sectors published by Department of Economic Affairs

12 National Statistical Office (NSO), Ministry of Statistics and Programme Implementation

statutory entities, both within the Central as well as State government. A snapshot of the scale of core assets, managed across key Central Government entities and sectors, is provided in table below.

Table 1: Snapshot of Infrastructure asset base under key Central govt. public entities[13]

S.No.	Asset class	Ministry / entity	Key asset variable	Value
1	Roads	Ministry of Road Transport & Highways through National Highways Authority of India	Length of National Highway network	132,499 km[14]
2	Power transmission	Ministry of Power through Power Grid Corporation of India Ltd.	Transmission network and substations	171,950 km transmission lines, 262 sub-stations with 444,738 MVA transformation capacity[15]
3	Power generation	National Thermal Power Corporation (and its JVs & subsidiaries)	Thermal generation	60,224 MW[16]
4		National Hydroelectric Power Corporation National Thermal Power Corporation	Hydro & renewable generation (Solar)	4,912 MW (NTPC and its JVs & subsidiaries) 7,071 MW (NHPC)
5	Airports	Airport Authority of India	Number of AAI airports	137 airports[17]
6	Ports	12 Major Port Trusts	Handling capacity of major ports	1535 MMTPA[18]
7	Telecom Towers	Bharat Sanchar Nigam Ltd Mahanagar Telephone Nigam Ltd	Number of telecom towers	69,047 towers
8	Optical Fibre Cable	Bharat Broadband Network Limited	Length of optical fibre cable	5,25,706 km (laid under Bharatnet)[19]
9	Railway Stations	Indian Railways	Number of railway stations pan India	7,325 stations[20]

13 Asset base directly/indirectly owned or through private participation or otherwise

14 https://nhai.gov.in/nhai/sites/default/files/NationalHighwaySummary.pdf

15 https://www.powergridindia.com/company-overview-0

16 https://www.ntpc.co.in/en/power-generation/installed-capacity

17 https://www.aai.aero/en/corporate/organization

18 http://shipmin.gov.in/sites/default/files/BPS2020.pdf

19 http://bbnl.nic.in/

20 Indian Railways Annual Reports 2019-20

11	Railway Track	Indian Railways	Track network	1,26,366 track km (67,956 route length)[20]
12	Natural gas pipeline	Gas Authority of India Ltd, Indian Oil Corporation Ltd & others	Length of operational pipeline network	19,998 km[21]
13	Petroleum & products pipeline	IOCL, HPCL, BPCL, OIL	Length of pipeline network	14,623 km[21]
14	Warehouses	Food Corporation of India, Central Warehousing Corporation & other agencies	Warehousing capacity	818 lakh MT[22]
15	Sports stadium[23]	Sports Authority of India, Ministry of Youth Affairs & Sports	Number of Sports Stadia & regional centres	5 national stadia and various Regional centres[24]

2.2 CORE ASSET MONETISATION FRAMEWORK

Governments regularly invest in new infrastructure creation by way of budgetary allocations. Asset Monetisation approach for such assets, enables a whole lifecycle and system-wide perspective, combining monetisation and new infrastructure creation into a long-term view. It leverages the capital tied up in existing infrastructure assets and aims to reap potential benefits by monetising these assets and directly reinvesting capital proceeds for creation of new or improvement of existing infrastructure.

Asset monetisation has two inextricably linked facets;

- Lease or divestment of rights over existing assets; and
- Reinvesting in new infrastructure.

While in the past, divestment of rights over existing assets has been carried out by government and public-sector organizations, the proceeds from such divestment have not necessarily been invested in new infrastructure creation. Further, such divestment has largely been focussed on stakes in companies/ subsidiaries or occasionally in non-core assets such as land or building. Lease or long-term concession of core operational assets, in a manner which garners upfront funds and can thereafter be leveraged/ invested in other infrastructure assets, has rather been occasional/ sector-specific. Given however the benefits of this approach, agencies such as National Highways Authority of India have deployed such mechanisms for upfront fund raising and new infrastructure creation. There

21 https://www.pngrb.gov.in/eng-web/data-bank.html#ngpl-1

22 https://fci.gov.in/storages.php?view=35

23 Consists of stadium assets under Ministry of Youth Affairs & Sports, additional sports stadiums under other public entities such as Indian Railways are not included

24 Ministry of Youth and Sports Affairs Annual Report 2019-20

is now a need to systematically adopt these initiatives across varied asset classes and streamline the frameworks and modalities of such alternatives in a manner which can be readily absorbed, evaluated and replicated.

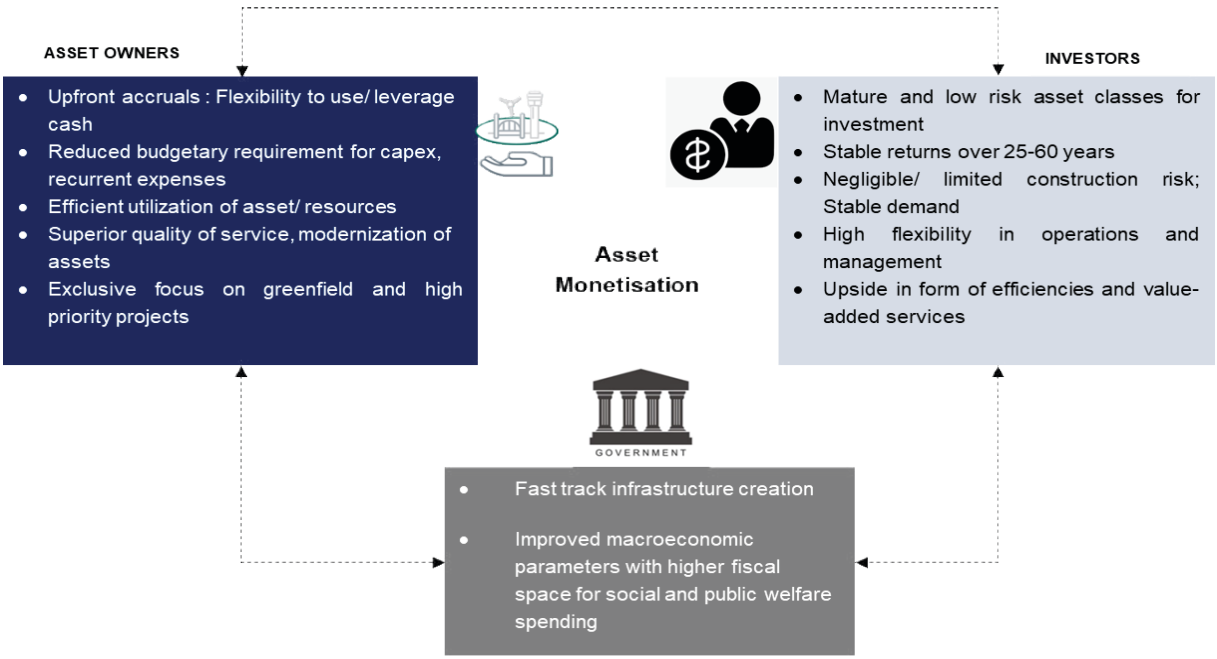


Figure 8: Asset Monetisation Eco-System and Benefits to Stakeholders

2.2.1 Framework features

The framework for monetisation of core assets has three key imperatives.

Figure 9: Framework features for Core Asset Monetisation

- Selection of de-risked and brownfield assets with stable revenue generation profile (or long-term revenue rights) that can be clearly ring-fenced, is of critical importance.
- Transaction should be structured around revenue rights as against transfer of full ownership. Towards this, hand back of assets to the original asset owner at the end of transaction life is a key requirement.

- Monetisation should be viewed as structured contractual partnerships and not privatization or slump sale of assets. Well-defined contractual frameworks should be adopted which allow government authorities to have clearly laid down KPIs (Key Performance Indicators) and standards for assets.
- Selection of private partner should be through a transparent mechanism and the utilization of proceeds received should be towards well-defined uses such as new infrastructure creation etc.

2.2.2 Considerations for contractual structuring

Infrastructure assets entail a clear need for the government to retain a degree of oversight and control by way of either contractual mechanisms or regulations. This is because the projects around these assets typically involve[25]:

i. Transfer of public assets including land;

ii. Delegation of governmental authority to collect and appropriate user charges that are levied by force of law and must therefore be 'reasonable'; Protection of user interests and the need to secure value for public money

iii. Provision of services to users in a monopoly or semi-monopoly situation, which imposes a special obligation on the government to ensure adequate service quality; and

iv. Sharing of risks and contingent liabilities by the government, as applicable.

Because of such pre-requisites and nature of risks, as also involvement of multiple parties – including project sponsors, lenders, government entities, public users and regulatory authorities etc – monetisation of infrastructure assets can be complex. This mandates detailed due diligence, legal and contractual agreements that clearly set forth the risks, rewards and obligations of various participants.

Monetisation of infrastructure assets should hence be structured with a careful consideration to protection of user interests and maximization of value to the public authority (similar to that in case of Public Private Partnerships projects).

2.3 MONETISATION MODELS

Asset Monetisation can be undertaken through a range of instruments/ tools. This section summarizes some of the few models, which have been utilized and have proven to be effective in monetising brownfield assets.[26] Monetisation models which are currently being explored/ availed may broadly be categorized into two approaches: (i) Direct Contractual Approach and (ii) Structured Financing models.

25 Features of Infrastructure projects as identified under Procedure for Approval of Public Private Partnership Projects

26 Models, included herein, are only some of the structures adopted/ with potential for adoption; The list is not comprehensive and will vary based on the features of the assets and the expectations of authority, investors and users.

'Direct Contractual' Approach	Structured financing models
Concession/ contract between a public entity and identified private sector developer(s)/ investor(s)	Structured instruments for long-term fund generation via capital markets or through a pool of investors

Figure 10: Core Asset Monetisation approaches

The aforementioned classification has solely been used, for the purpose of this Guidebook, to delineate the broad principles under various models/ structures. This is only one of the possible and indicative way to classify monetisation models and is not to be treated as prescribed/ formal categorization of monetisation models.

In practical application, adoption of one or the other category of models would depend upon various factors viz. asset profile, objectives for monetisation, expectations of sponsor and investors etc. The most optimal or selected model, could hence very well be one of the above or a hybrid structure (having features of both of the above categories) or possibly an entirely different model.

Table 2: Indicative features of Direct Contractual mode

Transaction	Asset OR rights over such asset–Transferred to a single or a consortium of developers and / or investors, by way of defined contractual frameworks
Consideration	Upfront and/or periodic payments
Target Investor Class	Generally, infrastructure developers, strategic investors with direct involvement / oversight in operations
Selection modes	Through a competitive bidding process and as per prescribed guidelines of Government
Contractual aspects	Key performance indicators and clearly defined performance regime with commensurate incentive or penalty mechanisms, suitable exit provisions, termination and force majeure provisions
Prevalent Structures	PPP concessions

Table 3: Indicative features of Structured Financing Instruments

Transaction	Partnership interest in the asset OR rights over such assets, granted to a pool of investors (under a capital market based instrument or otherwise)
Consideration	Generally Upfront
Target Investor Class	— Institutional investors such as sovereign wealth funds, global/domestic insurance funds, pension funds — Retail investors
Selection modes	Public listing or private placement or other such mechanisms
Prevalent Structures	Infrastructure Investment Trust (InvIT), Real Estate Investment Trust (REIT), Asset-back securitisation (ABS)

2.4 DIRECT CONTRACTUAL MODELS – BROWNFIELD PPP CONCESSIONS

In the past, brownfield models have largely been focussed as management contracts – where the obligation to provide service remains with the public authority, but the day-to-day management of the asset is vested with the private sector. These are contractual arrangements, with duration of typically 3-5 years – where the private sector entity is responsible for the O&M of a part or the whole of the asset/ facility or service.

Brownfield PPP models, on the other hand, aim at roping in private sector partner for end-to-end operation and maintenance (O&M), provision of service to users and augmentation of asset as necessary. Various potential models for such brownfield PPP of existing infrastructure assets owned by public sector entities/line ministries/ statutory authorities include:

Brownfield Public Private Partnership Concessions		
Model	**Operate Maintain Transfer (OMT)**	**Operate Maintain Develop (OMD)**
Adopted as	Toll Operate Transfer (TOT) in Roads	Operation Management Development Agreement (OMDA) in Airports

Figure 11: Brownfield PPP Models

2.4.1 Operate–Maintain-Transfer Concession

The fundamental principle under the model is to engage private sector partner for undertaking operations and maintenance of projects. This presupposes that construction works have been completed by the asset owner/ government and the project is amenable to immediate revenue collection. As the existing project has established demand/ traffic revenue streams the project structure does not suffer from volatility or unmanageable commercial risks.

From the perspective of bidders, hence, the future revenue potential can be assessed with a fair degree of certainty. Which enables the asset owner to be able to monetise the project for an upfront/ periodic consideration (in form of premium/ revenue share). This not just ensures cash inflows to the public asset owner, but also relieves it of the financial and capacity commitments towards operations and maintenance of the project, thereby reducing expenditure or budgetary support requirement. This is necessary for financial and operational bandwidth to public entities for implementation of greenfield projects, as also higher commercial and operational efficiency.

OMT contracts have seen strong impetus in road sector in India. OMT contracts are a combination of a tolling contract and a contract for operations & maintenance. Between

2009-10 and 2014-15, NHAI has awarded a total of around 2,400 km of National Highways to be maintained on OMT basis.[27]

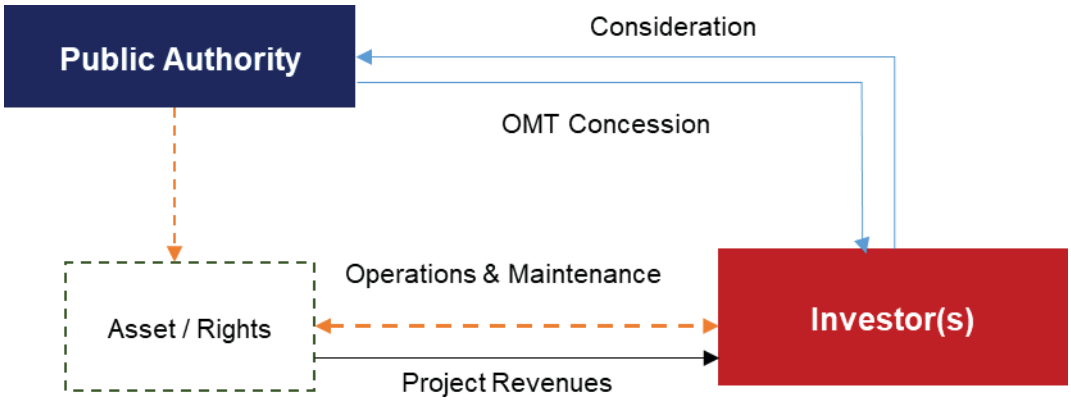


Figure 12: OMT Broad Structure

Table 4: Key Terms of an OMT Concession

Key Requirement	Operational asset, preferably with one complete cycle/ year of operations
Potential Projects	Projects newly constructed and commissioned by the public asset owner through its own funds (EPC etc.) OR Project originally tendered out through PPP modes and for which have concession period is complete or termination has occurred[28]
Primary Obligations	— Operations and Maintenance of assets; — Provide service to users against a pre-determined/ regulated or market-based fee;
Concession Period	10 years or more, however, depending on the asset category. *Longer concession periods with pre-defined terms of augmentation preferable*[29]
Consideration	Upfront or Annual Premium (Fixed OR in form of revenue share) *Variation of model where an upfront value is bid and paid by Concessionaire is TOT*[30]
Investor Class	Strategic investors or Infrastructure developer with direct involvement / oversight in operations
Selection	Through competitive bidding process and as per prescribed guidelines of Government
Other Terms	Standard terms as in case of PPP Projects

27 CRISIL report on 'Way forward for OMT contracts' 2016

28 Subject to asset being suitable for operations and resolution of ensuing legal conflict (if any)

29 Major augmentation or development obligations are usually not covered under these Projects. If, however, required, at a later stage the same may be under EPC mode and funded by the Authority. In case the same is pre-specified and is to be funded by the concessionaire, present value of such expenditure will be reduced from the upfront consideration to the Authority.

30 Toll Operate Transfer model has been discussed as a sub-type

2.4.1.1 Toll Operate Transfer

Toll Operate Transfer (TOT) is a variant of the OMT model, recently adopted in roads sector, where consideration paid to the Authority is in form of an upfront premium. This is one of the key models for monetisation successfully employed in the roads sector in India both by Central and State entities. Ministry of Road Transport and Highways (MoRTH) introduced the TOT concession framework in 2016 for monetisation of road assets portfolio by National Highways Authority of India (NHAI) to long-term investors.

Toll Operate Transfer (TOT) Model

Ensures efficient management of public funded and operational national highway projects through ***structured contractual partnerships with defined KPIs and O&M standards***

Provides ***upfront proceeds for ploughing back into greenfield national highway development***

The TOT model primarily entails securitization of the toll receivables by collecting an upfront concession fee from the selected bidder and determined through a transparent competitive bidding mechanism. The structure involves leasing out of operational national highways (NHs) (ideally constructed under the EPC model) with consideration paid upfront. The road assets are awarded to winning bidders who are granted concession to collect toll and to maintain the roads over the life of the concession which is 15-30 years. The structure also provides for toll rate escalations linked to inflation.

Till date, five rounds of TOT have been undertaken covering a stretch of 2395 km, out of which 3 rounds have been completed – Bundle 1, Bundle 3 and Bundle 5. NHAI has raised ~Rs. 17,000 crores across these three rounds of TOT entailing toll road assets of ~1400 km.

Table 5: TOT bundles bid out by NHAI till date

S.No	Bundle	Date	Length	Value
1	TOT Bundle 1	Aug 2018	682 km	Rs. 9,681 crores
2	TOT Bundle 2	Feb 2019	586 km	Bid cancelled
3	TOT Bundle 3	Nov 2019	566 km	Rs. 5,011 crores
4	TOT Bundle 4	Sep 2020	401 km	Bid cancelled
5	TOT Bundle 5A-1	Jan 2021	54 km	Rs. 1,011 crores[31]
6	TOT Bundle 5A-2	Jan 2021	106 km	Rs. 1,251 crores[24]

Certain state government entities have also adopted the TOT model for monetising state toll roads.

31 Bids undertaken with undisclosed IECV

In June 2020, Maharashtra State Road Development Corporation (MSRDC) awarded the tolling rights of Mumbai Pune Expressway and old Mumbai-Pune corridor (NH-48) to IRB Infrastructure Developers for a total consideration of Rs 8,262 crore comprising upfront payment of Rs 6,500 crore and the balance in staggered instalments over a period of three years.

CASE STUDY – TOT BUNDLE 1

The first TOT model was bid out in 2018, and comprised nine highway stretches aggregating to ~682 km in Andhra Pradesh and Gujarat, ensuring geographic diversification. Six of these were in AP and are part of the NH-5 of the Golden Quadrilateral connecting Kolkata and Chennai. They had a strong traffic potential given the presence of ports, industrial clusters and consumption centres in the project vicinity.

TOT-1 toll roads had a higher share of commercial traffic at 85% vis-à-vis corresponding national average of 75%. As against NHAI's Initial Estimated Concession Value (IECV) of Rs 6,258 crore, the winning bid was of Rs 9,682 crore. NHAI utilised the monetised proceeds for funding new road projects under Bharatmala program thus diversifying its conventional funding sources.

Issue size	Investor(s)	Total revenue and revenue growth
IECV: Rs. 6,258 crore *(Winning Bid: 1.5 times reserve price)*	Macquarie Infrastructure and Real Assets	Aggregate toll revenue: Rs. 664 crore (FY 19) against Rs. 513 crore (FY 18) - showing a growth of ~29%

Key takeaways

A. Diversified asset mix, quality of underlying road assets and tenor of the concession period are vital to attract investor interest

The location of the projects i.e. Andhra Pradesh and Gujarat, along with the overall project influence area, and potential traffic growth played a key role in getting a winning bid equal to almost 1.5 times the reserve price. Other contributing factors included long concession period of 30 years, transparency in availability of historical traffic data of project roads.

B. Adequate project preparation and key changes in the regulatory framework have enhanced investor appetite

Detailed study and consultation were undertaken prior to structuring and rolling out the first TOT transaction by NHAI. Also, before awarding the bundle of projects, authority had conducted robust due diligence of the bundled projects through drone videos and network survey vehicles for ascertaining asset condition of underlying road assets along with current traffic patterns

2.4.2 Operate–Maintain-Develop Concession

Under the *Operate Maintain and Develop* structure, an asset which is operational but due for augmentation is handed over to the private party for augmentation and O&M over the concession period. Usually, the operations of such asset remain uninterrupted with augmentation undertaken while the asset is operational.

The private sector raises finance on the strength of the existing assets and / or obtains project financing along with equity contribution for undertaking such augmentation. The private sector pays an upfront or an annual consideration (in form of a premium and / or revenue share) and earns its returns through revenues from upgraded asset.

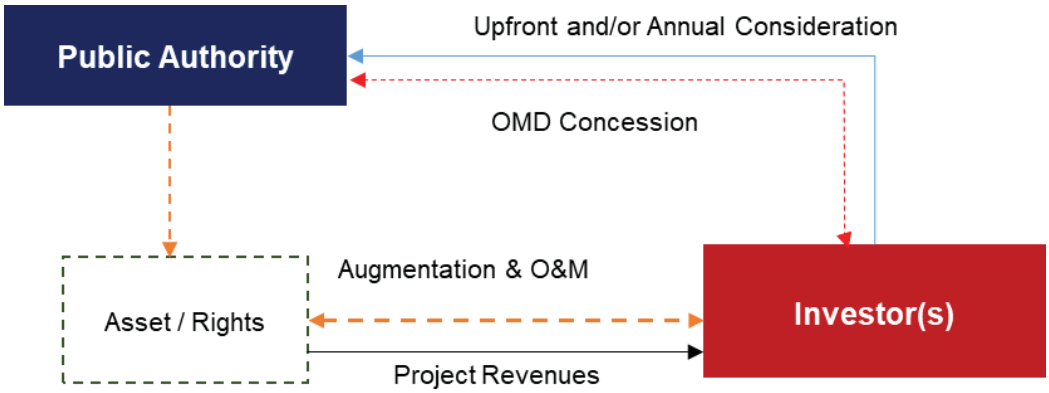


Figure 13: OMD Structure

Table 6: Key Terms of an OMD Concession

Key Requirement	Operational asset which is due for augmentation
Potential Projects	Projects constructed and completed by public asset owner through their own funds OR Project originally tendered out through PPP modes and for which concession period is complete[32]
Primary Obligations	— Augmentation along with ongoing and future Operations and Maintenance of assets; — Provide service to users against a pre-determined/ regulated or market-based fee;

32 Terminated projects due for augmentation may also be considered subject to resolution of ensuing legal conflict (if any)

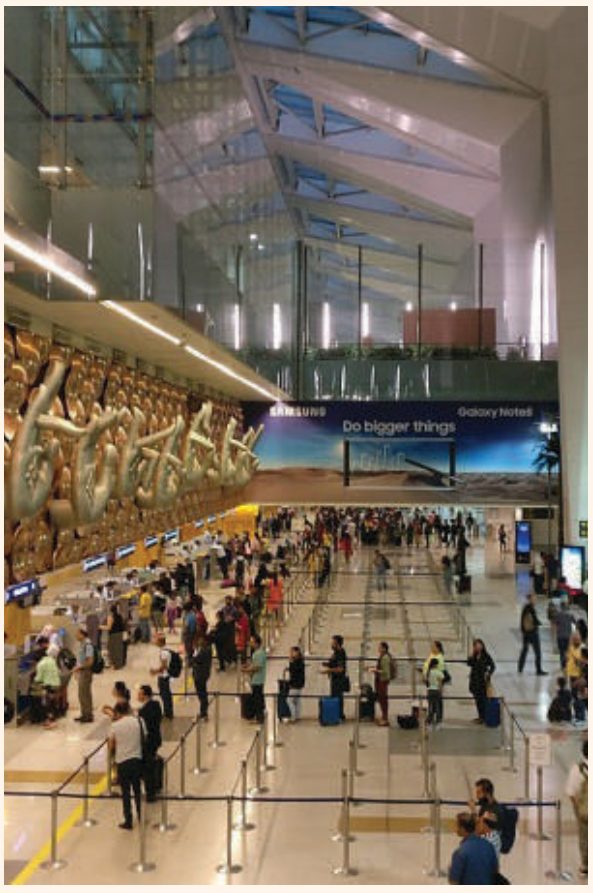
Concession Period	25 years or more, however, depending on the asset category.
Consideration	Annual Premium (Fixed or in form of revenue share) And/ OR Upfront Premium[33]
Investor Class	Strategic investors with direct or active involvement in operations
Selection	Through a competitive bidding process and as per prescribed guidelines of Government
Other Terms	Standard terms as in case of PPP Projects

A similar structure is the Rehabilitate-Operate-Maintain-Transfer (ROMT) where an existing asset ideally needs to be first upgraded/augmented before the operations and collection of the revenue can be resumed. Here as well, the concession terms are generally similar to OMD contracts with consideration for netting off the cost of rehabilitation to the Authority.

CASE STUDY: OMDA IN AIRPORT SECTOR

The development of airports through PPP mode started in 2006 with the Airports Authority of India (AAI) airports at Delhi and Mumbai. The contracts were structured as Operation, Management and Development Agreement which have helped create a world class airport infrastructure.

AAI tendered out the concession of Delhi International Airport for augmentation & O&M with revenue share as the bid parameter. In order to enhance the commercial attractiveness and viability of the project, city side real estate has been clubbed along with. The concession period is 30 years (renewal after 30 years) with transfer at end of period. The Project has been completed at a total cost of Rs 12,500 crore enabling augmentation and long-term operation of airport with no additional cost to AAI.



33 As consideration for value of assets received – This may be pre-determined as in case of recent leasing of six airports (2019) or be bid parameter (with pre-defined revenue share)

Leasing of Six Airports (2019)

Airports Authority of India (AAI) undertook development of 6 brownfield airports–Ahmedabad, Jaipur, Lucknow, Guwahati, Thiruvananthapuram and Mangalore–under PPP mode in 2019.

The scope of work for the concessionaire entailed capacity expansion of the airports in a phased manner along with ongoing and future O&M. It also included development, operation and maintenance of city-side (creating infrastructure facilities adjacent to airports like hotels, restaurants, retail shops, etc.)[34]. The concession period of these airports was 50 years with no extension provision. Thereafter, the assets will be handed back to the Authority i.e. AAI. The concession also envisaged a State Support Agreement with respective state governments. The State Support Agreement is aimed at enabling support related to removing encroachments, security and protection of property, clearance, and utilities (like power, water supply services).

The bid parameter for the project was 'Per Passenger Fee' with the concessionaire required to pay monthly fee equivalent to the aggregate of domestic user fee (product of per passenger fee for domestic passenger and domestic passenger throughput) and international user fee (product of per passenger fee for international passenger[35] and international passenger throughput).

Various funds and strategic investors participated in the bid. The financial bids of the qualified bidders for Project were opened in February 2019. The bid process enabled receipt of approximately Rs 900 crore upfront to AAI with no expenditure and capacity commitment over the next 50 years.[36]

Assets	Bid response	AAI consideration
Ahmedabad, Lucknow, Jaipur, Guwahati, Thiruvananthapuram & Mangaluru	32 bids for 6 Airports	Rs ~ 900 crore as upfront consideration (Indicative Residual Asset Base) Average per passenger fee of Rs 150 for each airport

2.4.3 Other PPP models

The critical factor that defines an "asset monetisation" is the nature of the asset. If the underlying asset is an active revenue generating asset with potential for utilization in a manner which ensures higher accruals / grant savings to the authority then it may be considered under the category of asset monetisation.

A key example is the proposed private participation initiatives in railways where the railway station redevelopment projects (Design Build Finance Operate Transfer) are being rolled

34 The concessionaire has the right to lease/ sub-lease the land/ assets towards city-side development

35 Twice of domestic passenger fee as per terms of bidding

36 Additional quantum of funds received by AAI during FY 2021

out leveraging the existing infrastructure available with railways viz. track, signalling, stations etc. Such assets, on account of their brownfield nature and/ or existing traffic, allow reduced upfront investment for the concessionaire (in certain cases revenue potential from day one) thereby ensuring higher viability. This, in turn results in higher upfront or periodic consideration to the authority or saving of viability grant. Since such enhanced value/ accruals to authority is reflective of the value of capital invested in the existing asset, such transactions are considered under the asset monetisation framework.

2.5 LONG TERM LEASE

A lease is an agreement whereby the lessor confers to the lessee the right to use an asset for an agreed period of time in return for a payment or series of payments.

While principally akin to brownfield PPP models, the primary difference in case of long-term lease models lies in the nature of assets leased out and/or use of such assets. Long term lease models can be adopted in case of sectors such as telecom etc. where the license to provide an infrastructure service is already available with a private party and the unused/sub-optimally utilised asset of public sector entity is leased out to the such private sector party for providing service under its own license. Alternatively, such models can be adopted in cases where an infrastructure asset viz. mine etc. is allowed for captive usage by private sector players.

Such models can also be used for achieving asset light balance sheets or for innovative financing[37] by public sector entities. Where the infrastructure asset or right to operate, such assets are transferred to a private sector entity for a pre-determined period in lieu of an upfront consideration. The public sector entity then uses such assets for providing service to public against periodic payments. Such leases are executed on long-term basis usually in lieu of a fixed upfront consideration or fixed periodic consideration with annual escalation.

Long term Lease models may also be employed for urban land based assets such as hospitality assets or bus terminals. At times, this model may also be applied in combination with other PPP models such as Rehabilitate-Operate-Maintain–Transfer (ROMT). In such cases, however, the contract period may be longer, and the private sector may be required to make additional investments. The asset transfer under such a lease agreement may happen with or without restrictions on function or usage.

Scenarios	**A.** Assets of public entity leased out for providing service under its own license Right/ License to provide an infrastructure service already available with a private party;
	B. Leasing of assets for Captive Use
	C. Leasing for achieving asset light balance sheets

Figure 14: Long term Lease Models

37 Similar to sale and lease back, however, with no provision for sale of asset

Table 7: Key Features of Lease

Lease Period	10 years or more, however, depending on the asset category.
Consideration	Fixed upfront consideration OR Annual payments with escalation
Investor Class	Existing Licensees (Scenario A); Captive Users (Scenario B) Financial investors (Scenario C)
Potential Sectors	Power, Telecom, Pipeline, Ports, Mining etc.

Benefits of such leasing transaction to the public sector entity include upfront consideration against unused or sub-optimally utilised assets along with no liability towards regular maintenance. While for private sector it is largely the availability of an operational asset without any construction risks and faster roll-out of services.

Leasing – Tower assets in Telecom sector

Contracts between tower infrastructure companies and telecom operators (tenants), which clearly spell out the overall tower requirements of the tenants, the pricing terms, and other binding terms and conditions between the two parties. It is generally referred to as passive infrastructure sharing and includes elements like tower space for mounting antennas for a BTS and also associated passive equipment. BSNL and MTNL have been renting out towers and mobile sites, respectively, to private players against rentals.

2.6 INFRASTRUCTURE INVESTMENT TRUST

Infrastructure Investment Trust (InvIT) is an innovative trust-based financial instrument, which enables participation in infrastructure financing through a stable and liquid instrument. InvITs provide an opportunity to invest in infrastructure assets with predictable cash flows and dividends. InvITs have been introduced in India in 2014 and are employed by infrastructure asset owners to pool in money from a diverse set of investors against pay-out of cash flow generated by the assets on a periodic basis.

Under an InvIT transaction, infrastructure asset owners transfer multiple revenue generating asset[38] SPVs through holdco or otherwise to a trust which then issues units to investors for raising money. The upfront money so raised is utilized by the developers for creation of new greenfield assets as also for repayment of debt which enables availability of capital with lenders for investment/ lending to new projects. The investors, in lieu of invested money, receive a share of Net Distributable Cash Flows (NDCF – similar to the dividend pay-outs) on a periodic basis, commensurate with their unit holding in the Trust. Improved yields for the unit holders can be insured, by adding revenue-generating projects and expanding its portfolio.

The structure of a typical InvIT transaction and the fund flow across agencies is represented in the figure below.

38 Potential to add under construction assets in line with SEBI regulations

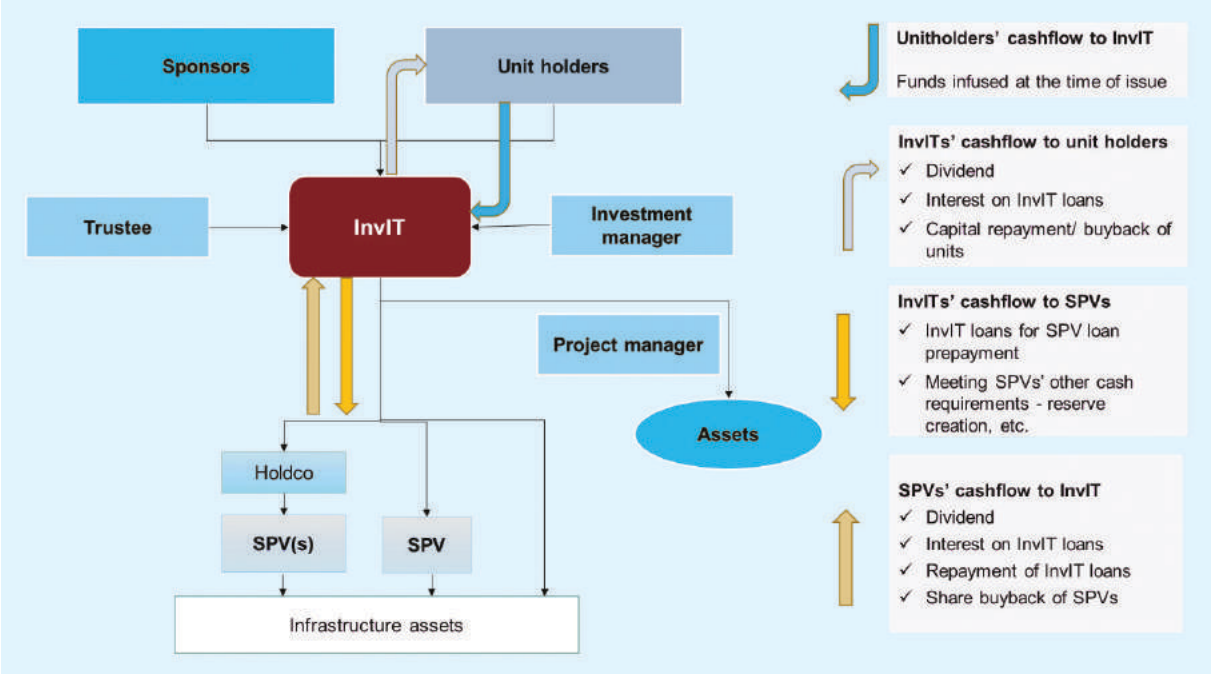


Figure 15: InvIT transaction – Illustrative structure

2.6.1 Key stakeholders

Under this structure, the public asset owner ('Sponsor') creates an independent trust and transfers the ownership/ rights of the public assets to the same. Investors ('Unit Holders') are the beneficiaries[39] of the trust.

The key stakeholders under the InvIT structure include:

- **The Sponsor** – The sponsor is the public asset owner (for public-owned assets) which sets up the InvIT with the objective to monetise its assets. In case of PPP projects, the sponsor is the infrastructure developer or a SPV holding the concession agreement.
- **The Trustee** – The trustee means a person who holds the InvIT assets in trust for the benefit of the unit holders, in accordance with extant regulations.
- **The Unit holders** – The unit holders are the investors who subscribe to the units of the InvIT. The unit holders are the eventual beneficiaries of the asset.
- **The Investment manager** – The investment manager is responsible for taking investment decisions in the interest of unit holders including addition of new assets / sale of existing assets, leverage etc.
- **The Project Manager** – The project manager brings in the operational expertise of managing the infrastructure assets as per the interest of the unit holders.

Other key stakeholders incidental to the InvIT registration and issuance process include valuer, auditor(s), merchant banker(s), registrar & transfer agent, banks, registrar to the issue, credit rating agencies, and depository participants.

39 As per the Indian Trust Act, 1882 – the person for whose benefit the confidence is accepted is called the "beneficiary"

Table 8: Key Requirements/ Terms of an InvIT

Key Requirement	— Operational Infrastructure assets, with at least one year of operations for Public InvIT[40] — Eligible sub-sectors as per Harmonised Master list of infrastructure sub-sectors of MoF
Types of InvIT	**Public**[41] Open for participation by all kinds of investors including retail; and **Private**: Restricted for participation by Qualified Institutional Buyers and bodies corporate
Minimum Value	Assets under InvIT: Rs. 500 crores (*Initial offer size: At least Rs 250 crore*)
Consideration	Upfront Consideration against subscription of InvIT units
Investor Class	Financial investors looking for stable yields; sovereign wealth funds and global pension funds, insurance funds, retail investors etc.
Investor Payment	Not less than 90% of the net distributable cash flows of the InvIT distributed to unit holders

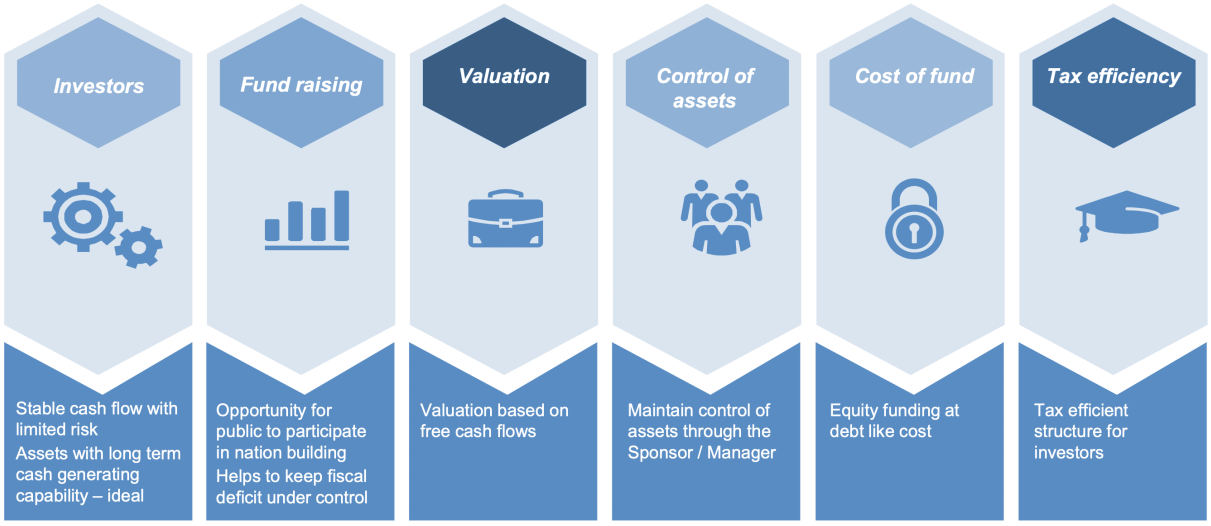


Figure 16: Key Benefits of InvIT

InvITs – Similar instruments globally[42]

Globally private institutional funds have complemented debt funds in financing infrastructure investment. There has been a global consensus on the potential for tapping large institutional investors (including pension funds, sovereign wealth funds etc.) as well as retail investors towards infrastructure asset class, especially with lower-risk levels (brownfield assets). Two specific instruments seen in the USA which have been fairly successful in tapping institutional investors into infrastructure assets are: Yieldcos and Master Limited Partnerships (MLPs).

40 Potential to add under construction assets in line with SEBI regulations; For private InvITs non-operational assets, subject to compliance with SEBI regulations may be considered

41 Minimum number of investors is 20; If number of participants is more than 1000, then automatically public issue

42 The Evolution of the YieldCos Structure in the United States, Mauricio Franco Mitidieri April 13, 2020; Sean T. Wheeler Latham & Watkins MLP Practice

2.6.2 InvIT Process

InvITs are established are trusts under the Indian Trust Act, 1882 and regulated under the SEBI (Infrastructure Investment Trusts) Regulations, 2014. Detailed regulations are discussed in Section 6.

The steps in a typical InvIT transaction are represented in the figure below.

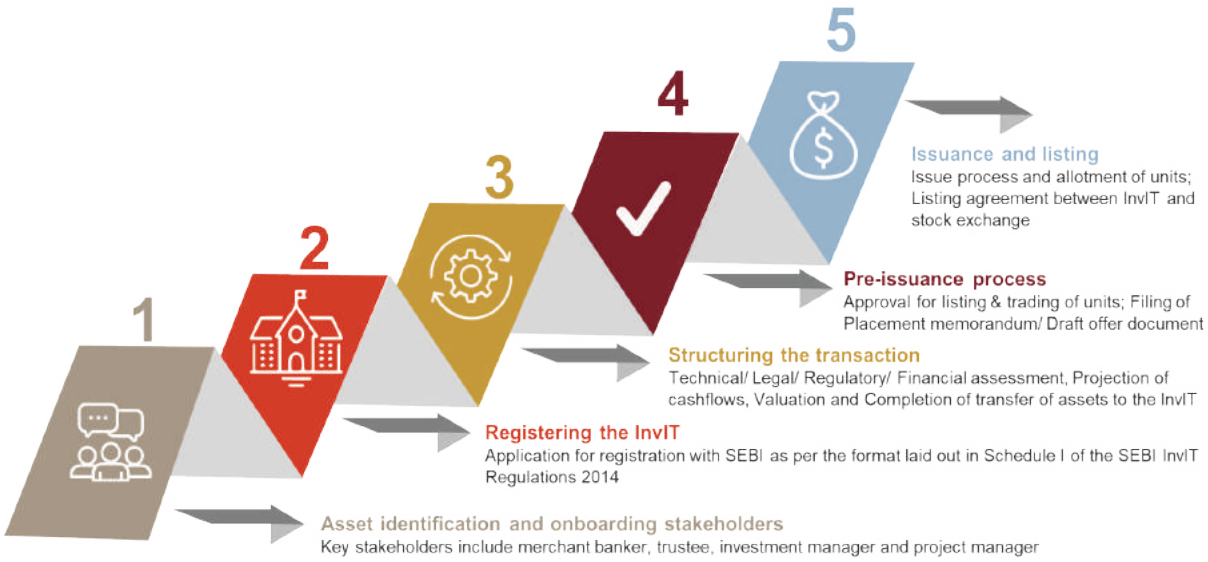


Figure 17: InvIT transaction – Illustrative steps

2.6.3 InvIT transactions in India

India has seen a number of InvIT transactions over the last 4-5 years. The total Assets Under Management (AUM) across the 8 active InvITs[43] is around Rs. ~1.4 lakh crore. Bulk of the assets are under toll roads (rs. 47,500 crore), followed by telecom (rs. 42,000 crore), gas pipeline (rs. 16,500 crore) and power transmission (rs. 14,000 crore).

Since the introduction of InvIT regulations, bulk of the InvIT's have been sponsored by private sector infrastructure developers. Recently, public sector asset owners such as Powergrid and NHAI have initiated greater adoption of the instrument. The table below provides the list of InvIT transactions since its introduction

Table 9: **Key** InvIT transactions

S.No.	InvIT	Sector	Public/ Private	Listing month	Assets under Management (Rs. crore)
1	IRB InvIT Fund – IRB Infrastructure Developers	Toll roads	Public	May 2017	6,500
2	India Grid Trust of Sterlite Power	Transmission	Public	June 2017	15,000

43 Excluding the first public sector InvIT of Powergrid.

S.No.	InvIT	Sector	Public/ Private	Listing month	Assets under Management (Rs. crore)
3	IndInfravit Trust – L&T IDPL	Roads	Private	June 2018	10,500
4	India Infrastructure Trust – Brookfield	Gas pipeline	Private	March 2019	14,500
5	Oriental Infra Trust – Oriental Structural Engineering Pvt. Ltd.	Toll roads	Private	June 2019	11,000
6	IRB Infrastructure Trust	Toll roads	Private	Feb 2020	22,500
7	Tower infrastructure Trust – Reliance & Brookfield	Telecom towers	Private	Sep 2020	42,000
8	Digital Fibre Infrastructure Trust	Fibre Optic	Private	Oct 2020	1,500
9	Powergrid InvIT	Power Transmission	Public	May 2021	7,800

The first InvIT of a public sector entity, PowerGrid has been recently launched in the market. The issue has monetised assets worth ~Rs 7,800 crore and Powergrid has divested 85% of its unit holding in the InvIT. The issue has been listed at premium. National Highways Authority of India is also in advanced stage of raising funds through an InvIT issue expected shortly.

CASE STUDY – INDIGRID INVIT[44]

IndiGrid InvIT was established in October 2016 by Sterlite Power Grid Ventures Ltd (SPGVL) to monetise two transmission assets – Bhopal Dhule Transmission Company Limited (BDTCL) and Jabalpur Transmission Company Limited (JTCL). The assets have established long term contracts, with low operating risks and stable cashflows.

IndiGrid raised around Rs. 1,012 crores from 19 anchor investors. This helped improve retail participation in the InvIT and also ensured stable price levels.

Issue size and assets	AUM and assets (as of Q3 FY 21)	Sponsor(s)	Key unit holders
Rs. 2,250 crore & 2 transmission assets	Rs. 15,000 crore & 12 transmission assets	Sterlite power (initial sponsor), KKR (new sponsor)	~23% KKR ~20% GIC ~12% Other FIIs ~18% Retail ~8% Insurance cos

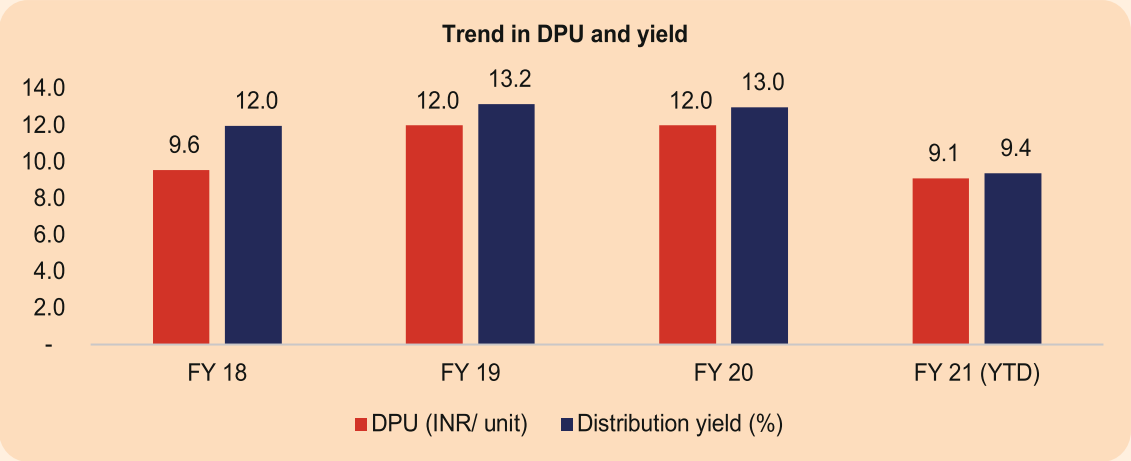
44 Information collated based on filings in the Stock Exchanges

Key takeaways

a. **Diversified Asset Mix:** The Trust has a diversified asset portfolio comprising 12 inter-state transmission assets across 15 states and 1 Union Territory. These assets have an availability-based payment mechanism, with a credible counterparty – PGCIL with average availability of greater than 99.5% (from COD till Dec 31, 2020).

b. **Addition of assets:** Starting with 2 project assets with an AUM of Rs. ~3,700 crores in 2017, the InvIT currently holds around 15 project assets with an aggregate AUM of Rs. ~15,000 crores as of Q3 2021. The increase in asset portfolio over time has ensured greater market interest and improved liquidity of InvIT. Active role of Investor and co-sponsor, KKR in management and Governance of InvIT and investment decisions has played a critical in growth journey of the InvIT and value appreciation.

c. Distribution per Unit (DPU) and Distribution yield over the period from FY 2018 to FY 2020 for InvIT is as shown below



2.7 REAL ESTATE INVESTMENT TRUST

Real estate assets are capital-intensive assets which require substantial up-fronting of investments by the developer. While the land and building based debt products have been available, this does not provide for effective risk-sharing and cost-effective financing for the developer. Real Estate Investment Trusts (REIT) are similar in structure to InvITs. As against InvIT which is unique to the Indian context, REIT structures have seen traction across the globe. The REIT's origin dates back to the 1960s in US. The objective of the REIT structure is to broad-base options for the developers towards expanding the sources of funds.

Only real estate projects[45] are eligible under this structure. The regulations also stipulate that 51% of the consolidated revenues of the REIT, holding company and SPV, should arise

45 "Real estate" or "property" means land and any permanently attached improvements to it, whether leasehold or freehold and includes buildings, sheds, garages, fences, fittings, fixtures, warehouses, car parks, etc. and any other assets incidental to the ownership of real estate but does not include mortgage.

from rental, leasing and letting real estate assets or any other income incidental to the leasing of such assets. However, exceptions have been made with respect to (i) hotels, hospitals and convention centres forming part of composite real estate projects, whether rent generating or income generating; and (ii) common infrastructure for composite real estate projects, industrial parks and SEZs.

The structure of a typical REIT transaction and the fund flow across agencies is represented in the figure below.

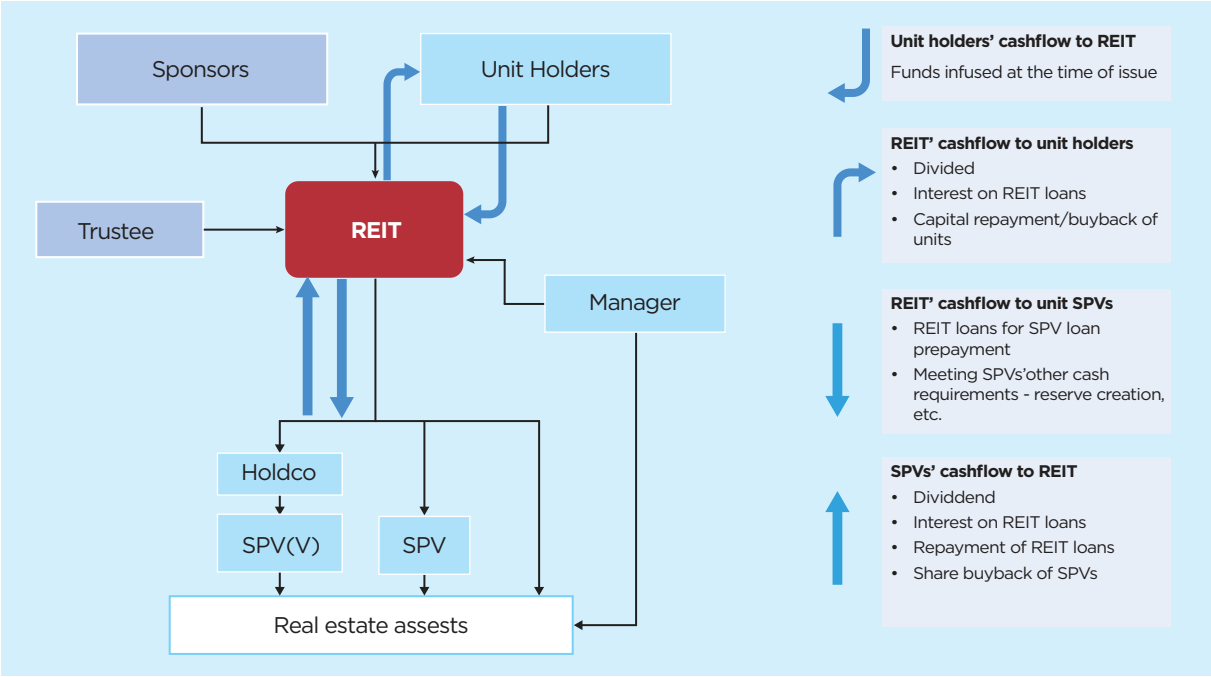


Figure 18: REIT transaction – Illustrative structure

Real Estate (Regulation and Development) Act has brought in sizeable level of accountability and transparency in the segment. In this context, REIT structure has been able to provide an effective and robust corporate governance framework with clearly delineated roles and responsibilities for key stakeholders such as sponsor, investment manager, etc. and the transparency on the revenue/ rent collections.

Table 10: Key Requirements/ Terms of an REIT

Key Requirement	◆ Revenues arise from rental, leasing and letting real estate assets or any other income incidental to the leasing of such assets ◆ Mandatory Listing
Types of InvIT	Public (Open for participation by all kinds of investors including retail)
Consideration	Upfront Consideration against subscription of REIT units
Investor Class	Financial investors looking for stable yields; sovereign wealth funds and global pension funds, insurance funds, retail investors etc.
Investor Payment	Not less than 90% of the net distributable cash flows of the REIT distributed to unit holders

Potential Assets	• Railway warehouses/ good sheds • Multifunctional complexes • City-side development for Airports • Commercial development on Municipal land • Commercial development along the toll road stretches • Railway stations' commercial development etc.

Public sector entities in India sit on an inventory of under-utilised land assets in some of the high value real estate zones, which may be freehold land or underutilised land parcels. The REIT platform provides an opportunity to capture value from these assets by allowing commercial development. The instrument provides an opportunity for real estate asset owners to raise money upfront by transferring the revenue generating real estate assets to the trust. The investors receive the net distributable cash flows generated by the infrastructure assets.

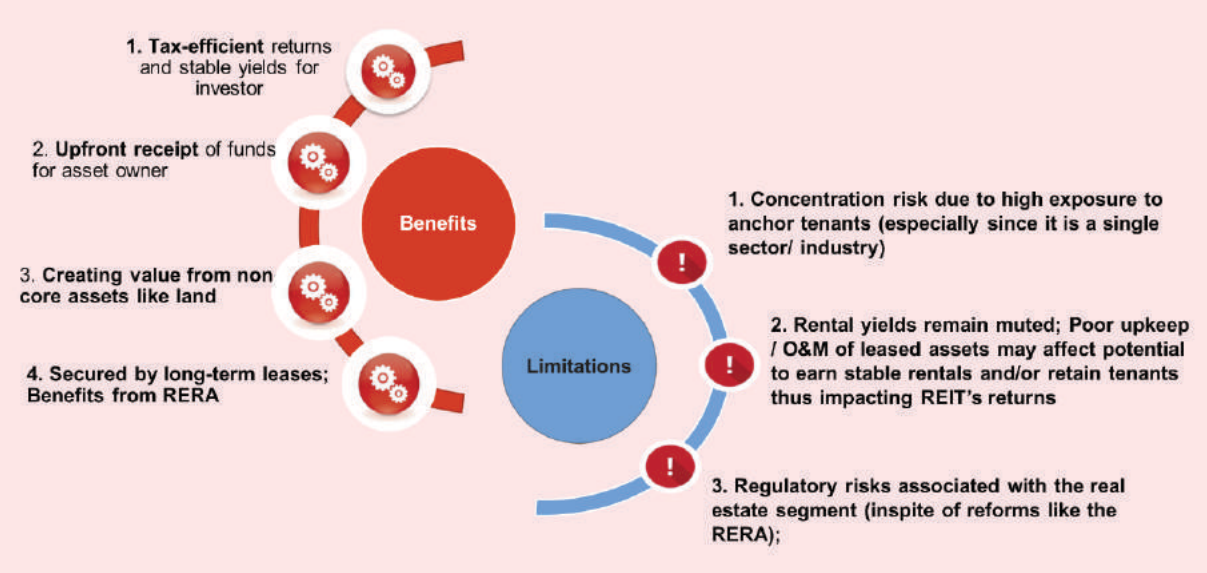


Figure 19: Benefits and Limitations of REIT

REITs are established as trusts under the Indian Trust Act, 1882 and regulated under the SEBI (Real Estate Investment Trusts) Regulations, 2014. Detailed regulations are discussed in Section 6.

Issuance process of a REIT is similar to an InvIT and is discussed in detail in Section 6.

REITs – Similar instruments globally

REITs have been active infrastructure instruments for real estate financing globally. They started in the USA in the early 1960s and currently is present across 40 countries across the world. REITs globally invest in the majority of real estate property types, including offices, apartment buildings, warehouses, retail centres, medical facilities, data centres, cell towers, infrastructure and hotels.

List of countries with REITs and the year of adoption[46]

Snapshot of the US REIT market:

It is estimated that there are more than 1100 REITs in US[47], out of which 225 REITs are public REITs registered with the SEC. As of December 2019, REITs in the US own more than $3.5 trillion of gross real estate assets and 5.16 lakh properties[48]. REITs may also be categorized as public REIT (in case of shares registered with Securities and Exchange Commission) or private REITs.

REITs in US can be categorized based on nature of risk exposure to the underlying asset as follows: Equity REITs and Mortgage REITs (mREITs). Equity REITs own and operate real estate assets while the mREITs invest in mortgages and mortgage-backed securities, providing financing for residential and commercial properties. REITs performance have largely been better than the overall stock market performance.

The market capitalization of REITs (and number of publicly traded REITs in bracket) in select countries is as follows[49]:

Jurisdiction	Value	Number
United States	US$ 1232 billion	194
Singapore	US$ 76 billion	44
Japan	US$ 148 billion	62
Hong Kong	US$ 35 billion	11
India	US$ 4 billion	1
Malaysia	US$ 9 billion	18

46 https://www.reit.com/investing/global-real-estate-investment

47 Based on tax return filings by Internal Revenue Service;

48 Only public REITs

49 https://www.crisil.com/content/dam/crisil/our-analysis/reports/Ratings/documents/2019/october/indias-reit-opportunity.PDF (Aug, 2019)

2.7.1 REIT transactions in India

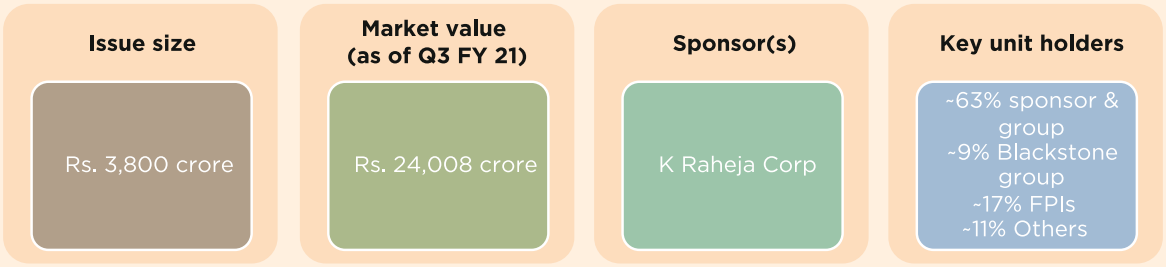
India has seen 3 REIT transactions since the regulations were introduced. The transactions have been largely in the private sector space. With a significant inventory of real estate assets with strong development potential, REITs can play a major role in transforming public sector financing landscape. The table below provides the list of REIT transactions since its introduction.

Table 11: REIT transactions in India

S.No.	REIT	Sector	Public/ Private	Listing month	Assets under Management (Rs. crore)
1	Embassy REIT	Office parks	Public	April 2019	33,000
2	Mindspace REIT	Office parks	Public	Aug 2020	22,500
3	Brookfield India REIT	Office parks	Public	Feb 2021	11,000
Total					**66,500**

CASE STUDY – MINDSPACE REIT[50]

Mindspace REIT was established on November 18, 2019. The REIT holds 10 real estate assets through 8 SPVs. Mindspace Business Parks REIT owns office portfolio located in four key office markets of India – Mumbai (41%), Hyderabad (39%), Pune (17%) and Chennai (3%). Portfolio has total leasable area of 29.5 million square feet (msf) and is one of the largest grade-A office portfolios in India. Portfolio comprises 23.0 msf of completed area, 2.8 msf of under construction area and 3.6 msf of future dvelopment area, as of March 31, 2020.



Key takeaways

1. Counterparty profile for the REIT assets

The tenants are largely MNC firms from diversified sectors which helped bring in better realisations and lower volatility of cashflows. The average rent for the assets was around Rs. 60 per sq. ft. per month. Hence, the selection of the assets for REIT needs to be backed by adequate assessment of counterparty risks that the REIT assets might get exposed to and also needs to be backed by risk mitigation measures to ensure investor comfort.

50 Information based on fillings in the Stock Exchanges

2. Anchor investors and strategic investors during public issue;

Presence of an experienced real estate player i.e Blackstone group in this case, with experience in managing similar assets can potentially bring in large-scale investors like pension funds, insurance funds etc.

2.8 FACTORS DETERMINING CHOICE OF MODEL

The key decision-making criteria for monetisation include:

i. Extent of fund raised and potential for upfront receipt for the public sector agency

ii. Tax efficiency and liquidity for investors and target investor class

iii. Operational control for the public sector agency

iv. Valuation potential

It is seen that the capital market instruments have the potential to bring in better value considerations, while the PPP concession may be suitable in sectors where the private sector brings in improved standards for operation and maintenance with service to users under a defined framework.

3

Asset Monetisation Experience: India and Beyond

The section delves into the Asset Monetisation experience, globally and in India, its key features, guiding frameworks, factors for success and case studies

Infrastructure investment requirement, globally, has been estimated at USD 94 trillion during the period 2016 to 2040[51]. Of which, ~50% alone is required in Asia (with China, India and Japan being major contributors). While governments lead the initiative of meeting the massive infrastructure deficit, it is widely accepted that governments alone cannot fund this level of infrastructure investment requirement. In order to bridge this infrastructure deficit, globally public sector has explored various options including, but not limited to public funding, private partnerships/ private finance initiatives, value capture, debt financing and public asset recycling.

Asset recycling is considered as an alternative strategy where there is a considerable public asset base–comprising of mature brownfield or surplus or under-utilized assets–which is leveraged for raising upfront capital for investment in new assets or for revitalization of existing assets. Asset recycling is being increasingly recognized as a means of alleviating budget pressure and delivering new infrastructure and services.

It simultaneously enables private sector investors avoid risks associated with the construction phase. There is already an established track record of investment by institutional investors and funds in mature economic infrastructure projects such as toll roads, ports and airports in North America, Europe and Australia. More recently, such investments have been seen in Asia-Pacific region as well.

3.1 AUSTRALIA'S ASSET RECYCLING INITIATIVE (ARI)

The concept of asset recycling has been widely implemented in Australia through the Asset Recycling Initiative (ARI) of the federal government.

3.1.1 Need for Asset Recycling in Australia

Australian federal government in the year 2013, directed the Productivity Commission (PC) to commence a thorough examination of infrastructure costs and financing in Australia with focus on ways to improve decision-making and implementation processes. The objective was to facilitate cost reduction in public infrastructure projects and recommendations on policy measures including any non-legislative approaches, which would help ensure effective delivery of infrastructure services over both the short and long term.

The PC findings reported an increasing caution by private investors about investing in public infrastructure projects owing to factors such as long drawn procurement processes with 'patchy' deal flow. At the same time, owing to a federal structure, it is the states and local governments that had much of the planning, environmental and regulatory controls. In this backdrop, the government, during the 2014-15 budget, announced the Infrastructure Growth Package (IGP) which was s a ten-year vision of infrastructure investment in the country. IGP comprised of three key components, the Asset Recycling Initiative, new investments, and the Western Sydney Infrastructure Plan. The Asset Recycling Initiative (ARI, 2014) which was aimed at encouraging states to recycle assets and utilise the sale proceeds into new productivity-enhancing infrastructure by encouraging private companies to fund and run public infrastructure.

51 Global Infrastructure Outlook 2017 published by Oxford Economics

3.1.2 Key features of Asset Recycling Initiative (ARI)

The ARI provided monetary incentive for states to engage in asset recycling to boost infrastructure development. It envisaged a sum of 15 percent of the estimated proceeds from monetisation of an asset (through sale or lease) to be paid to a state by the federal government if the proceeds are reinvested in new infrastructure. The ARI was designed as a five-year program from 2014- 2019, and the funding was allocated to specific proposals on a first-come, first-serve basis.

States, in agreement with the federal government, decided on the specific assets to be monetised and on the additional infrastructure that money will be recycled into. The initiative also envisaged a definite timeline for completion of sale of the asset and commencement of construction of the additional infrastructure. The federal government's financial contribution was managed through the Asset Recycling Fund (ARF), which was used to make payments to states under the IGP.

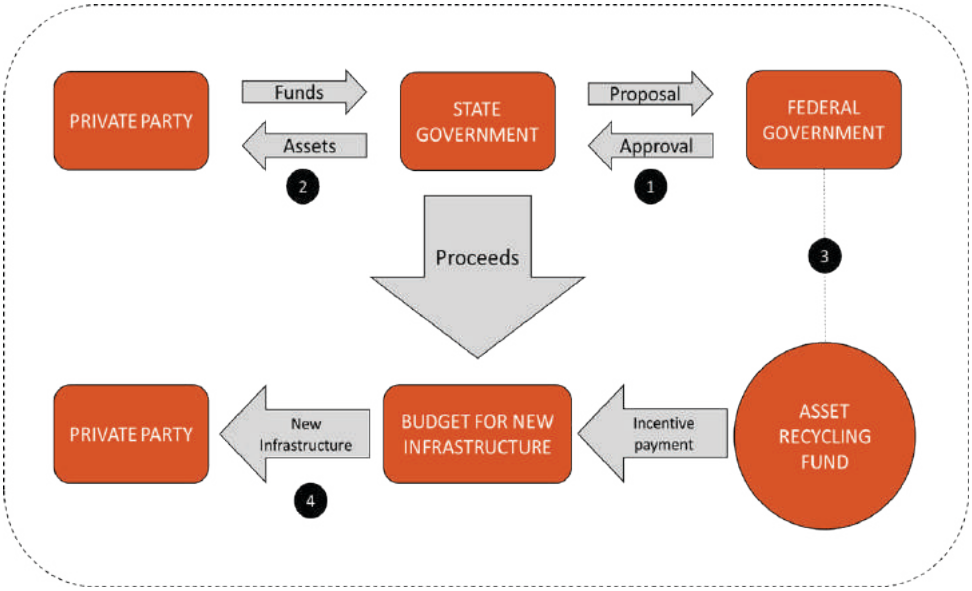


Figure 20: Illustrative ARI process

3.1.3 Assets covered under ARI and Investor response

Overall, three of Australia's eight states and territories participated in the scheme. By 2018, 12 major public assets were rolled out under ARI across New South Wales, Victoria, the Northern Territory, South Australia and the Australian Capital Territory. Approximately, AUD 3 billion in incentive payments were paid to participating states and territories over the life of the scheme. This helped in unlocking over USD 17 billion in new infrastructure development across Australia. The initiative helped in enhanced investments on new transportation infrastructure by states through sale or lease of assets. Asset classes such as ports, electricity generation, transmission and distribution and roads were leased / sold. Assets such as land title offices, lottery offices and dilapidated public housing were also taken up with governments, redeploying the money into new infrastructure in partnership with the private sector.

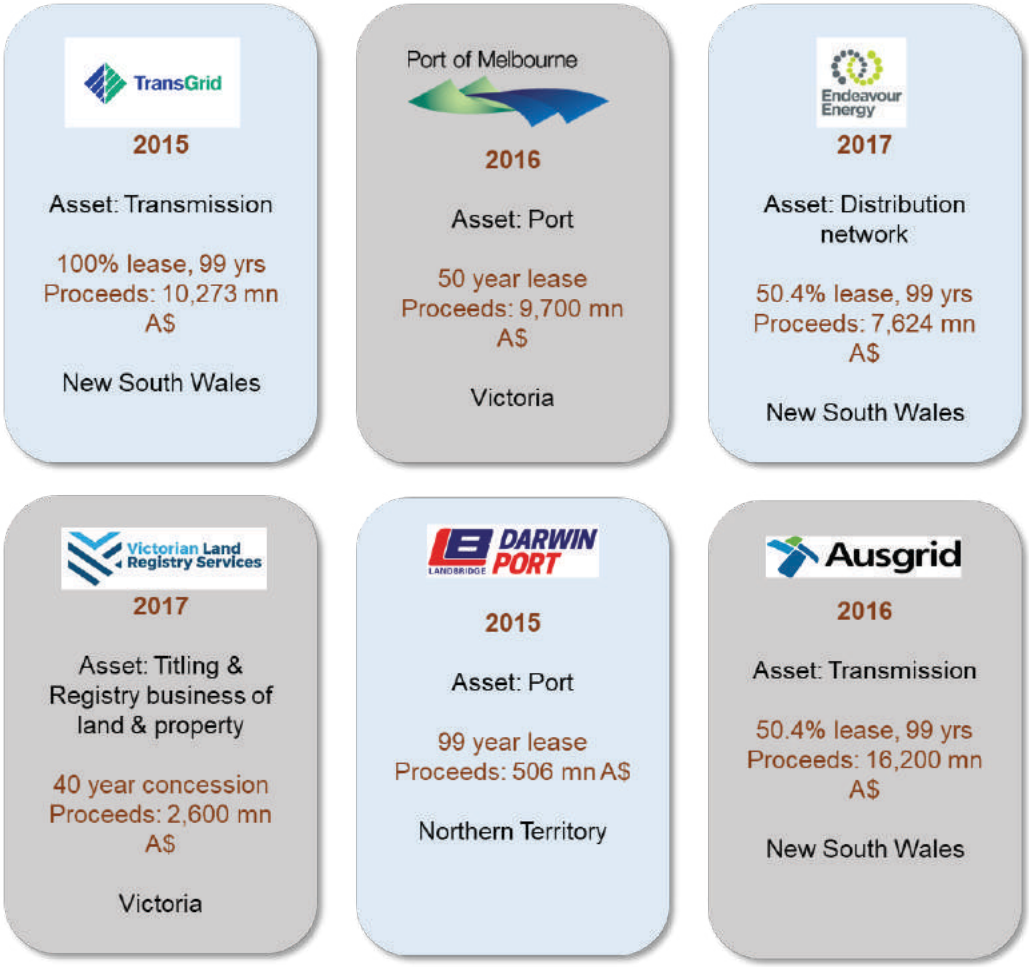


Figure 21: Major public assets monetised under the ARI[52]

Figure 22: Notable investors participating in Australia's Asset Recycling Initiative[53]

52 *Values in million Australian dollars – Source: Australian Asset Recycling Initiative website*

53 *Values in million Australian dollars – Source: Australian Asset Recycling Initiative website*

CASE STUDY – PORT OF MELBOURNE

The Port of Melbourne occupies 510 hectares of land to the west and south west of the Melbourne CBD, spanning both banks of the Yarra River from Bolte Bridge to the river mouth. It handles around one-third of Australia's container trade, with operations generating total economic benefits worth approximately AUD 7.5 billion to the national economy. During 2018-19, around 3 million twenty-foot-equivalent units (TEU) of containers were handled by the port (equivalent to 75 million revenue tonnes). According to Port of Melbourne's 2050 'Port Development Strategy' released in 2019 the total container trade volumes have been forecasted to grow by 3.5% per annum over the long term (from 3 million TEU in 2019 to around 8.9 million TEU by 2050).

The port, previously operated as a Victorian Government entity. However, in 2016, under the Asset Recycling Initiative, a 50-year lease of the port was awarded by the Victorian Government to a private consortium comprising Future Fund, QIC, OMERS and Global Infrastructure Partners (GIP), for around AUD 9.7 billion. One of the key considerations for the lease structure was maintaining and enhancing the Port of Melbourne's competitiveness and efficiency particularly given the critical role that the port plays in import and export markets.

Port of Melbourne operates within a landlord model and is responsible for asset maintenance, assessment and repair. Port operations are carried out by third party operators and service providers. These include stevedores, provedores, pilotage, towage and mooring services, and services relating to shipping operations. Additionally, in order to ensure alignment with growth projections, the port has undertaken investment in on-port rail infrastructure to reduce dependence on road transport in the freight supply chain. It has undertaken community engagement activities and comprehensive environmental compliance activities that protect and enhance land and marine zones within the port's surroundings.

Key Takeaways:

- Port's trade-based tariff increases set under a **stable, transparent regulatory regime** and monitored by an external independent body, provide high pricing certainty to the port and users;
- Port also **secured long-term lease agreements**, which provide unregulated and stable cash flow of around one-third of total revenue. Most leases entailed fixed increase at greater of CPI+1.5% or 4.0%; and
- Continued investment by state in **supporting transportation infrastructure** such as rail link help in improving the port's connectivity and competitiveness

3.1.4 Key takeaways from ARI

Consensus of state and federal government over asset sale/lease: *A formal consensus mechanism for sale/lease of assets under the ARI was ensured between the federal and state government.*

As per the framework of the ARI scheme, the state government recommends the assets to federal government and post approval, the asset can be brought under the ambit of the ARI scheme.

Timebound scheme for funding: In order to ensure timeliness and to encourage competition, the Asset Recycling Initiative window had been open for a limited period of two years and was operated on a first come, first serve basis. Further, the bonus was contingent upon states and territories selling and building at the same time.

Incentives to state governments: The federal government provided an additional incentive payment aggregating to 15% of the proceeds received by the state from sale/lease of assets. This further encouraged state government to participate in the scheme and ensure holistic development of the country as a whole.

Commitment to invest in new infrastructure projects: Even prior to inclusion of asset under ARI scheme, the state government is required to commit itself to invest the proceeds in development of new infrastructure thus ensuring transparency in transaction.

3.2 INDONESIA'S LIMITED CONCESSION SCHEME (LCS)

3.2.1 Background

Government of Indonesia has recently introduced a new form of concession, i.e. Limited Concession Scheme ("LCS") as an alternative to the existing Public-Private Partnership (PPP) scheme[54].

In order to improve connectivity between its vast regions and to ensure economic growth, Indonesia requires significant quantum of infrastructure financing. In February 2020, the Government of Indonesia enacted an enabling regulation (Presidential Regulation No. 32 of 2020) on Infrastructure Financing through Limited Concession Rights which introduced an alternative scheme for financing public infrastructure through utilization of existing assets, currently being operated by the central government and/or state-owned enterprises.

3.2.2 Features of the LCS scheme

Under the LCS scheme, the private sector is proposed to be invited to operate, maintain and expand existing assets in return for the private sector paying the government an upfront concession fee or instituting ongoing revenue sharing schemes with the government. These additional revenues are aimed at enabling the government to complete its massive infrastructure programme, in particular to fund economically important, but sub-financial

54 As stipulated under Presidential Regulation No. 32/2020 on Financing of Infrastructure through Limited Right of Utilization

projects, such as the Trans Sumatra Highway, as well as social infrastructure projects in less-developed regions of Indonesia.

Eligible Infracstructure Secors
• Transportation, • Urban utility systems • Telecommunication • Electricity, Oil, Gas, Renewable Energy

Key Criterion for assets under LCS
• Commercial operations of 2+ years • Requires an increase efficiency of operation • Remaining life of assets for 10+ years

Key terms and conditions
• Payment of compensation/ Up-front payment • Amount of up-front payment must be formulated as owner's estimate by the entity undertaking LCS • Prior to transaction, to predetermine on how it will reinvest the up-front payment • Strong emphasis on hand-back of assets

Figure 23: Key features of Indonesia's LCS initiative

Through this regulation, private sector (including, limited liability company and foreign business entity) will be allowed to manage and operate existing infrastructure assets, which consist of infrastructure, namely: transportation (seaports, airports, railways and bus terminals), toll roads, water resources, sewerage and waste management systems, telecommunications, power plants, renewable energy, oil & gas ("LCS Assets").

To qualify as LCS Assets, infrastructure should have been in operation for at least two years, and the remaining life of the assets must be at least ten years. LCS Assets will be put on list and announced to public by KPPIP, an ad-hoc committee set up by the government to accelerate development of priority infrastructure projects in Indonesia.

Aside from benefitting from the operation of a commercial asset, private sectors participating in LCS will also partake in the financing of new infrastructures. Private sectors will be required to pay a premium to compensate the state or state-owned enterprises for the grant of the limited concession. This way, the government or state-owned enterprises are able to deploy funding for development of new infrastructure assets.

3.2.3 Benefits to the public asset owners

The scheme is expected to become an alternative funding source for infrastructure development projects. With LCS model, the government can recycle existing operational infrastructure assets to capitalize new development or upgrade other assets, using the upfront money from private sector.

In return, the private sector is granted a concession to operate LCS Assets for certain period of time to guarantee its return of investment. Private sector partner is proposed to be selected through a prequalifying tender organized by the relevant authorized institution responsible for each asset. The tender is designed to be based on the estimated value of the upfront fee to be determined by the state's valuer or by a qualified asset valuation company.

The private sector granted with concession will be required to transfer the upfront fee within 6 months after the execution of LCS agreement. Upon transfer of the asset, private sector shall be fully responsible for the operation and maintenance of the asset, including paying applicable tax associated with the asset.

3.3 REITS IN NON-TRADITIONAL REAL ESTATE SECTORS

Globally REIT markets have seen immense growth in recent times. The cumulative market capitalization of REITs globally is believed to be around the USD 2 trillion level. While USA is the largest and the oldest REIT market, the market is increasingly becoming more global. Today, over 35 countries and regions around the world have a REIT regime in place. Globally, 15 of the 30 largest listed real estate companies in the world are REITs, which includes 13 U.S. REITs.

Most REITs globally operate along a straightforward business model that is by leasing space and earning rental / leasing income on the underlying real estate, which is then paid out to shareholders in the form of dividends. REITs typically must pay out at least 90 % of their taxable income to shareholders. The key value proposition of REITs is that they provide all investors the chance to own valuable real estate, with an opportunity to access dividend-based income and returns, without actually having to go out and buy, manage or finance property.

REITs invest in a wide scope of real estate property types, including offices, apartment buildings, warehouses, retail centres, medical facilities, data centres, cell towers, infrastructure and hotels. Most REITs focus on a particular property type, but some hold multiples types of properties in their portfolios. The U.S. REIT market has been fundamentally transformed over the last three decades on the back of growth of non-traditional real estate sectors. **Newer property types, such as self-storage, health care, cell towers, and data centres now comprise over half of the total U.S. REIT market capitalization.** These non-traditional sectors in the mature U.S. and European markets are expected to bring the next wave of growth and the emergence of listed real estate sectors in high-growth Asian markets.

Emerging non-traditional sectors are now being structured in the U.K. and Europe where so far, the listed market was dominated by traditional sectors.

Concept: Industrial REITs

Industrial real estate investment trusts are a specialised category of REITs that invest in industrial real estate properties which are occupied by facilities for manufacturing, production of goods and for storage, distribution such as warehouses etc. Such properties may either be standalone buildings or a cluster of same, whether in form of industrial parks or otherwise. Industrial REITs may also own the land on which these properties are developed. Industrial REITs, own and manage these properties, and lease it out to businesses/ industrial consumers.

Industrial REITs provide investors a stable and liquid way to invest in the real estate sector without building or purchasing industrial buildings on their own. Similar to other REITs, these are primarily trust based investment vehicles that pool capital from various financial investors including equity funds, institutional investors, retail investors. Capital pooled from the investors is deployed to fund and own the industrial real estate assets, which are then leased out to one or multiple tenants. income from tenancy of such assets is used to provide a stable return to the investors in the REITs. These returns are in form of dividend on holding/units which are periodically paid to investors. Further, the unit holders also receive return by way of capital appreciation on the underlying property.

As in case of REITs and InvITs in India, 90% of the income is expected to be paid to unit holders. Further, subject to compliance of stipulated requirements, profits from Industrial REITs are tax exempt.

Distribution centres and warehouses, which are collectively refers to as "logistics" real estate are some of the biggest industrial REITs on NYSE. Given the growth in e-commerce industry over the past few years, one of the biggest beneficiaries of the growth in investment and capital deployment of industrial REITs have been warehousing facilities, distribution and other storage facilities. Also, with demand for storage and logistics rising on account of e-commerce, investors are guaranteed of off-take and income in investments, thereby ensuring attractiveness of instruments to all kinds of investors.

Benefits of Industrial REITs:

1. Flexible structure

Industrial REITs are structurally and regulatorily flexible to meet the demands in an economic cycle. As against residential and commercial properties which are built specific to customer requirements, Industrial REITs, can be customized to different uses.

2. Lower Capital Expenditure

Industrial REITs are set up outside the heart of the cities and away from central business districts which is mostly due to the need to ensure ease of inter-city movements and accessibility of transportation. The acquisition costs for such properties are, hence,

much lower thereby ensuring lower capital expenditure with stable return on investments.

Potential for investments in India

Given the availability of seasoned industrial parks and public sector assets of:

a. Warehousing corporations such as central warehousing corporation etc;
b. Industrial corporations;
c. Warehouses, silos and other such facilities etc

Concepts of Industrial REITs can be availed for leveraging private investment in such public sector assets for monetisation.

3.4 OTHER NOTABLE TRANSACTIONS

3.4.1 Indiana Toll Road concession

In 2005-06, 157-mile Indiana East West Toll Road connecting the Chicago Skyway to the Ohio Turnpike was monetised with a view to fund 10-year plan for building and fixing roads throughout the state. The project was structured as a 75-year concession for managing and operating the road and collecting tolls from motorists against an upfront consideration and the road remained owned by the state.

On June 29, 2006 the Indiana Toll Road Concession Company—a joint venture between Cintra, a Spanish construction firm, and Macquarie Atlas Roads, an Australian toll road company—was awarded the right to operate the road for 75 years. The consortium won the contract with a winning bid of USD 3.8 billion upfront payment. The concession helped in financing the entire Indiana state's road asset management plan for a period of 10 years.

- While project has been a windfall for the asset owners and the state of Indiana, the project's toll revenues suffered from 2008 recession impacting the project's debt serviceability in the medium term.
- During 2014, the concessionaire ITR Concession Co LLC filed for bankruptcy and the project subsequently inducted a new investor and management also allowing the creditors dues to be settled through the bankruptcy process. The toll road is since being operated by Australia's IFM Investors to operate the project for the next 66 years.

3.4.2 Transgrid

Australia has an established track record in privatising large state-owned infrastructure assets. In 2016, the New South Wales (NSW) government completed the asset recycling transaction involving 99 year lease of New South Wales electricity distribution company

TransGrid with the acquisition by a consortium of Pension and Infrastructure funds for a financing consideration of AUD 10.3 billion. The consortium members are Hastings Funds Management, the ASX-listed Spark Infrastructure, the Abu Dhabi Investment Authority, Canada's Caisse de Depot et Placement du Quebec (CDPQ), and Wren House, part of the Kuwait Investment Authority.

Hastings and its consortium partners reached financial close on the acquisition in December 2016, which comprised AUD 5.8 billion debt and AUD 4.4 billion equity. TransGrid remains a one of a kind since a number of factors led to the fierce competition during the bid. TransGrid is the most treasured of the three transmission and distribution companies to be privatised in New South Wales, probably helped push bids higher than the AUD 9 billion price tag that was estimated.

- TransGrid is an **example of monetisation of regulated assets** where network prices are set by the regulator under the applicable National Electricity Law and National Electricity Rules in the jurisdiction.
- TransGrid deal goes to show that the international bank market has sufficient depth to finance the acquisition of even the largest infrastructure projects in Australia showing an **appetite for well-structured deals in creditworthy jurisdictions.**
- National security implications were a critical consideration for the asset owners and hence **stringent safeguards were imposed on acquisitions citing Transgrid as critical infrastructure**. These include that Transgrid's operation and control be undertaken solely from Australia and that foreign consortium members retain an interest of no more than 50 per cent. Half of Transgrid's board–including an independent chair and director–must be Australian citizens and residents.

4

Preparatory Stage

The section provides an overview of the preparatory actions by public sector entities towards undertaking asset monetisation. It starts with a general guidance on the process towards asset identification and methods of monetisation, followed by internal administrative actions for formulation, appraisal, and approval process (Preparatory Stage).

Guidance and internal administrative framework for rolling out the transactions and completing the asset monetisation process (Transaction Stage) has been covered as part of the next Section.

4.1 OVERVIEW

The asset monetisation process needs to be seen as a sustainable strategy towards improving infrastructure delivery and strengthening the public sector balance sheet. Towards this, the public sector entity needs to institutionalise an efficient and effective framework for creating a marketable and sustainable asset monetisation plan. The public sector agencies need to follow a structured process along the following lines for the Preparatory stage:

1. Step 1 – Preparation of an asset monetisation and financing plan
2. Step 2 – Asset screening and packaging
3. Step 3 – Transaction preparation and structuring
4. Step 4 – Approval process

At the end of the Preparatory stage, the public sector agency would have a 'transaction-ready' asset for monetisation. An overview of the steps is shown in the figure below.

The preparatory actions identified herein are recommendatory in nature based on globally witnessed best practices in asset monetisation process. However, it is prudent that the public sector agency imbibes the learnings from each of the steps to ensure better service delivery, and improved realizations from asset monetisation.

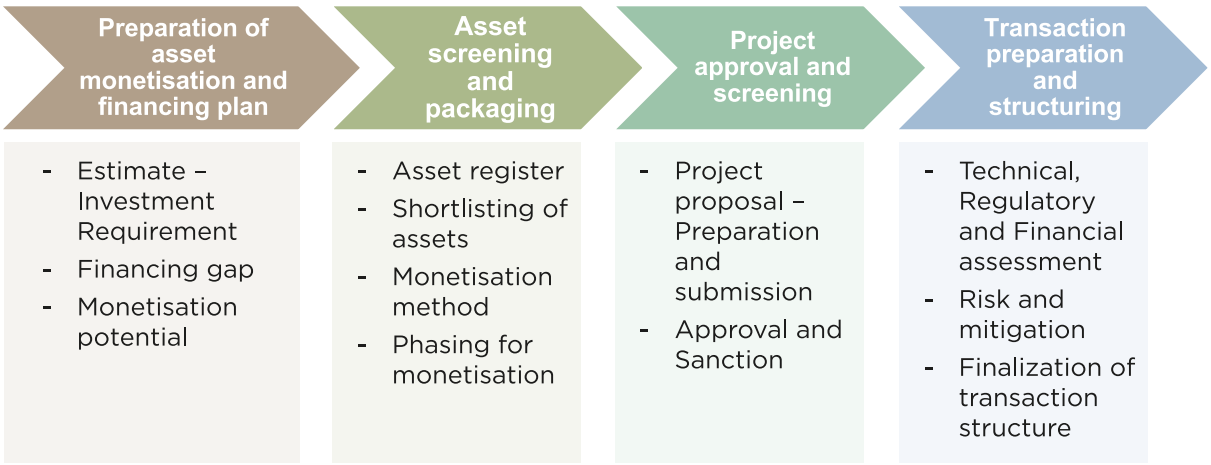


Figure 24: Process roadmap

4.2 STEP 1 – PREPARATION OF ASSET MONETISATION AND FINANCING PLAN

The investment and financing plan would serve as overall guidance factors for the public sector agency to determine the scale of asset monetisation to be embarked upon over the medium term.

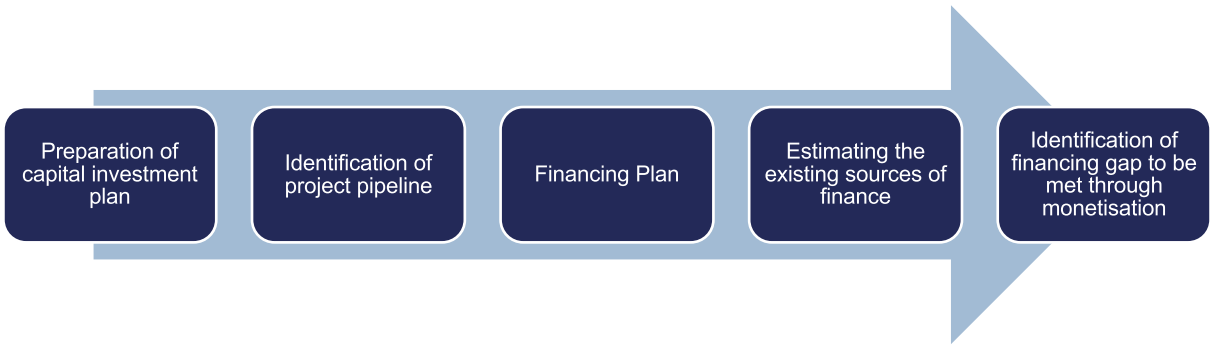


Figure 25: Sectorial investment and financing plan – Illustrative steps[55]

The proposed plan should ideally cover the following areas:

Capital investment plan and project pipeline – The infrastructure gap is estimated based on the gap between the existing infrastructure expenditure levels and expenditure envisaged under the overall vision. The ministry/sector shall prepare a medium-term capital investment plan aimed at bridging the gap while laying out the pipeline of projects required to achieve the same. The capex estimates for projects shall be estimated based on a normative approach. For the purposes of next four year period investment plan under NIP should be treated as the pipeline.

Financing plan and scale of asset monetisation – The public sector entity may prepare a financing plan for meeting the investment cost as laid out under the capital investment plan or even otherwise detail an asset monetisation plan to be self-sufficient and diversify its funding sources. The financing plan is to be prepared based on a review of the financial position of the public sector agency combined with a reasonable estimate on the central/ state grants over the medium-term. The gap in financing from the available sources of funds including grants/ debt (across multiple sources) and own funds, needs to be identified. The step helps quantify the scale of financing gap to be met through asset monetisation and help line ministries formulate a phasing plan for the same.

By end of this step, the public sector entity is expected to have a clear understanding of the scale of funds to be mobilized through asset monetisation over the medium term viz. over the next 5-10 years. Further, the monetisation plan of a public asset owner should be seen not just in light of its own funding gap, but of the overall ministry/ department.

4.3 STEP 2 – ASSET SCREENING AND PACKAGING

In this step the public sector entity will identify the assets to be monetised to meet the objectives identified in Step 1 above.

Identification of the right assets for monetisation is a multi-layered decision making task. It involves the perspectives of key stakeholders – Government/ public sector agency, investors, development and operation partners, private sector ecosystem including developers, operators, tertiary material suppliers, monitoring agency and users, etc. – to be imbibed into the asset identification process. As a near term measure, a compendium

55 To be undertaken at the overall ministry/sectoral level

of asset-level information reflecting key operating, financing and profitability parameters can be maintained for internal use by concerned line ministries.

4.4 STEP 3 – TRANSACTION STRUCTURING

The Steps 1 and 2 above represent prudent actions which may be initiated by the public sector agency for arriving at a shortlist of assets for monetisation and phasing. At the end of step 2, a prioritised list of assets for monetisation and the method of monetisation would be ready. This Step 3 starts with the selection of one of the assets from the prioritised list and initiating the preparatory actions towards transaction.

Before initiating the transaction process, the public entity may need to undertake feasibility studies for monetisation. This stage covers project preparation (including techno-economic feasibility, valuation analysis), project structuring, preparation of standard contractual documents and obtaining of project clearances etc. The typical steps in the project structuring are shown in figure below.

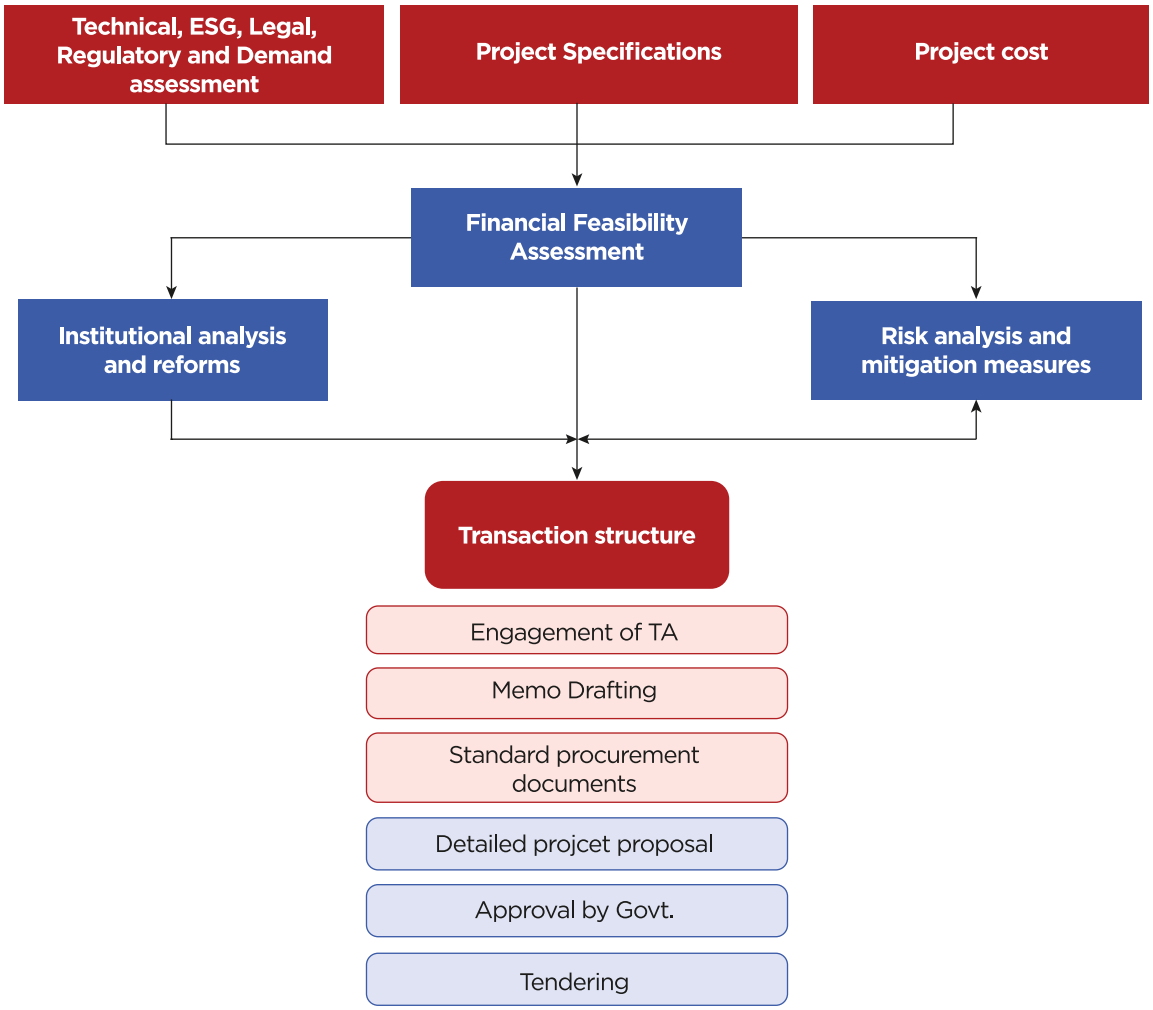


Figure 26: Steps in project structuring

The detailed studies are aimed at exploring the project boundaries, technical configuration and feasibility, demand projections and financial feasibility, review of policy/ legal/ regulatory environment, and the value-for-money and affordability considerations. The scale of the studies varies based on the complexity of the proposed transaction.

- In case of monetisation of existing brownfield assets with limited capex requirement, the studies may focus more on the financial assessment, followed by risk assessment and mitigation measures for effective O&M. This is typically useful in case of capital market instruments like InvIT and REIT models.
- In case of transactions which require substantial capex, detailed project preparation documents to ensure feasibility of the project proposal has to be done.

This will help structure the projects so that the risks are properly allocated between public and private sector. The project structuring and risk allocation is an important input to the preparation of contract documents.

The project structuring process needs to be supported by experienced transaction advisors with an established track record in undertaking project feasibility and structuring transactions.

Work that will be undertaken by the transaction advisors include cost and viability analysis, valuation analysis (of applicable), stakeholder consultation, etc. Further the consultants will submit a transaction advisory report based on which the public sector enterprises will internally decide on going ahead with the transaction.

At the end of this step, the public sector agency would have prepared all the project documents related to the transaction including the backup studies and bid documents etc. The public sector agency thereafter needs to prepare the "project proposal" in the appropriate format depending on the category and value of transaction. Guidance/ recommendation in this regard is as provided in following sub-section. The proposal will summarise the key observations and will be submitted to nodal authorities for approval.

Figure 27: End to End Process for Project Preparation

4.5 STEP 4 – APPROVAL/ SANCTION

Under this step, the public sector agency submits the project proposal to the competent/ nodal authority for approval/ sanction.

In case of central sector agencies, the approval process has been established under the "Guidelines for Formulation, Appraisal and Approval of Central Sector Public Private Partnership Projects, 2013". The appraisal/approval process is a two stage process with in-principle approval prior to issue of RFQ and final recommendation of PPPAC for approval of competent authority prior to receipt of financial bids. In cases where the PPP project is

based on a duly approved Model Concession Agreement (MCA), 'in principle' clearance by the PPP Appraisal Committee (PPPAC) may not be necessary. In such cases, final approval of the PPP Appraisal Committee may be obtained before inviting financial bids

Further, some states like Gujarat and Tamil Nadu have established a separate agency towards handholding line ministries as well as grant the necessary approval for undertaking PPP projects. In other cases, it is largely under the purview of the line ministries.

Further, for non-PPP based monetisation models, Department of Investment and Public Asset Management (DIPAM) has laid down detailed procedures and mechanisms for Central Public Sector Enterprises (CPSEs) / Public Sector Undertakings (PSUs) / Other Government organizations etc.[56], however, this is primarily focused on non-core assets with provision for adoption for core assets through Competent Authority approval.

56 https://www.dipam.gov.in/dipam/dipam_docs/assetMonetisation/Asset%20Monetisation%20Procedure%20and%20Mechanism_0.pdf

5

Transaction Stage

The section provides an overview of the steps involved in the Transaction Stage and the regulatory and institutional structure covering each of the asset monetisation instruments

This section provides and overview of the asset monetisation processes across the key instruments identified. It covers the regulatory environment towards, the key institutional stakeholders, the documentations involved and the actual steps in the asset monetisation process for each instrument.

5.1 INVIT – REGULATORY FRAMEWORK AND PROCESS

5.1.1 Regulatory framework and Institutional stakeholders

Regulatory framework

InvITs are independent trusts registered under the Indian Trust Act, 1882. The regulatory framework for an InvIT issuance is guided by the **SEBI (Infrastructure Investment Trusts) Regulations, 2014 (**as updated/amended from time to time)[57].

As discussed in Section 2, the key stakeholders with respect to InvIT include the sponsor (usually the asset owner), unit holders (usually the private sector investors), the trustee (one who holds the InvIT assets in trust for the benefit of the unit holders), and project managers (usually developers/ asset managers and may be private sector/ public sector entities) and investment manager (responsible for adding assets to the InvIT / divesting assets from the InvIT / other financing decisions related to the InvIT). The SEBI (InvIT) Regulations, 2014 primarily provide for:

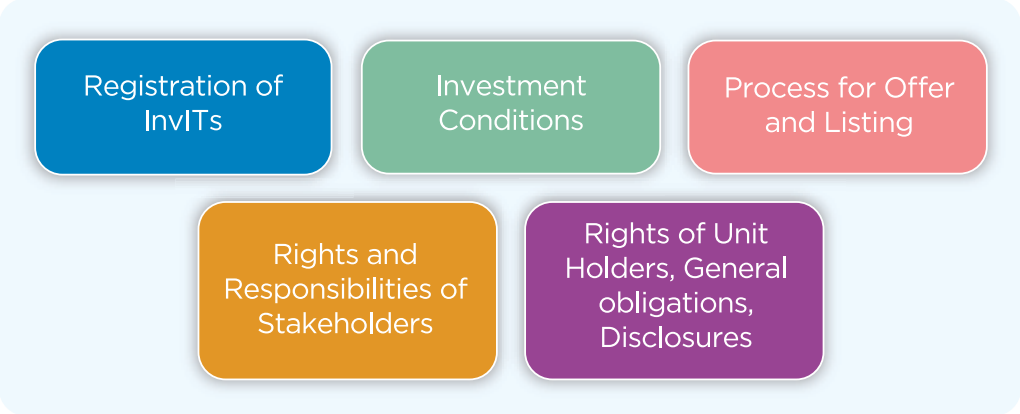


Figure 28: Elements of SEBI InvIT Regulations

Other sections covered include inspection process, procedures for action in case of default, and other miscellaneous actions.

Table 12: Salient features of SEBI InvIT Regulations 2014

Head	Remarks
Sponsor– Eligibility	◆ Minimum net worth: Rs. 100 crores; ◆ At least 5 years of experience as developer and two projects completed
Mode of Placement	◆ Private Placement ◆ Public Listing
SPV shareholding	◆ InvIT must hold at least 51% stake in the Project SPV

57 The consolidated amended regulations is as provided on SEBI website.

Investment	◆ Value of InvIT assets: Minimum Rs. 500 crores ◆ Initial offer size of InvIT: At least ₹ 250 crore. ◆ For Public Placement: ▸▸ Not less than 80% of InvIT value to be invested in "completed and revenue generating projects" in eligible infrastructure projects (directly or through Holdco) ◆ For Private Placement: ▸▸ Not less than 80% in eligible projects[58]
Holding Period	◆ An InvIT shall hold an infrastructure asset for a period of not less than three years from the date of purchase of such asset by the InvIT
Payment to unit holders	◆ Not less than 90% of net distributable cash flows of the SPV distributed to the InvIT; ◆ Not less than 90% of net distributable cash flows of the InvIT distributed to unit holders; ◆ Distribution at least twice in a year
Borrowings	◆ A listed InvIT may issue debt securities as long as the consolidated borrowings and deferred payments (of InvIT, Holdco and SPV), net of cash and cash equivalents does not exceed 70% of the asset value ◆ In case of aggregate borrowings and deferred payment exceeding 49%, the InvIT has to be rated AAA

Other guidelines, circulars, rules of SEBI, RBI related to InvIT are as provided in Annexure 1.

Institutional stakeholders

Sponsor	The sponsor is the entity that sets up the InvIT. In case of traditional procurement route, the public sector agency is usually designated as the sponsor and in case of PPP, the private sector developer/project SPV holding the concession agreement is the sponsor.
Trustee	A trustee is an entity holding the InvIT assets for the benefit of the unitholders and is registered with SEBI under the Securities and Exchange Board of India (Debenture Trustees) Regulations, 1993. The activities of the trustee are regulated under a formal "Trust deed" entered to between the Sponsor, InvIT and the trustee laying out the roles and responsibilities of each members of the trust
Investment Manager	This entity is responsible for the management of assets and investments of the InvIT. The role of the investment manager is detailed under Section 10 of the SEBI InvIT Regulations 2014. Key responsibilities include: (i) investment decisions with respect to the underlying assets or projects of the InvIT including any further investment or divestment of the assets (ii) oversee activities of the project manager with respect to compliance to the relevant agreements (iii) work with the merchant banker and the trustee in the issuance related documentations (iv) ensure investments of InvIT are in accordance with the guidelines. The investment manager needs to have a net worth of at least Rs. 10 crore and an experience in fund management and advisory services of at least 5 years to be eligible.

58 Eligible Projects means In non-PPP projects, the infrastructure project has received all requisite approvals for commencement of construction In PPP projects, the project has achieved commercial operations with one-year track record, or are in pre-COD stage

Project Manager	This entity brings in the necessary technical expertise for better management of assets. The project manager shall undertake operations and management of the InvIT assets including making arrangements for the appropriate maintenance, either directly or through the appointment and supervision of appropriate agents. The activities of the project manager are regulated under a "project implementation agreement" or "project management agreement". This agreement is between the project manager, the concessionaire SPV, and the trustee which sets out obligations of the project manager with respect to execution of the project.

Other key stakeholders incidental to the InvIT registration and issuance process include Valuer, Auditor(s), Merchant banker(s), Registrar & Transfer agent, Banks, Registrar to the issue, Credit rating agencies, and depository participants.

5.1.2 Issuance Process

The steps in issuance depends on the whether the sponsor envisages to undertake the InvIT issue through private placement or public issue (depending on the number of unit holders offered to). In case of public issue, the issue of units maybe through the following methods: initial public offer (IPO), or follow-on public offer (FPO) or any other issue made to the public as maybe specified. Brief description of the issuance process is as follows:

Figure 29: Step by Step Issuance Process

5.2 REIT – REGULATORY FRAMEWORK AND MONETISATION PROCESS

5.2.1 Regulatory framework and Institutional stakeholders

Regulatory framework

The regulatory framework for an REIT issuance is guided by the **SEBI (Real Estate Investment Trusts) Regulations, 2014**. REITs, like InvITs, are registered are independent trusts under the Indian Trust Act, 1882.

The regulatory/ institutional structure is largely similar to that of InvITs except for key differentiations in – Class of assets, eligibility/investment conditions under SEBI (REIT) Regulations, 2014 and a common intermediary for management of assets and investment viz. Manager (as against separate investment and project manager under InvIT – among others.

Such key regulatory/institutional aspects (which are different from InvIT) are as highlighted herein

Table 13: Salient features of SEBI REIT Regulations 2014

Head	Remarks
Sponsor– Eligibility	◆ Each sponsor to hold not less than five per cent. of the number of units of REIT on post-initial offer basis ◆ Minimum net worth of Rs. 100 crores, on a collective basis; — Each sponsor should have at least Rs. 20 crores of net worth ◆ At least 5 years of experience as developer and two projects completed
Investment/ Asset	◆ Not less than 80% of REIT value has to be invested in "completed and rent/ income generating properties" (directly or through Holdco) ◆ No more than 20% of REIT value may be invested in under-construction projects[59]/ debt securities/ equity investment in real estate companies/ government securities/ money-market instrument/ Transfer of Development rights acquired for utilization in a particular project/ unutilised Floor-Space-Index (FSI) ◆ Not less than 51% of the consolidated revenues of the REIT, Holdco and SPV[60] shall be from rental, leasing and letting real estate assets or any other income incidental to the leasing of such assets.
Borrowings	◆ A listed REIT may issue debt securities as long as the consolidated borrowings and deferred payments [of REIT, Holdco and SPV], net of cash and cash equivalents does not exceed 49% of the asset value ◆ In case of borrowings + deferred payment exceeding 25%, the REIT has to be rated AAA

59 Subject to conditions

60 Excluding gains arising from disposal of properties,

Other guidelines, circulars, rules of SEBI, RBI related to InvIT are as provided in the Annexure.

Institutional stakeholders

SPV is the entity which holds the controlling stake (51% or higher) either directly or indirectly (through a holding company). It may be registered as a company (under Companies Act, 2013) or as (LLPs). The SPV should hold at least 80% of its assets directly in properties.

Sponsor – The sponsor is the entity that sets up the REIT and transfers its assets to the same. The sponsor may choose to transfer the entire shareholding or interest/ rights to the SPV. The sponsor may also sell its stake in the units to another party, who will be "re-designated sponsor" for the REIT. However, such sales can happen only after a period of three years from the date of listing.

Manager is responsible for the management of assets and investments of the REIT. The role of the manager is detailed under Section 10 of the SEBI REIT Regulations 2014. Key responsibilities include: (i) investment decisions with respect to the underlying assets of the REIT including any further investment or divestment of the assets (ii) undertake management of REIT assets including lease management, maintenance of the asset, regular structural audits, regular safety audits etc. either directly or through the appointment and supervision of appropriate agents (iii) work with the merchant banker and the trustee in the issuance related documentations (iv) ensure investments of REIT are in accordance with the guidelines.

The manager needs to have a net worth of at least Rs. 10 crore and an experience in fund management and advisory services of at least 5 years[61] to be eligible. The activities of the manager are regulated under an *"investment management agreement"*. This agreement is between the trustee and the manager which lays down the roles and responsibilities of the investment manager towards the REIT.

5.2.2 Issuance Process

As detailed in Section 2, the public sector agencies shall identify the asset and get the necessary internal approvals for initiating asset monetisation. Brief description of the issuance process is as follows:

i. *Selection of properties to be put under the REIT* – This step involves the sponsor to identify the key properties for asset monetisation. The contours of the properties need to be clearly defined so as to meet the objectives as laid out under the REIT regulations. At least 80 percent of the REIT assets need to be invested in "completed and rent/ income generating properties".

ii. *Establishment of Real Estate Investment trust under the Indian Trust Act* – The sponsor shall establish the Real Estate Investment Trust as per the provisions of Indian Trust Act, 1882.

61 Further, at least 2 of the key personnel of the manager should have an experience of 5 years or above in fund management and advisory

iii. *Engagement of merchant banker* – The merchant banker plays a critical role as a financial intermediary in the REIT issuance. Merchant bankers are registered with SEBI and are regulated under the SEBI (Merchant Bankers) Regulations, 1992.

iv. *Finalization of other key stakeholders – Trustee, and Manager* – The next step in the issuance process is the finalization of the trustee, and the manager. The roles and responsibilities of the key stakeholders are discussed in section above. The hiring of trustee, and the manager shall be as per the procurement guidelines as applicable.

v. *Registration of REIT with SEBI* – The trust needs to be registered with SEBI as a Real Estate Investment Trust (REIT). Towards this, the sponsor shall put forward an application for registration with SEBI as per the format laid out in Schedule I of the SEBI REIT Regulations 2014. The key documentations include: (a) General information (b) Details of Trust (c) Details of Trustee (d) Details of Sponsor(s) (e) Details of Manager (f) Details of Business plan and investment strategy (g) Details of any regulatory actions and other declarations.

vi. *Completion of transfer of asset* – Based on the applicable rules/ guidelines, the sponsor(s) shall transfer or undertake to transfer to the REIT, its entire shareholding or interest [and rights] in the [holdco and/ or] SPV or ownership of the real estate properties, subject to a binding agreement.

vii. *Issue process and allotment of units* – REIT shall make an initial offer of its units by way of public issue only[62]. The issue process provides a window for the investors to participate in the bidding process for the REIT. The investors shall be allocated the proportional share in the number of units issued. The bidders shall submit their bids for the units within the bid/issue period to the lead manager. The registrar shall provide a schedule of bids received which shall indicate the bid amount received in respect of each bid. The allotment may be discretionary or based on some pre-determined criteria.

62 Any subsequent issue of units by the REIT may be by way of follow-on offer, preferential allotment, qualified institutional placement, rights issue, bonus issue, offer for sale or any other mechanism and in the manner as may be specified by the Board.

5.3 PPP CONCESSION BASED MODELS – FRAMEWORK AND PROCESS

5.3.1 Regulatory framework and Institutional stakeholders

Key Institutional initiatives for PPP based Projects by Government of India

In 2006, the Government took steps to create an ecosystem for mainstreaming PPPs. This has been helpful to stakeholders in the PPP space, including private developers, financial institutions and governments (at national, state and local levels). The key policy and institutional initiatives undertaken include:

- Setting up of the PPP Appraisal Committee (PPPAC)
- Extending financing support through the VGF (Viability Gap Funding) Scheme
- Preparation of PPP toolkits, guidelines and knowledge dissemination products
- Establishment of transparent and competitive bidding processes–through standardized procurement documents

At the central-level, the PPP Appraisal Committee (PPPAC) recommends project for approval of competent authority for central sector projects. Further, line ministries/ public sector agencies have adopted model concession agreements prepared by NITI Aayog (erstwhile Planning Commission). Alternatively, respective sector-specific MCAs have been developed to enable a transparent and streamlined process.

At the state-level, a few states in India have created the regulatory and institutional structure to aid public private partnership. Key states which have a clearly defined legal framework for private investment in public infrastructure are Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu, Uttar Pradesh, Madhya Pradesh, Rajasthan, Orissa, etc.

5.3.2 PPP procurement process

The project preparation activities of the project can be divided into three phases – project identification (covered under Section 3), project development and approval (feasibility studies, detailed technical studies and final approval) and project procurement.

The Project development and approval of PPP Projects has already been covered in the previous section.

The procurement process is the process of selection of private partner. **It is important that the process of selection of the private partner is transparent, non-discriminatory, and timely to ensure project success.** While competitive procurement processes have been the overarching theme for PPP procurement in India, the procurement steps and regulations covering the same vary across agencies.

The procedure for PPP procurement may be divided into the following four stages:

Request for qualification	Request for proposal	Bid evaluation and award	Commercial close
The objective of stage is to gather information on the capacities of Applicants and shortlisting based on requirements to deliver on project outcomes.	Financial bids from qualified applicants (after the RFQ stage) for undertaking the PPP project	Evaluation of the RFP submissions of the private sector bidder and selecting the best proposal based on a pre-determined criteria.	Last stage in procurement process where the private sector partner enters in to a formal contract with the public sector agency for the implementation/ management of the PPP project.

Figure 30: Procedure for Public Procurement

6

Key imperatives for Monetisation

This section provides an overview of the initiatives by Government and other key actions suggested for provision of fillip to asset monetisation

6.1 RECENT INITIATIVES BY GOVERNMENT OF INDIA

The Government, over the past few years, has consistently focused on reforms and initiatives for boosting private participation in infrastructure. And with this objective, have been the recent initiatives towards streamlining the process of capital recycling through asset monetisation, by public and private sector entities. Some of the key initiatives, under Budget 2021-22, aimed at increased adoption of financing instruments and for enabling assets monetisation by public sector entities include:

A. Increased adoption of Financing Instruments

Key amendments pertaining to InvIT/ REIT

— **Access to funds**

In order to enable debt financing of InVITs and REITs by Foreign Portfolio Investors (FPIs), Finance Act 2021 has enabled amendments in the Securities Contracts (Regulation) Act, 1956 for recognising InvITs, REITs as "securities". Related amendments in SARFAESI Act and Recovery of Debts due to Banks and Financial Institutions Act have also been undertaken under the Finance Act 2021[63].

This will enable InvITs and REITs to borrow money from FPIs and issue debt securities, thereby enabling replacement of expensive debt with cheaper funds.

— **Streamlining taxation**

Budget 2021-22 has provided clarification with respect to dividend not being taxable at the trust level (dividend distribution tax) but in the hands of the unitholder (dividend withholding tax). Dividend payment to REIT and InVIT will hence be exempt from TDS.

B. Enabling Asset Monetisation by Public Sector Entities

GoI has undertaken several initiatives to address the operational/commercial challenges as also to incentivize State Governments and State level entities undertaking monetisation. The key initiatives include:

Incentive Mechanism for Capital Expenditure by State Governments

— Under the recently institutionalised Scheme for Special Assistance to States for capital expenditure for FY 2021-22, it has been decided that incentives be provided for asset monetisation and disinvestment by State government/ entities. As an incentive for asset monetisation, additional allocation equivalent to 33% of value of assets realised and deposited in State consolidated funds or in account of State public sector enterprises owning the assets. The allocation and disbursement is subject to the realised amount being necessarily used for capital expenditure by States.

63 Provisions under Part IV, Part IX and Part XI of Finance Act 2021

Stamp duty exemption on asset transfer from one Government-owned entity to another such entity

— At present, assets of key CPSEs reside in their respective balance sheets. However, monetisation may require transfer of such assets from the CPSEs' balance sheet to another entity or an SPV which typically may attract stamp duty implications, ranging between 5%-10% across states, thus significantly reducing monetisation proceeds / benefits accruing to selling CPSEs.

— To address this challenge, GoI through the Finance Act 2021 has provided for exemption of stamp duty towards transfer of asset between Government entities[64], subject to certain requirements. This is aimed at creating a level-playing field for asset monetisation (especially through the InvIT/ REIT route where stamp duty cost was a significant impediment to asset transfer and consequent asset monetisation).

Tax neutral provision for demerger

— The Finance Act 2021, has added an explanation to the Section 2 (19AA) of the Income Tax Act, 1961, stating that the reconstruction or splitting up of a public sector company into separate companies shall be deemed to be a demerger provided that the process involves transfer of asset to the resultant company, and the resultant company is a public sector company[65].

— The demerger of companies as defined under this Section 2 (19AA) is considered as tax neutral and hence avoids any capital gains tax implication. Besides, set off and carry forward of losses would be allowed if proposed conditions under section 72AA of the Income Tax Act, 1961 are complied with. Benefits of past losses, if any, are also available. In view of loss of carry forward losses, tax holiday benefits etc. no longer being impediments, these changes are expected to ease the asset monetisation process for public sector infra companies

Other Relevant Aspects

Amendments to Regulations for InvIT and REIT by SEBI

— **Increase in borrowing limits for InvIT and Reduction in minimum allotment and trading lot requirements for investors in publicly issued InvITs and REITs**

The limit for consolidated borrowing and deferred payments under SEBI's regulations for Infrastructure Investment Trust has been enhanced to 70% (from 49%) of the InvIT value; subject to key requirements being fulfilled viz.

64 Excerpt from the Finance Act is as follows: ".....any instrument for conveyance or transfer of a business or asset or right in any immovable property from a Government company, its subsidiary, unit or joint venture, by way of strategic sale or disinvestment or demerger or any other scheme of arrangement, to another Government company or to the Central Government or any State Government, or to the development finance institution by any law made by the.....". , "Government company" shall have the same meaning as assigned to it in clause (45) of section 2 of the Companies Act, 2013

65 Section 3- Finance Act 2021

- Credit rating of AAA of the InvIT debt;
- Funds be utilized only for acquisition or development of infrastructure projects;
- Track record of at least six distributions on a continuous basis, post listing, in the year preceding the financial year in which the borrowings are proposed to be availed; and
- Prior approval of 75% unitholders

— Securities and Exchange Board of India recently made an amendment to InVITs/ REITs regulations for revision in minimum subscription and trading lot. Accordingly, for publicly issued REITs and InvITs, the revised minimum application value was brought down within the range of ₹10,000-15,000 and the trading lot to 1 unit. This is expected to provide a boost to retail participation in InvITs/ REITs. The decision to cut entry amount is significant, as it will allow small retail investors to take part in these products.

Amendments to TOT framework

Key reform initiatives to widen the investor base for TOT transactions include:

— ***Flexibility in concession period*** – The concession period of toll projects may now be between 15-30 years as against the fixed term of 30 years. This is expected to increase participation from Indian developers in addition to large pension funds, insurance companies, sovereign wealth funds.

— ***Reduced minimum operating history requirement*** –Minimum operating history of one year compared to two years of operations post commencement of tolling is expected to expand the eligible universe of operating toll roads to be considered under the TOT package

Model Concession Agreements (MCAs)

— MCAs developed by NITI Aayog have been adopted by various sector to enable an evolved contractual framework, enhanced clarity on loss protection to investors and lenders, clearly defined obligations of stakeholders, etc. while roads (for TOT, BOT (toll) and HAM road assets), airports (for OMDA), and ports have availed and evolved the model concession framework over time, recently MCAs have been developed across high potential sectors like Railways (Railway station development, passenger train operations) etc. There is a need to develop model PPP concession frameworks for various other brownfield asset classes identified under the NMP for quicker adoption by public asset owners.

6.2 KEY IMPERATIVES

Asset Monetisation initiative has three critical stakeholders, the Government (Centre or State) which monetises the asset, private investor taking on ownership/ management

and the general public who are typically the users of the asset. There are considerations of each of these stakeholder groups which must be met in order to effectively roll out a successful asset monetisation programme.

The imperatives to give a thrust to asset monetisation are anchored across three themes – (1) Expansion of the investor base and scaling of monetisation instruments (2) Strengthening demand-side capacity, and (3) Creating effective frameworks to aid monetisation.

Figure 31: Imperatives for Asset Monetisation

Pillar 1: Expanding the investor base and scaling up instruments	
Streamlining investment guidelines	The long-term nature of infrastructure projects requires active participation from investors looking at a similar return profile from their investments. However, the existing investment guidelines for insurance and pension funds limit the exposure of such funds to InvIT/ REIT assets. The investment limit are as follows: (i) Insurance funds – Maximum exposure at lower of 3% of fund size of the Insurer/ 5% of the units issued by a single InvIT/ REIT (ii) Pension funds under EPFO are also regulated to invest up to maximum of 5% of the funds in REIT/ InvIT (iii) Mutual funds can invest up to 10% of their Assets under management in a single InvIT/ REIT. These need to be streamlined to ensure consistency. Moreover, there are also inconsistencies across categories on the level of exposures. For example: IRDA regulations do not permit investment of insurance funds in unlisted InvITs. Hence, a staggered approach for streamlining of investment guidelines and limits is envisaged to keep pace with the growth in the InvIT market starting with the allocation of insurance and pension funds towards unlisted InvITs.
Tax benefits	More tax-efficient and user-friendly mechanisms like allowing tax benefits in InvITs as eligible security to invest under Section 54EC of the Income-Tax Act, 1961, are important starting points for initiating retail participation in the instruments.

Recourse under Insolvency and Bankruptcy Code (IBC)	Since the trusts are not considered as 'legal person' under the extant regulations, the IBC regulations are not applicable for InvIT loans. Hence, the lenders do not have existing process for recourse to project assets. While the lenders are protected under the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 ("SARFAESI Act") and the Recovery of Debts and Bankruptcy Act, 1993 (the "RDB Act"), the provision of recourse under IBC regulations will bring in added level of comfort for the investors.

Pillar 2: Strengthening demand-side actions	
Establish a transparent and independent process for setting cost-reflective user charges	Development of scalable models for asset monetisation requires a clear and transparent pricing framework for infrastructure services which is commensurate with the risks transferred. Simply put, the developer/ investor would envisage a risk-adjusted return that justifies the investments towards asset development/ maintenance.
Reforming the financial management and accounting practices to aid monetisation	The delineation of the revenue and expenditure specific to the assets is an important pre-requisite for asset monetisation transaction. The public sector agencies should increasingly move towards asset-level financial disclosures and earmarking of specific revenue streams across all the assets, which will help establish investor comfort.
Creating institutional structures for fast-tracking asset identification and monetisation transaction	The institutional backbone for scaling up asset monetisation may be anchored at the level of the relevant ministries. With the National Monetisation Pipeline (NMP), each ministry may establish suitably empowered working group with the sole mandate to identify assets, method of monetisation and handhold in the transactions/ procurement process. This pipeline will also form a baseline for the Ministry for monitoring and tracking performance and data on the potential assets.

Pillar 3: Creating effective frameworks to aid monetisation	
Standard agreements should be developed across sectors	Robust MCAs have been developed in roads, ports and airport sectors and investors have received these agreements well which has manifested itself through increased investor participation in projects from these sectors. There is a need to develop model PPP concession frameworks for various other brownfield asset classes identified under the NMP for quicker adoption by public asset owners.

Arrangements for monetisation backed by a robust incentive mechanism	Similar to the National Partnership Agreements on asset recycling in Australia, the Government of India may enter into formal working arrangements with each line ministry/ CPSE/ States to create medium-term road map for asset monetisation in line with the NMP. The agreements shall lay out the timelines, roles and responsibilities of each parties, preparatory actions and financing modalities (including technical assistance support) over a 4-5 year period. A Mechanism to plough back monetisation proceeds in form of incentives to the public sector agency (to the extent that the monetisation proceeds are utilized towards creation of new assets) has already been institutionalised as highlighted above.
Effective contract and dispute resolution mechanisms honoring of contracts	Contract management is a critical element in the monetisation jigsaw. Effective mechanisms for contract management, arbitration and conciliation are important to ensure success of monetisation. In order to boost investor confidence, it is crucial to maintain sanctity of contracts. The provisions should be legally enforceable, such that once parties duly enter into a contract, they must honour their obligations under that contract and, in case they don't honour, there should be adequate safeguards for other stakeholders. This should be applicable to both public and private sectors. Sensitising state governments and local bodies on honoring of contracts is crucial issue.

Annexure

ANNEXURE I : CIRCULARS, RULES AND GUIDELINES PERTAINING TO INVIT

The other circulars, rules and guidelines pertaining to InvIT are as follows:

- SEBI circular dated May 11, 2016 on Guidelines for **public issue** of units of InvITs
- SEBI circular dated October 20, 2016 on **Disclosure** of financial information in offer document/placement memorandum for InvITs
- SEBI circular dated November 29, 2016 on **Continuous disclosures and compliances** by InvITs
- SEBI circular dated January 18, 2018 on participation by **Strategic Investor(s)** in InvITs and REITs
- SEBI circular dated April 13, 2018 on Guidelines for issuance of debt securities by Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)
- SEBI circular dated April 23, 2019 on Guidelines for determination of **allotment and trading lot size** for Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)
- SEBI circular dated November 27, 2019 (amended on November 17, 2020) on Guidelines for **preferential issue of units and institutional placement of units** by a listed Infrastructure Investment Trust (InvIT)
- SEBI circular dated December 24, 2019 on Guidelines for **filing of placement memorandum**-InvITs proposed to be listed
- SEBI circular dated November 04, 2020 on Guidelines for **rights issue of units by an unlisted** Infrastructure Investment Trust (InvIT)

Loans to InvIT – RBI Regulations

As per an RBI circular dated October 14, 2019 (RBI/2019-20/83, DBR. No.BP. BC.20/08.12.014/2019-20), the central bank has now issued guidelines on bank lending to InvITs. Such bank lending to InvITs would be subject to the following conditions:

- Banks are required to formulate a board-approved policy on exposure to InvITs covering processes, such as appraisals, loan sanctions, exposure limits, and mechanisms for monitoring
- Banks are required to undertake thorough assessment of sufficiency of cash flows at the InvIT level to ensure timely debt servicing
- The overall leverage of InvIT and the underlying SPVs together should be within the permissible limits prescribed in the board approved policy of the bank
- Banks are required to monitor the performance of underlying SPVs, as the ability of an InvIT to meet debt obligation depends on the performance of the underlying SPVs

- Banks are required to lend to only those InvITs, where the underlying SPVs have existing debt and are not facing any financial difficulties
- Borrowing company should provide infrastructure facilities and should have satisfactory net worth
- Borrowing company or its directors/ promoters should not have defaulted on bank/FI loans
- Bank financing to be restricted to 50% of the finance required for acquiring the promoter's stake
- Tenor of bank loans should not be longer than seven years
- Bank financing acquisition of shares by promoters should be within the regulatory ceiling of 40% of their net worth as of March
- 31 of previous year
- Board should have approved the proposal for bank finance
- Compliance with statutory requirement as mentioned under Section 19(2) of the Banking Regulations Act, 1949

Source: RBI circular dated October 14, 2019 (RBI/2019-20/83, DBR. No.BP.BC.20/08.12.014/2019-20, National Infrastructure pipeline 2020

The other circulars, rules and guidelines pertaining to REIT are as follows:

- SEBI circular dated December 19, 2016 (amended on January 15, 2019) on Guidelines for **public issue** of units of REITs
- SEBI circular dated December 26, 2016 on **Disclosure** of financial information in offer documents for REITs
- SEBI circular dated December 29, 2016 on **Continuous disclosures and compliances** by REITs
- SEBI circular dated January 18, 2018 on participation by **Strategic Investor(s)** in InvITs and REITs
- SEBI circular dated April 13, 2018 on Guidelines for issuance of debt securities by Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)
- SEBI circular dated April 23, 2019 on Guidelines for determination of **allotment and trading lot size** for Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)
- SEBI circular dated November 27, 2019 (amended on September 28, 2020) on Guidelines for **preferential issue of units and institutional placement of units** by a listed Real Estate Investment Trust (REIT)
- SEBI circular dated January 17, 2020 (amended on March 13, 2020) on Guidelines for rights issue of units by a listed Real Estate Investment Trust (REIT)

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सत्यमेव जयते
NITI Aayog

NATIONAL MONETISATION PIPELINE

VOLUME II: ASSET PIPELINE

NATIONAL MONETISATION PIPELINE

Volume II : Asset Pipeline

सत्यमेव जयते

NITI Aayog

GOVERNMENT OF INDIA
NEW DELHI

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List of Abbreviations

Acronym	Definition
AAI	Airports Authority of India
BOO	Build-Own-Operate
BOQ	Bill Of Quantities
BOT	Build-Operate-Transfer
BPCL	Bharat Petroleum Corporation Ltd
BSE	Bombay Stock Exchange
BSNL	Bharat Sanchar Nigam Limited
CCO	Coal Controller's Organisation
CEO	Chief Executive Officer
CERC	Central Electricity Regulatory Commission
CIL	Coal India Limited
COD	Commercial Operations Date
CPSE	Central Public Sector Enterprise
CRWCL	Central Railside Warehouse Company Limited
CWC	Central Warehousing Corporation
DFCCIL	Dedicated Freight Corridor Corporation of India Limited
DFI	Development Finance Institution
DWT	Deadweight Tonnage
EPC	Engineering, Procurement and Construction
ESG	Environmental, Social and Governance
FBB	Fixed Broadband
FCI	Food Corporation of India

FDI	Foreign Direct Investment
GAIL	Gas Authority of India Limited
GIS	Geographic Information System
HAM	Hybrid Annuity Model
HPCL	Hindustan Petroleum Corporation Limited
IDBI	Industrial Development Bank of India
IOCL	Indian Oil Corporation Ltd.
IPA	Initial Portfolio of Asset
IRSDC	Indian Railway Stations Development Corporation Limited
JLN	Jawaharlal Nehru Stadium
JNPT	Jawaharlal Nehru Port Trust
LFP	Land Fall Point
LILO	Loop-In-Loop-Out
LMT	Lakh Metric Tonnes
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MCA	Model Concession Agreement
MCLR	Marginal Cost of Funds-based Lending Rate
MDO	Mine Developer and Operator
MFC	Multi-functional Complexes
MIRA	Macquarie Infrastructure and Real Assets
MIV	Maritime India Vision
MMLH	Multi Modal Logistics Hub
MMTPA	Million Metric Tonnes Per Annum
MTNL	Mahanagar Telephone Nigam Limited
MTPA	Million Tonnes Per Annum
MVA	Mega Volt Amp
NBFID	National Bank for Financing Infrastructure and Development
NDCP	National Digital Communications Policy
NHAI	National Highways Authority of India
NHPC	National Hydroelectric Power Corporation
NIP	National Infrastructure Pipeline
NITI	National Institution for Transforming India
NLC	NLC India Limited (formerly Neyveli Lignite Corporation Limited)
NMP	National Monetisation Pipeline
NRP	National Rail Plan
NSE	National Stock Exchange

NSEC	Netaji Subhas Eastern Regional Centre
NSSC	Netaji Subhas Southern Centre
NSWC	Netaji Subhas Western Centre
NTPC	National Thermal Power Corporation Limited
OFC	Optical Fibre Communication
OHE	Over Head Equipment
OMDA	Operations, Management and Development Agreement
OMT	Operate Maintain and Transfer
ONGC	Oil and Natural Gas Corporation Limited
ORR	Outer Ring Road
PEG	Private Entrepreneurs Guarantee
PFC	Power Finance Corporation
PFT	Private Freight Terminal
PGCIL	Power Grid Corporation of India Limited
PNGRB	Petroleum and Natural Gas Regulatory Board
PPP	Public-Private Partnership
PUA	Pipeline Usage Agreement
REC	Rural Electrification Corporation
REIT	Real Estate Investment Trust
RFP	Request for Proposal
RFQ	Request for Qualification
ROW	Right of Way
RPO	Renewable Purchase Obligations
RTM	Regulated Tariff Mechanism
SAI	Sports Authority of India
SAROD	Society For Affordable Redressal Of Disputes
SEBI	Securities and Exchange Board of India
SECI	Solar Energy Corporation of India
SJVNL	Satluj Jal Vidyut Nigam Limited
SPV	Special Purpose Vehicle
STPS	Super Thermal Power Station
TBCB	Tariff Based Competitive Bidding
TEU	Twenty Feet Equivalent Unit
TOT	Toll-Operate-Transfer
TSA	Transmission Service Agreement
USD	United States Dollar
WPI	Wholesale Price Index

1

Context and Approach

India's National Infrastructure Pipeline (NIP) envisages an infrastructure investment of Rs 111 lakh crore over the five-year period (FY 2020-25). Financing of infrastructure investments at such scale necessitates a re-imagined approach and tapping alternative financing through innovative ways.

As estimated by the Report of Task Force for NIP (2019), traditional sources of capital are expected to finance 83–85%[1] of the capital expenditure envisaged under NIP. About 15-17% of the aggregate outlay is expected to be met through innovative mechanisms such as Asset Recycling & Monetisation and new long-term initiatives such as Development Finance Institution (DFI).

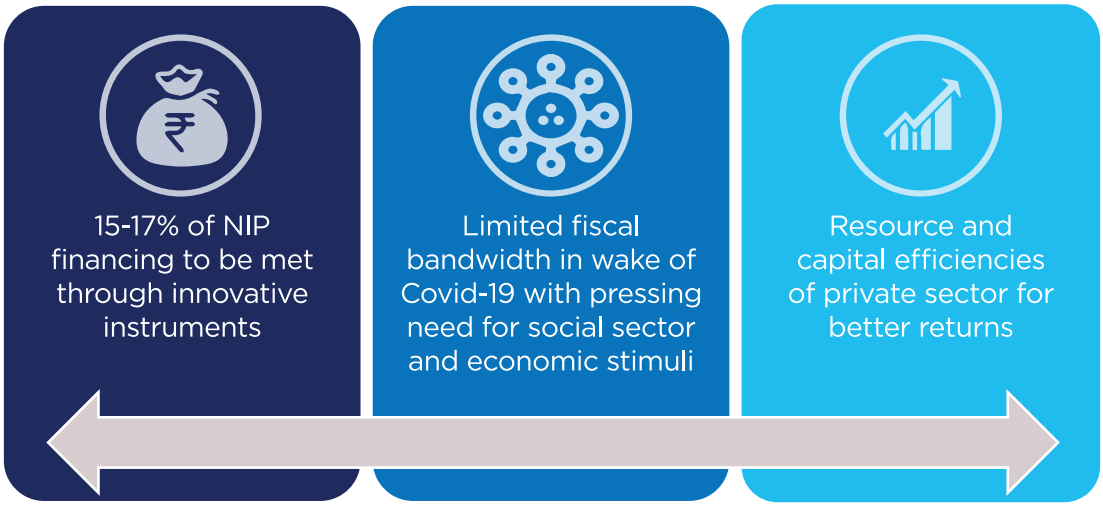


Figure 1: Imperative for Asset Monetisation

As per NIP, asset recycling and monetisation mechanism may finance around 5-6% of the aggregate capex under NIP. In the wake of Covid – 19 however, there is a pressing need on the public outlay towards social sector priorities and economic stimuli initiatives, thereby necessitating exploring of alternatives mechanisms such as Asset Monetisation with an increased vigour.

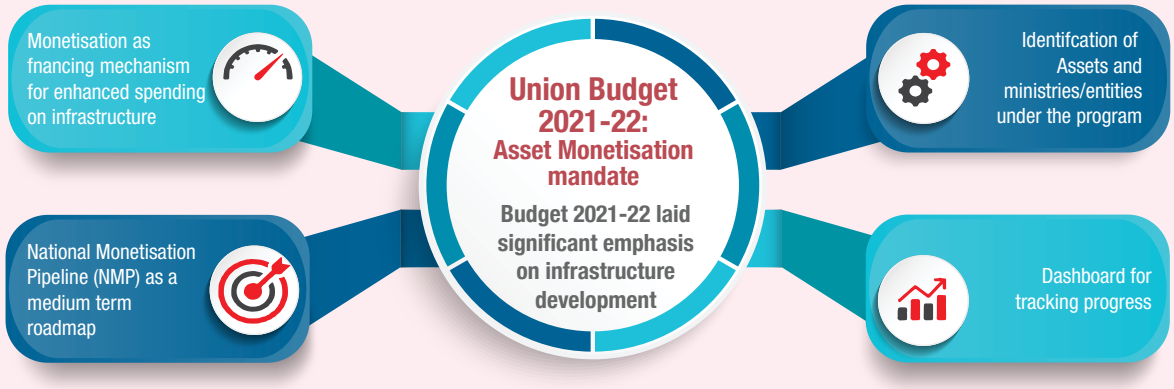
1.1 UNION BUDGET 2021-22

GoI's strong and continued commitment towards stepping up spending on infrastructure and keeping the investments planned under NIP on track, was reinforced in the landmark Union Budget 2021-22. A three-pronged strategy was laid out in the Budget: Firstly, by creating institutional structures; secondly, through a big thrust on Asset Monetisation, and thirdly by enhancing share of capital expenditure in central and state budgets. Key initiatives under the Union Budget 2021-22 that have laid the foundation for enhanced infrastructure investments include:

1 To be raised through budgetary resources debt from bond markets, banks and NBFCs; equity from private developers, external aid multilateral and bilateral agencies and internal accruals of PSUs would comprise 4–10% as per NIP document, DEA

Union Budget 2021-22 – Laying the foundation

- **Development Finance Institution** – The budget provided for establishing a professionally managed DFI to act as a provider, enabler and catalyst of infrastructure financing. Subsequently, the National Bank for Financing Infrastructure and Development (NBFID) Bill, 2021 was passed. The bill enabled the creation of a DFI – "NBFID", as a corporate body with authorised share capital of Rs 1 lakh crore. The central government's share in the entity is envisaged to remain above 26% (currently at 100%) and the Central Government envisages to capitalise this DFI with initially Rs 20,000 crore. The central government will also provide guarantee at a concessional rate of up to 0.1% for borrowing from multilateral institutions, sovereign wealth funds, and other foreign funds. The budget envisioned the DFI to have a lending portfolio of at least Rs 5 lakh crore in three years' time.
- **Asset monetisation** – The Union Budget has laid out the importance of "monetising operating public infrastructure assets for new infrastructure construction". Towards this, the budget provided for preparing a "National Monetisation Pipeline (NMP)" of potential brownfield infrastructure assets and an "Asset Monetisation dashboard" for tracking the progress and to provide visibility to investors.



Towards this objective, National Institution for Transforming India (NITI) Aayog has initiated an exercise for creation of National Monetisation Pipeline (NMP).

1.2 CENTRE'S INCENTIVE SCHEME FOR CAPITAL EXPENDITURE BY STATES

Capital expenditure creates employment, especially for the poor and unskilled, has a high multiplier effect, enhances the future productive capacity of the economy, and results in a higher rate of economic growth. Recognising the criticality of enhanced capital expenditure on infrastructure, Government of India has undertaken several initiatives to address the operational/commercial challenges faced by asset owners in undertaking monetisation and to incentivize State Governments and State level entities in undertaking monetisation.

Central Government launched a "Scheme for Special Assistance to States for Capital Expenditure" as part of 'Aatma Nirbhar Bharat' package in September 2020 to boost capital expenditure by state governments reeling under the financial impact of COVID-19 pandemic. Union Budget 2021-22 further announced that the Centre would take measures to incentivise States to spend more on infrastructure and to incentivize disinvestment of their public sector enterprises.

Incentives for

- Disinvestment through minority stake sale
- Listing of SPSEs and disinvestment of stake
- Privatisation (Strategic Disinvestment)
- Asset Monetization/Recycling

Under the Department of Expenditure, Scheme, financial assistance is provided to the State Governments in the form of 50-year interest free loan. This recently institutionalised Scheme provides incentives to states for asset monetisation and disinvestment by State government/ entities. As an incentive for asset monetisation, additional allocation equivalent to 33% of value of assets realised is envisaged to be deposited in State consolidated funds or in account of State public sector enterprises owning the assets. The allocation and disbursement is subject to the realised amount being necessarily used for capital expenditure by States.

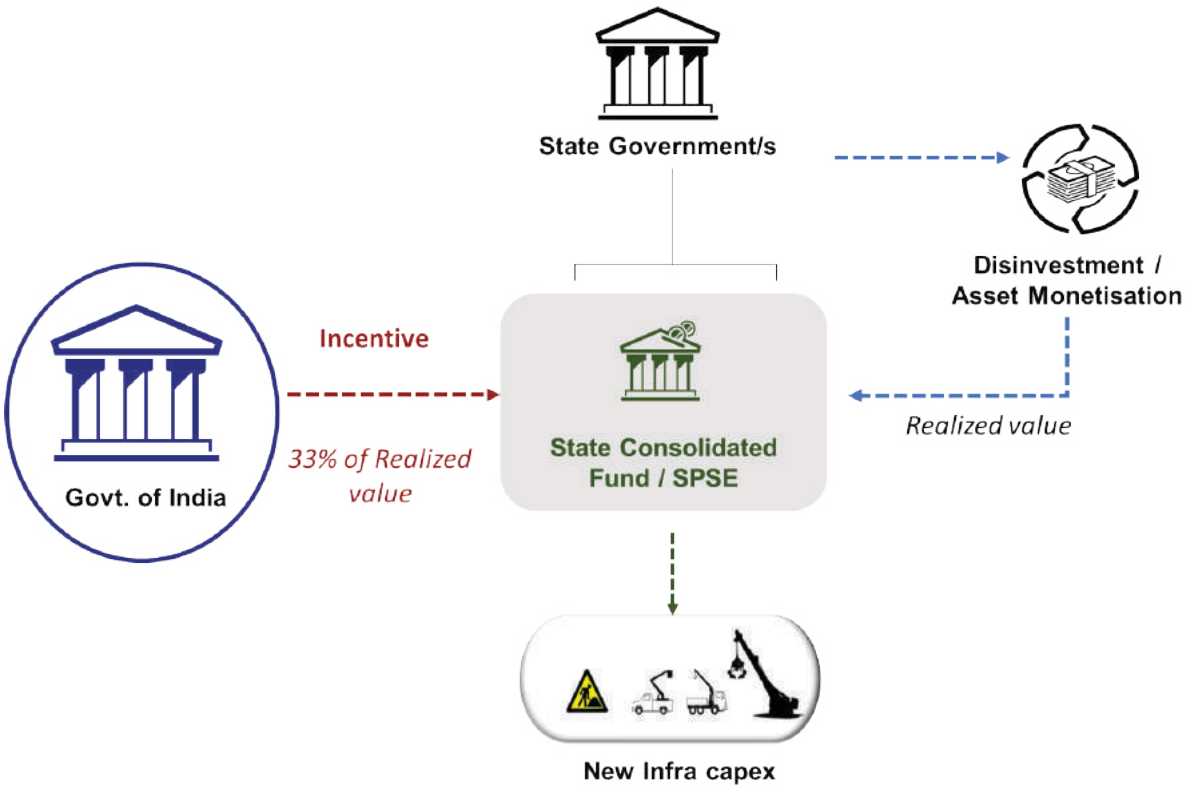


Figure 2: Key Contours of the Scheme for Special Assistance to States for Capital Expenditure

Monetization of assets unlocks their value, eliminates their holding cost and enables scarce public funds to be deployed to new projects, thus speeding up the implementation of the National Infrastructure Pipeline. Funds provided to the States under the scheme by the Government of India shall be used for new and ongoing capital projects, for long term benefit to the State. The funds may also be used for settling pending bills in ongoing capital projects.

1.3 NATIONAL MONETISATION PIPELINE

Creation of National Monetisation Pipeline (NMP) is Government of India's pioneering initiative to establish a medium-term pipeline along with a roadmap for "monetisation-ready" assets. Developed in the backdrop of the unprecedented Covid-induced economic and fiscal shocks, NMP lists out assets and asset classes, under various infrastructure ministries, which will be monetised over a period of time.

NMP provides 'visibility' on the volume of assets to be monetised and the potential value that can be unlocked. The Government's commitment to scale up infrastructure investments despite the fiscal pressures reflects the critical role of infrastructure on the overall economic growth and recovery and expected multiplier effect. NMP shall also serve as a medium – term roadmap of the potential financing opportunities and drive preparedness of public sponsor as well as private sector/ institutional investors towards financing the infrastructure gap.

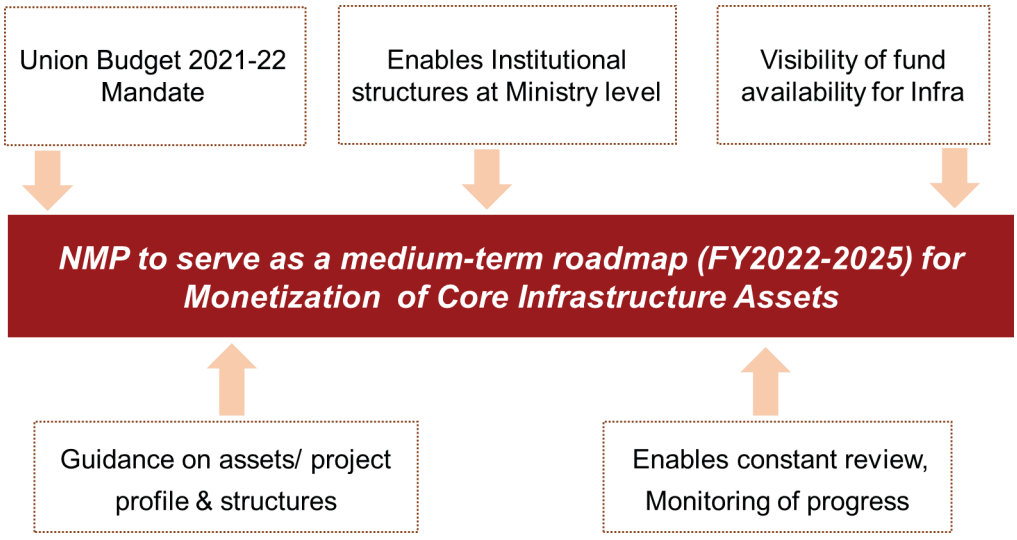


Figure 3: NMP : Medium term road map for Monetisation

Key Objectives of NMP are:

i. Serve as a medium-term roadmap for the line ministries and agencies
ii. Provide medium-term visibility to investors on infrastructure assets pipeline
iii. Provide a platform for ministries to track asset performance
iv. Bring in greater efficiency and transparency in public assets management

Report on NMP has been organised in two volumes (i) Guidance book for asset monetisation (Volume I) and (ii) Roadmap for asset monetisation over the medium term, including the pipeline of infrastructure assets (Volume II).

NMP Volume II focusses on the latter and provides an annual phasing of the asset pipeline to be monetised along with the value over the four-year period – FY 2022 to FY 2025. The NMP period has been kept co-terminus with the remaining period of the National Infrastructure Pipeline (NIP).

1.4 APPROACH TO NMP

The NMP has been created on a best effort basis by aggregating the information provided by various stakeholders including line ministries, departments as well as assessments of secondary information available on existing infrastructure assets in each of the sectors.

A bottom-up approach has been adopted wherein the existing core infrastructure asset base managed under central sector agencies was identified and mapped. The core infrastructure assets covered include roads, ports, airports, telecom, railways, warehousing, energy pipelines, power generation, power transmission, hospitality and sports stadiums. Besides these conventional infrastructure sectors, assets from mining and housing redevelopment sectors have also been included in the NMP owing to the potential of these sectors to spur private sector investment and to enable tracking of transactions as part of the Monetisation pipeline.

Monetization through disinvestment and monetization of non-core assets (such as land, building, and pure play real estate assets) have not been included in the NMP. The exhibit below provides an overview of the approach to drawing up the NMP:

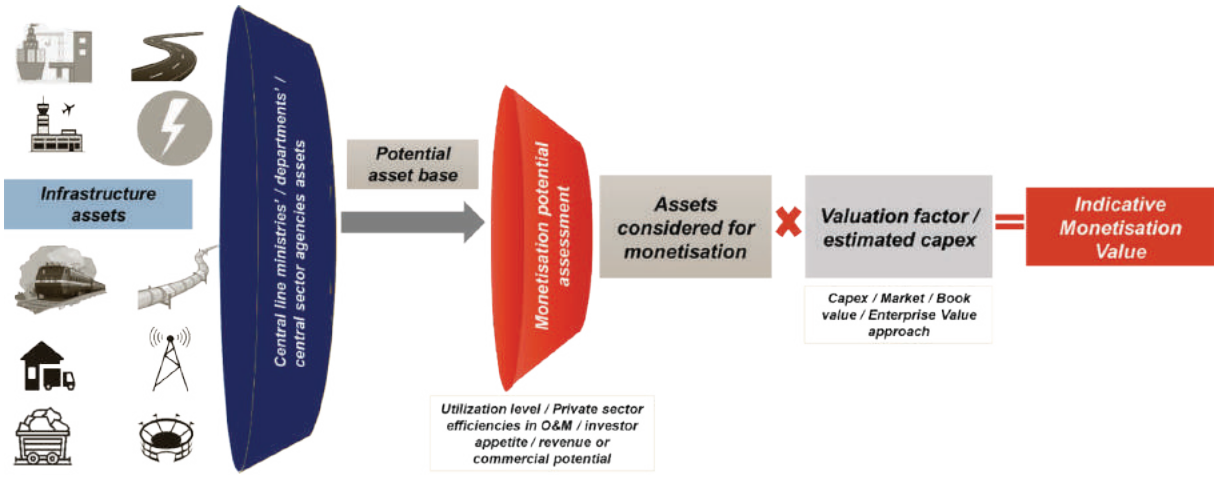


Figure 4: Schematic of NMP Approach

Assets which are central to the business objectives of a public entity/ statutory body/ Government body and/or are being utilised for delivering infrastructure services to public/ users have been categorised as Core Assets for the purposes of monetisation.

For each sector, the NMP has been drawn up for the statutory bodies, public sector enterprises and other such undertakings within the purview of ministries/ departments

of Govt. of India ('Public Asset Owners)[2]. This is based on three key sets of information: (i) Potential Asset Base, (ii) Assets considered for Monetisation and (iii) Indicative Monetisation Value. A brief description of these three sets of information is listed below:

1. **Potential Asset Base** –'Potential Asset Base' refers to the infrastructure assets under the purview of the central line ministries and CPSEs covered as part of the NMP exercise. Rather than focussing on the whole universe of assets under a ministry/ CPSE, the Potential Asset Base focusses on the assets that are sizeable and amenable to monetisation[3]. These include brownfield assets that are currently operational as well as assets that are expected to be operational over the NMP period.

2. **Assets considered for Monetisation** – The 'Assets considered for Monetisation' are a part of the Potential Asset Base that is expected to be monetised over the NMP period ('Assets for Monetisation'). The monetisation potential for asset classes has been assessed based on multiple factors varying across sectors. This multi-factoral assessment has focussed on visible revenue streams, commercial potential, utilisation levels, investor appetite, ability to tap private sector efficiencies in operations and maintenance, policy focus to tap institutional investment in the sector. These factors differ from sector to sector and the assessment has been explained in detail in subsequent sections of this report.

3. **Indicative Monetisation Value** –The indicative monetisation value that is expected to be realised by the public asset owner through the asset monetisation process, either in form of upfront accruals or by way of private sector investment, has been referred to as the Indicative Monetisation Value. It may be noted that several brownfield asset classes are proposed to be monetised through Operate Maintain and Develop (OMD) based models or assets where significant capex may be involved over transaction life towards augmentation or rehabilitation of assets. In such cases, estimated capex to be funded through private sector investment has been taken as indicative monetisation value. The value to the government hence may be in form of upfront consideration or by way of private sector investment. Under PPP based mechanisms, additional revenue streams that may accrue to the government towards revenue share and / or concession fee over and above the private investment has not been included as the same cannot be ascertained realistically at this stage.

Monetisation Value is only an indicative high level estimate based on thumb rule estimates. Various approaches such as Market or Cost or Book Value or EV approaches as explained in this section have been adopted to determine indicative value of asset pipeline as applicable and available.

2 Currently includes only central government asset owners. Supplementary Volume for State level assets is envisaged to be issued in due course

3 Further, for the purpose of the study, the Potential Asset Base has been restricted to a set of identified entitles. Assets held via subsidiaries / step-down subsidiaries or JVs have not been included which may be included later as necessary

The actual monetisation value will be determined based on detailed valuation or feasibility studies (as may be applicable) at the stage of transaction structuring. Hence, it would **not be prudent to take the Indicative monetisation value as a reference rate or value for any transactions in future**. For certain assets, the potential for monetisation may be limited or lower than estimates, while for certain assets significant upside potential over the indicative Monetisation Value may exist which needs to be tapped through appropriate structuring and instruments.

Further, the **actual realization (whether by way of accruals or by way of private investment), will depend on various factors** and aspects such as transaction timing, economic scenario, available capital and investor interest etc.

Following are the various approaches used to estimate the Indicative Monetisation Value of the pipeline:

a. ***Market approach*** – Under the 'market approach', indicative value is determined based on comparable market transactions, wherever available, for the identified asset classes. For such transactions, the market value "per unit of asset" has been determined based on secondary review of reference transactions in the sector as may be available or applicable (such as per kilometre of roads, per ckt km of transmission asset, per MW of generation capacity etc.). The value is applied on the Assets for Monetisation to arrive at the Indicative Monetisation Value. The monetization value taken under the market approach has also been averaged out considering the range of quality/ marketability of assets available/ considered for monetization.

   The market value based approach is only indicative and the actual consideration that may accrue to the ministries/ CPSEs depends on the following factors: (i) payment terms as envisaged under the instrument, (ii) market price discovery through competitive bidding process (iii) the extent of assets monetised by the ministries/ CPSEs[4] and (iv) asset quality.

b. ***Capex approach*** – The 'Capex approach' is considered for asset classes that may be monetised through PPP based models envisaging capex investment by private sector. In such cases, typically a sizeable capital expenditure towards expansion/ augmentation or improving the quality of infrastructure delivery is envisaged over the transaction life. Hence, in such cases the extent of private investment estimated towards such capex has been considered as indicative monetisation value.

   The principle under the capex approach is that in the absence of the asset monetisation transaction, the Public Asset Owner would have to incur the outlay towards augmentation and O&M of the brownfield asset. Hence, this approach captures savings to the Public Asset Owner by undertaking the asset monetisation transaction. Additionally, revenue streams or proceeds may accrue

4 in case of InvIT transactions, this approach considers the total value of asset brought up for monetisation (100% of the units), while the asset owner as sponsor of an InvIT may choose to monetize only a pre-determined number shares/ units (resulting in upfront receipt of the proportional amount)

to the asset owners as concession granting authorities depending on the terms of PPP concession (such as revenue share, concession fee, premium, royalty, etc.).

Further, the actual capex towards such outlays will happen over 2-3 years, and sometimes in phases over concession life. Hence, for the purpose of estimating the Indicative Monetisation Value, phasing has been assumed over 2-3 years from the year of tendering out of the project.

c. ***Book value approach*** – The 'book value approach' is considered in case of asset classes where information on comparable market transactions or estimated capex investment is not available. Further, the book value of the assets has been estimated considering the average capex cost incurred to construct a similar category of asset adjusted for the age of the asset/ number of years of operation and other such variables.

d. ***Enterprise value approach*** – The 'Enterprise value (EV) approach' is considered for assets where information on existing revenue stream is available or can be reasonably projected based on assumptions and / or available data on prevailing tariff for an asset / asset class. In such cases, Net Present Value (NPV) of discounted cashflows[5] has been worked out to determine indicative monetisation value. However, it may be noted that the EV based valuation at this stage is high level estimate only and the actual reference valuation will be arrived at by the asset owners at the stage of transaction preparation and structuring.

The approach adopted under the NMP to arrive at the indicative monetisation value across various asset classes is summarised in the table below. Specific assumptions and explanation of approach has been captured in respective chapters of this Volume.

Table 1: Asset class-wise approach adopted for indicative monetisation value

S.No.	Sector/ asset	Approach to monetisation value
1	Roads	Market approach
2	Ports	Capex approach
3	Airports	Capex approach
4	Railways	Railway stations – Capex approach Passenger trains – Capex approach Private freight terminals – Capex approach Railway colonies redevelopment – Capex approach Track infrastructure under DFCCIL – Book value approach Track, OHE – EV approach
5	Power generation	Book value approach
6	Power transmission	Market approach

5 Discounting of cash flows at the operating level has been done for select sectors based on reasonable growth estimates

7	Natural gas pipeline	EV approach
8	Product pipeline	EV approach
9	Sports stadium	Capex approach
10	Warehousing	Capex approach
11	Telecom	Capex approach for Bharatnet fibre assets Market approach for tower assets
12	Mining	Capex approach
13	Urban Housing redevelopment	Capex approach

2

National Monetisation Pipeline

2.1 CONSOLIDATED PIPELINE

The total indicative value of NMP for Core Assets of Central Government has been estimated at Rs 6.0 lakh crore over the 4 year period, FY22-25

The estimated value corresponds to ~5.4% of the total infrastructure investment envisaged under the NIP which is ~Rs 111 lakh crore and ~14% of the proposed outlay for Centre (Rs 43 lakh crore**)**. This pipeline of assets has been phased out over a four-year period starting FY 2022 up till FY 2025.

Asset monetisation is critical to attract the required quantum of capital into infrastructure sector. However, monetisation needs to be viewed not just as a funding mechanism, but as an overall strategy for bringing about a paradigm shift in infrastructure augmentation, service delivery and maintenance. Resource and capital efficiencies of private sector along with the ability to dynamically adapt to the evolving global and economic reality, necessitates looking at Asset Monetization as the key to value creation in Infrastructure.

It presents an immense opportunity for public asset owners to deleverage the balance sheets and easing of fiscal space to take up more greenfield infrastructure creation. In terms of other longer-term benefits, it creates an enabling environment for participation of long-term institutional investors in infrastructure asset management.

NMP – Coverage of Volume II

NMP Volume II includes projects/ assets of central government line ministries and CPSEs in infrastructure sectors with high monetisation potential. The sectors include roads, ports, airports, railways, warehousing, gas & product pipeline, power generation, power transmission, mining, telecom, stadium and hospitality infrastructure.

State governments, state-level entities and urban local bodies also have a sizeable infrastructure asset base with significant monetisation potential. Prominent asset classes thereunder include state highways, energy distribution infrastructure, intra-state transmission networks, urban transport, bus depots, water supply & sewerage networks, gas pipelines (in certain states), sports stadium and district level sport complexes etc.

State assets have not been included in this compendium of assets. The process of co-ordination and collation of asset information/ pipeline from states is currently ongoing and Supplementary Volume for same is envisaged to be issued in due course.

NMP Volume I and II are expected to serve as a guidebook and template for states to evolve a common framework and approach for monetisation of core infrastructure assets.

The breakup of the overall pipeline and the sectoral share is as provided in the figure below:

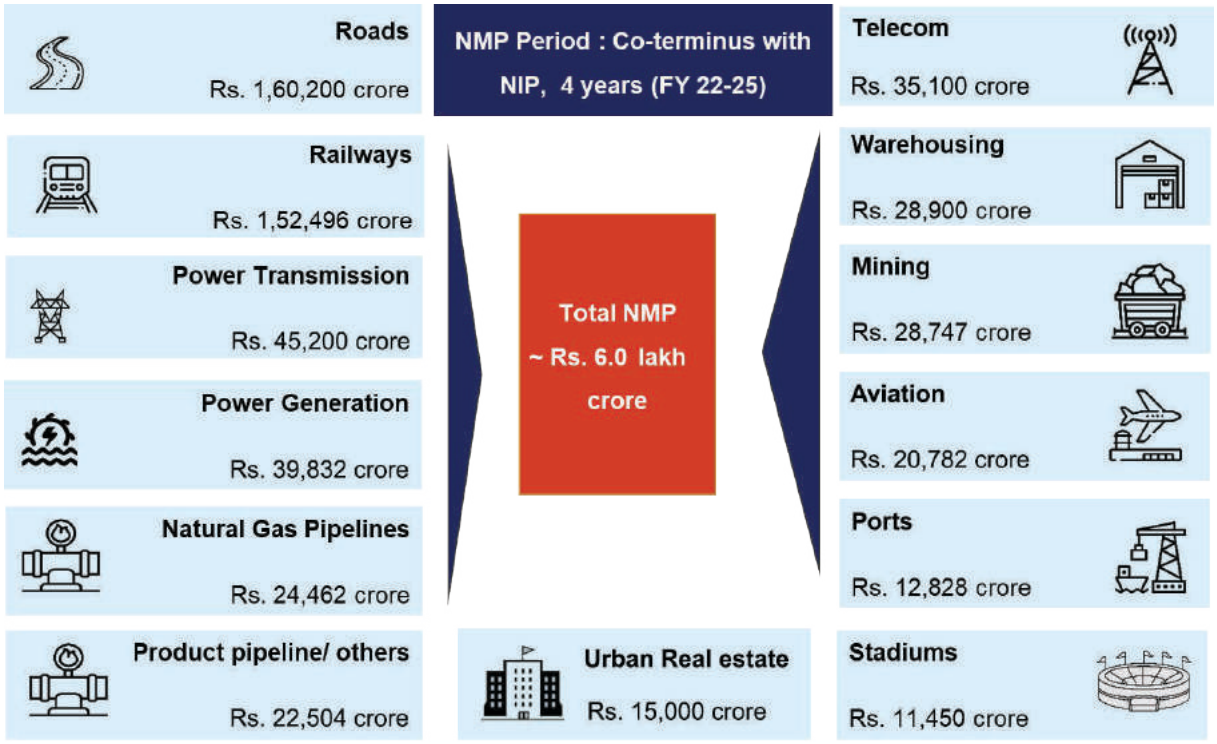


Figure 5: Sector wise Monetisation Pipeline over FY 2022-25 (Rs crore)

2.2 SECTORAL BREAK-UP

The aggregate asset pipeline over FY22-25 under NMP is indicatively valued at Rs 6.0 lakh crore. The overall sectoral contribution from FY 2022 to FY 2025 is shown in the Figure below. The top 5 sectors (by estimated value) capture ~83% of the aggregate pipeline value. These top 5 sectors include: Roads (27%) followed by Railways (25%), Power (15%), oil & gas pipelines (8%) and Telecom (6%). Roads and Railways together contribute ~52% of the total NMP value.

The assets and transactions identified under the NMP are expected to be rolled out through a range of instruments. The choice of instrument is determined by the sector, nature of asset, timing of transactions (including market considerations), target investor profile and the level of operational and/or investment control envisaged to be retained by the asset owner.

20+ asset classes, 12+ line ministries / departments

Top 3 sectors: Roads (27%) Railways (26%) and Power (15%) by value

Pipeline Phasing: 15% of assets, value of Rs 0.88 lakh to be rolled out in FY 21-22

Top 3 Asset classes: Toll Roads, Railway Stations & Transmission towers

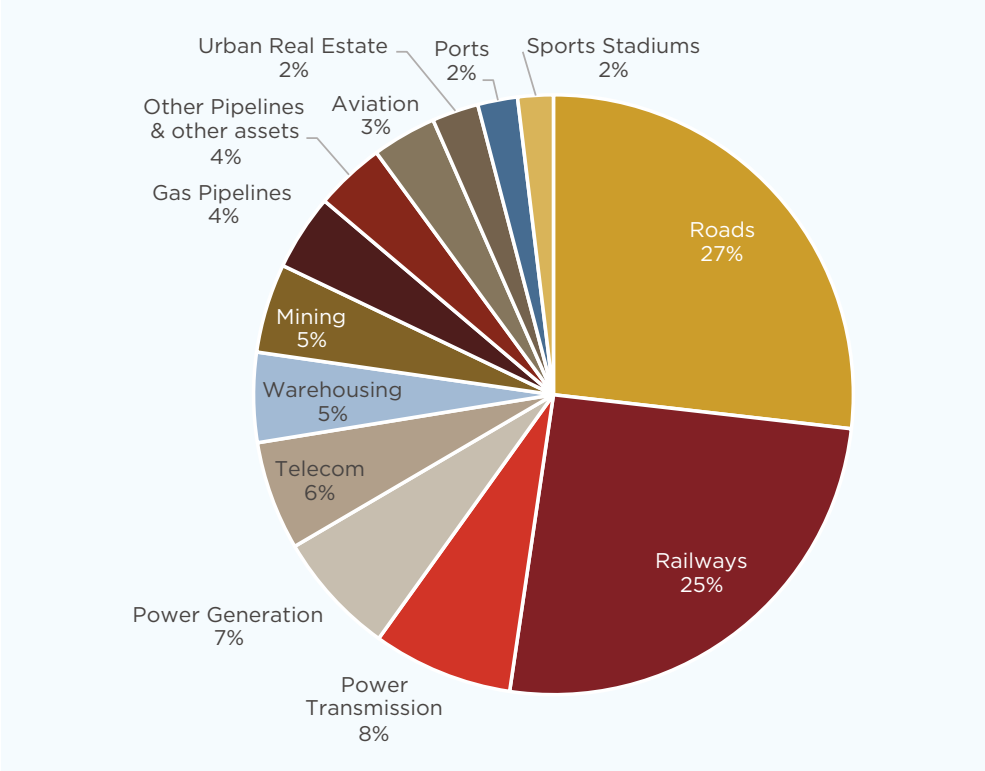


Figure 6: NMP – Share of sectors in terms of indicative monetisation value in NMP

2.3 PIPELINE PHASING

In terms of annual phasing by value, 15% of assets with an indicative value of Rs 0.88 lakh crore are envisaged to be rolled out in the current financial year i.e. FY 21-22. As has been explained previously, the aggregate as well as year on year value is only an Indicative Monetisation Value and the actual realization for public assets owners will depend on the timing, transaction structuring, investor interest etc.

In case of PPP augmentation or redevelopment, the actual capex investment towards the assets is expected to be phased out over 2-3 year period post award. Accordingly, the pipeline phasing below assumes the actual envisaged capex phasing as the year of accrual of monetisation value.

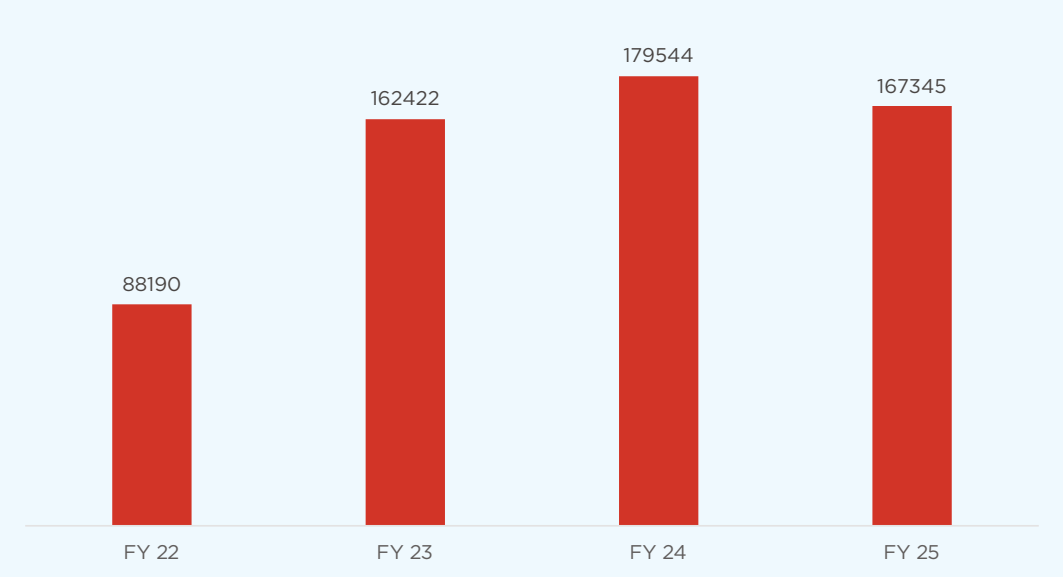


Figure 7: Indicative value of the monetisation pipeline year-wise (Rs crore)

2.4 SHARE OF OVERALL ASSET BASE MONETISED

For any sub-sector, the scale of monetisation envisaged under the NMP (from FY 2022 to FY 2025) is assessed in terms of "capacity/ volume of assets monetised[6] as a percentage of the total capacity/ volume of asset held under public sector".

Overall, as a strategy, the scale of monetisation under NMP has been envisaged based on multiple factors and bulk of the asset base, will remain with the government. Further, under the framework for core asset monetisation, the assets monetised will be handed back at the end of transaction life.

Bulk of asset base will still remain with the Government	Even as significant private sector participation is being undertaken for operation and maintenance of brownfield infrastructure assets, bulk of assets continue to remain with public sector entities. Further, the addition of new/greenfield assets using the funds so raised continues to ensure significant share of public sector entities in such sectors.
Scale of monetisation is impacted by both demand and supply factors	While the monetisation scale, aggregated at the sectoral level, presents a reasonably promising picture, any scaling up beyond the identified levels could face the following demand- and supply-side challenges: • Monetisation potential of toll road assets, though being a market-tested asset class with established monetisation models, is limited by the percentage of stretches having four-lane and above configuration. The total length of national highway (NH) stretches with four-lane and above is estimated to be about 23% of the total NH network

6 Defined in terms of the basic unit of asset. For example: length of roads in km (for road sector), number of railway stations, circuit km (ckm) of transmission network (power transmission) etc.

	• In case of thermal and gas-based power generation assets, there could be a limited appetite from global investors considering the overall aim to achieve net zero carbon emissions by 2050, consequent targets set for investment portfolios and a shift towards greater Environmental, Social and Governance (ESG) compliance.
Volumes are not necessarily correlated to value	Volumes are not necessarily correlated to value. While, the number of railway station assets considered for monetisation under the NMP constitutes about 5% of the total number of railway stations in the country, in value terms the railway station re-development is one of the front-runner asset classes contributing almost Rs 76,250 crore (12% of the total NMP value).

3

Sector – wise Pipeline

3.1 ROADS

Summary

26,700 km	20%	Rs 1,60,200 crore	27%
Asset Length to be monetized	Asset Length as a percentage of Potential Asset Base (%)	Indicative Monetisation Value over FY 2022-2025 (Rs crore)	Share in overall NMP in value terms (%)

3.1.1 Potential Asset Base

The Ministry of Road Transport and Highways is the central line ministry responsible for development of National Highways. Works relating to National Highways are undertaken under different central government schemes, such as the Bharatmala Pariyojana, Development of Road in Left Wing Extremism affected areas, Special Accelerated Road Development for North Eastern Region, Inter-Connectivity Improvement Programme, etc. taking into account their impact on tourism potential, trade potential areas, strategic, tribal, remote and border areas. The National Highways Authority of India (NHAI) is the flagship central sector entity set up in year 1995 through an Act of Parliament, the National Highways Authority of India Act, 1988. NHAI is responsible for development, maintenance and management of National Highways entrusted to it. In the recent years, the Ministry of Road Transport and Highways (MoRTH) have made impressive gains in pacing up the award and construction of NHs every year. For example: the MoRTH reported an annual NH construction of over 13,327 km during FY 2021, translating to an average of ~35 km/day.

The Potential Asset Base for roads sector includes aggregate National Highway (NH) road length estimated at about 1,36,155 km[7] as on December 20, 2020. In terms of lane-wise distribution of NHs as on March 31, 2019, of the total NH network, 23% (~31,067 km) is comprised of four-laned roads[8] and above, 49% are two-laned roads, and the rest are comprised of roads with less than two lanes. The NH construction is undertaken through three modes viz. EPC, BOT and HAM. It is estimated that in recent years, majority of the projects are being awarded through EPC and HAM mode and NHAI retains the tolling rights over these stretches (and hence amenable for monetisation). The NH network of 4 lane and above configuration, where NHAI reserves tolling rights, has been considered as amenable for monetisation for the purpose of identification of asset under NMP.

7 https://pib.gov.in/PressReleasePage.aspx?PRID=1684574

8 https://pib.gov.in/PressReleasePage.aspx?PRID=1575395

Factors influencing monetisation of the asset class

Precedence of monetisation transactions and frameworks: Roads and highways, as an asset class, has steadily developed a solid track record of monetisation. The monetisation of operating road assets has generated growth capital for construction of new roads under the Bharatmala programme, in line with the NHAI's mandate to diversify its funding for financing growth. Since 2017, the NHAI has been successfully monetising its brownfield road assets through Toll Operate Transfer (TOT)-based PPP concessions. The TOT model has since matured and is now an established model with a model concession framework already in place. Another method of monetisation that has seen traction in the recent past is the InvIT model. A number of road assets have been monetised through InvITs by private sector players.

Evolved regulatory framework – The regulatory framework for roads sector especially that for PPP Projects including the NHAI's Model Concession Agreement, has strengthened considerably over the last decade. Pursuant to enabling framework/ provisions by NHAI, multiple portfolio buyouts have been completed in the roads sector unlocking capital and enhanced participation of institutional investors. Key recent policy decisions and actions relating to BOT (Toll) Model, TOT Model and HAM taken during 2020, which will further resolve impediments and enhance investor interest in toll roads as an asset class are[9]:

i. ***Changes in Model Concession Agreement (MCA) of BOT (Toll) Project:*** Considering the key challenges faced by stakeholders, changes in the BOT (Toll) framework have been undertaken keeping in mind the reforms related to project preparation and conditions precedents, dispute resolution and limitation of liability, ease of doing business, incorporation of new policies such as policy for harmonious substitution, policy for resolution of stuck projects etc. Also other miscellaneous reforms such as use of latest technology for traffic and road condition monitoring have been issued (Ministry's OM No. NH-35014/25/2017-H dated 24.08.2020 and 25.08.2020).

ii. ***Changes in MCA of TOT framework:*** Change in the MCA of TOT Model allaying concerns of investors and stakeholders.

iii. ***Changes in MCA of HAM model:*** In order to address the issues relating to NH Projects under Hybrid Annuity Mode (HAM) raised by stakeholders, changes in the provisions relating to change in ownership (exit option), shifting of utilities, maintenance during construction period, financial close, payment during construction period, applicable bank rate, mobilization advance, termination payment and dispute resolution etc. in the MCA of HAM have been made, and revised MCA of HAM incorporating these changes has been issued .

9 https://pib.gov.in/PressReleasePage.aspx?PRID=1684574

Greater transparency in operations **–** Introduction of measures such as FASTag, electronic tolling, etc., and the palpable behavioural change seen in the adherence to these initiatives, will usher in greater transparency in the asset management process and significantly improve user "willingness to pay".

This will result in asset aggregators with sound corporate governance practices, such as Infra focussed PE funds, sovereign wealth funds, pension funds, etc., participating in operational road assets with established base traffic

Thus, existing asset owners such as the NHAI will be able to effectively churn their investments and perpetuate a virtuous cycle of "build, commission and monetise" to generate growth capital for fresh investment

3.1.2 Assets considered for monetisation

The aggregate length of assets considered for monetisation over FY 2022 to 2025 aggregate to 26,700 km. This is based on the length of already/ to-be operational, four lane highways and above in the country, entailing potential for revenue generation and thereby monetisation.

The highways which will become operational over the NMP period have also been considered as part of the monetisable asset base once these assets see a seasoning in their performance viz. completion of one-two years of operations post establishment of base traffic. Based on past trend in pace of award and construction, it is estimated that NHAI every year is incrementally adding minimum of 2,000 – 3,000 km of monetizable toll roads to its asset base every year.

The total length of highway assets considered for monetisation (26,700 km) constitutes around 22% of the total NHs (estimated to be about 1,21,155 km) excluding the network operated by private sector under BOT (Toll) based PPP concessions.

Approach to monetisation

Step 1 – Assets considered for monetisation

Both existing operational NH assets and new NH roads which are constructed and operationalised over the next four years[10] have been considered. This is based on the list of stretches received from the Ministry coupled with secondary research on potential for monetizable four-lane and above assets.

The operational NHs constructed under EPC and HAM modes, especially in the 4-lane and above category have been considered for monetisation. This includes both the existing toll roads and potential toll roads to be added over the NMP period. As

10 This includes the under-construction road assets and the new roads to be awarded over the next 1-2 year and getting monetized within the NMP period

of March 31 2020, the length of toll roads under public funded/ annuity[11] mode is estimated to add up to ~16,387 kms[12].

The total assets considered for monetisation over the 4 year period from FY 2022 to FY 2025 aggregate to ~26,700 km.

Step 2 – Arriving at the indicative monetisation value.

The indicative monetisation value has been estimated based on the 'Market approach'. The multiple (in Rs crore per km) to estimate the indicative value is based on the average blended factor at Rs 6 crore per km. The estimate has been arrived at based on (i) recent TOT transactions[13] (ii) asset mix to be monetised (iii) scale of monetisation. The average realisation by NHAI under past TOT concessions successfully awarded has been in the range of Rs 9-14 crore per km. A lower range at Rs 6 crore per km has been assumed to assess indicative monetisation value to factor in certain lower traffic stretches in the portfolio and impact of scale on monetisation.

The annual monetisation value has been arrived at by multiplying the annual phasing of assets considered for monetisation (in kms) and the multiple (in Rs. Crore per km)

3.1.3 Indicative Monetisation Value of assets and phasing

The total Indicative Monetisation Value of assets considered for monetisation is estimated at **Rs 1.6 lakh crore** from FY 2022 to 2025. The asset pipeline has been phased out over the NMP period to ensure better preparedness and improved marketability. The summary of annual phasing is as follows:

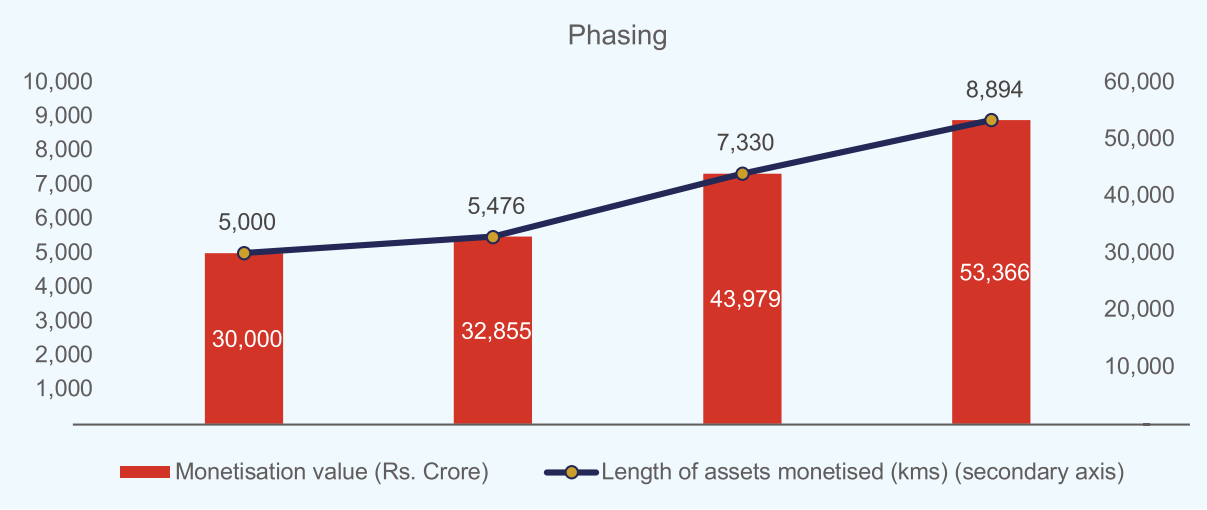


Figure 8: Indicative value of Roads Monetisation pipeline (Rs crore)

11 The BOT (toll) projects awarded under the PPP mode have been excluded as tolling rights on these assets are retained by the private sector for the respective concession periods and hence cannot be considered a relevant part of this monetizable universe.

12 https://tis.nhai.gov.in/faq?language=en

13 TOT 1 was awarded at Rs. 14 crore per km, TOT 3 at Rs. 9 crore per km and the recent TOT 5 at Rs. 14 crore per km.

Marquee Project: NHAI's Infrastructure Investment Trust (InvIT)

In order to enhance NHAI's resource mobilization, the Cabinet accorded the approval and authorized NHAI to set up Infrastructure Investment Trust, as per InvIT Guidelines issued by SEBI, to monetize completed National Highways that have a toll collection track record of at least one year.

Background

- NHAI is in the process of monetising its completed and operational highway projects under the Infrastructure Investment Trust route to mobilise additional financial resources through the capital markets.
- NHAI InvIT has been set up with the objective of monetising its selected completed and operational NH projects through alternative sources such as capital markets and diversification of its investor base.
- Selected operational portfolio of projects will be held through an SPV. SPV thus constituted is envisaged to execute a concession agreement with the NHAI for the said projects.
- NHAI InvIT issue is envisaged to be privately placed. Indicative value of the NHAI InvIT fund raise from the current tranche underway is about Rs 5,000 crore. The fund-raise and issue listing is expected to be completed during FY 22 subject to market conditions and stabilisation of toll revenues in wake of covid.

Key features

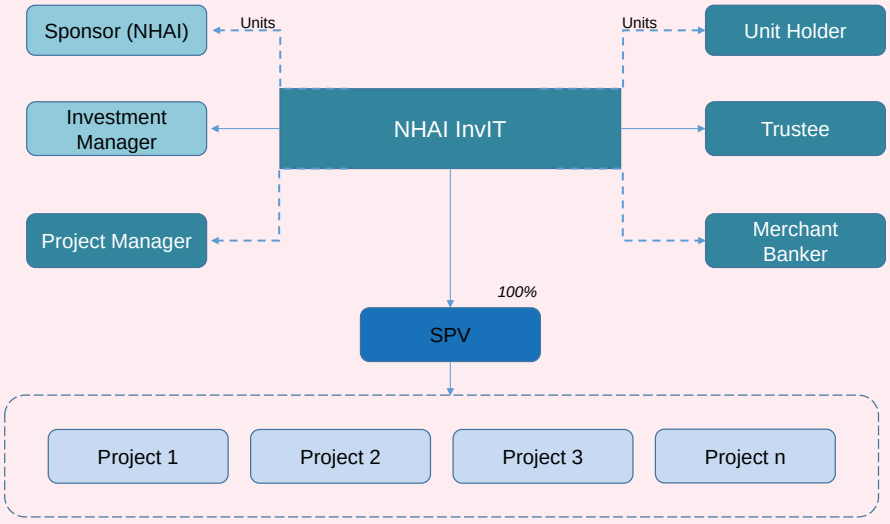
- The first tranche of InvIT are expected to consist of ~586 km of NH assets in Rajasthan, Gujarat, West Bengal, and Bihar. A second tranche of follow on issue of the InvIT is also being explored by NHAI.
- A new entity wholly-owned by the NHAI, the National Highways Infra Investment Managers Private Limited (NHIIMPL), has been incorporated to act as the Investment Manager under the proposed InvIT transaction.
- The InvIT activities will be managed by the Investment Manager entity, NHIIMPL, which has been staffed with a team of competent industry experts.
- The Board of the Investment Manager comprises independent directors and professionals with extensive private sector experience in operational road assets/ capital market-related transactions/fund management. This is critical to ensure the functioning of the NHIIMPL with a reasonable level of independence for the benefit of investors, thereby offering them requisite comfort.

Key timelines and way ahead

- SEBI in-principle approval for registration of NHAI InvIT was obtained in June 2020.

- Project Manager and Investment Manager have been incorporated in September 2020.
- Concession Agreement between the SPV and NHAI has been approved in February 2021.
- Marketing and investor consultations – ongoing
- The first tranche of NHAI InvIT transaction is expected to be completed by Q2/ Q3 of FY2022 subject to market conditions and stabilisation of toll revenues in wake of covid.

The indicative transaction structure of NHAI InvIT is provided in the figure below.



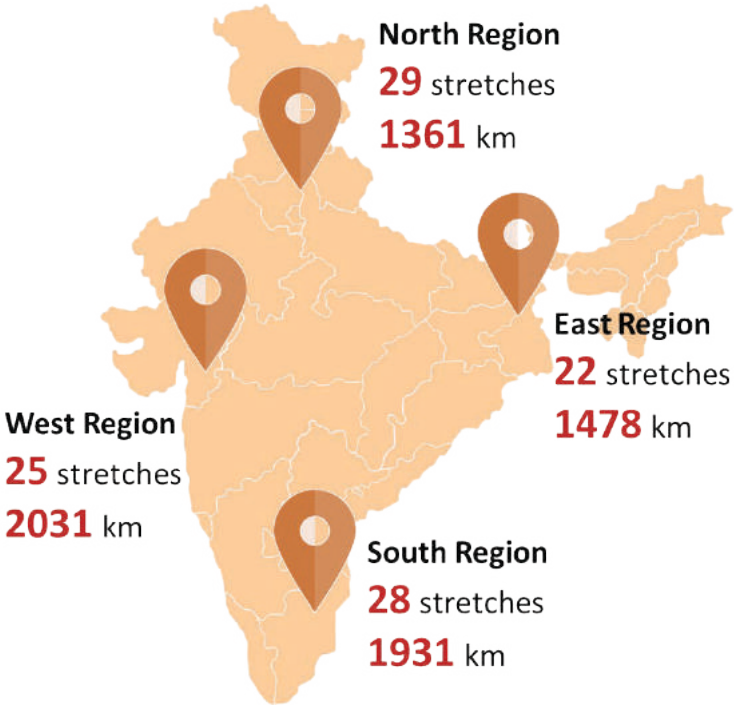


Figure 9: Region-wise key stretches included in the pipeline over FY 2022-2025

Detailed list of stretches is set out in Annexure I.

3.2 RAILWAYS

Summary

Rs 152,496 crore	26%
Indicative Monetisation Value over FY22-25	**Share in overall NMP in value terms**

Key assets for monetisation over FY22-25 (% of Potential Asset Base)	
Railway stations	400 Nos. (5.5% of stations)
Passenger trains	90 Nos. (5% of total trains)
Railway track	1 route of ~1,400 km (2% of network)
Konkan Railways	741 km
Hill Railways	4 Nos. , 244 km route
Railway owned Good-sheds	265 Nos. (21% of total good sheds)
DFC track and allied infrastructure	673 km (20% of total DFC network)
Others–Railway colonies and stadiums	15 Railway stadiums & selected Railway Colonies

3.2.1 Potential asset base

Indian Railways (IR) is the fourth-largest railway network in the world by size, with 121,407 km (75,439 mi) of total track over a 67,368 km route. With IR's focus on augmenting railway infrastructure to facilitate freight and passenger movement, significant investments will be needed to address capacity constraints. The Potential Asset Base considered includes assets owned and operated under the Ministry of Railways (MoR) (including identified PSUs and entities under MoR). The key assets across categories relevant to the monetisation process are shown in the table below.

Table 2: Total Potential Asset Base for key asset classes[14]

S.No	Asset class	Value
1	Railway stations	7,325 nos.
2	Passenger trains	13,169 nos.
3	Track infrastructure (route length)	67,956 km
4	Existing Railway owned Goods sheds	1,246 nos.
5	Hill railways	5 nos.
6	Total length of Eastern & Western Dedicated Freight Corridor (DFC), excl. Sonnagar Dankuni section on PPP mode – *target date of commissioning is June 2022*[15]	2,843 km (Eastern – 1337 kms, Western – 1506 kms)

Factors influencing monetisation of asset classes:

High commercial potential of the assets and a massive footprint – IR assets (especially railway stations, MFCs, goods sheds, etc.) are typically centrally located in prime locations having high commercial potential due to the presence of such assets in key urban centres or strategic significance (e.g. access to key logistics corridors and providing last-mile hinterland connectivity). This commercial potential remains largely underutilised and is expected to whet investor appetite.

Dedicated institutional arrangements to drive the monetisation agenda –Railway station development agenda lies at the heart of the sector's monetisation drive. The presence of a dedicated SPV – Indian Railway Stations Development Corporation (IRSDC)[16] along with RLDA – to develop new stations and redevelop existing Indian railway stations helps streamline the process.

PPP Framework*:* In order to standardise PPP framework for Railway Projects, model concession agreements (MCA) for various projects viz. station redevelopment, private passenger train etc have been developed. This is to provide a balanced risk sharing framework and thereby ensure predictability and bankability of transactions. Similar frameworks and documents need to be developed for brownfield PPP models such as OMD and TOT-based concessions for other railway assets identified under NMP.

Mechanisms to address asset-specific challenges important to scale up monetisation – The key impediments to the monetisation process are asset-specific challenges (e.g. presence of an identifiable revenue stream) and measures to help private sector manage risks effectively. This is specifically relevant to the railway sector, which has seen limited penetration of PPPs as a mode of project delivery. Key asset classes and the influencing factors include the following:

14 http://indianrailways.gov.in/railwayboard/uploads/directorate/stat_econ/Annual-Reports-2019-2020/Year-Book-2019-20-English_Final_Web.pdf

15 https://dfccil.com/Home/ProgressStatusImage accessed on May 28, 2021

16 IRSDC is a joint venture between IRCON and RLDA with a 51:49 equity shareholding ratio

- ***Konkan Railway*** – Multiple stakeholders, including state governments, own stake in the entity. Hence, existing shareholder interests need to be managed effectively before shaping the monetisation transaction structure.
- ***Track, OHE*** – The track infrastructure presently is majorly for exclusive and captive use of Indian Railway operations with earnings coming in form of passenger and freight income. At present there is no concept of apportionment of a track access charge towards use of track. A monetisation mechanism will need to structure an infrastructure access and usage agreement along with ringfencing a Track Access Charge based revenue regime.
- ***Private Passenger Trains*** – Bidding for 150 trains is presently underway and the project is expected to be awarded in FY 22, any scaling up effort will be based on successful award and experience from the current batch of PPP clusters.

Clearly identified project pipeline – The NIP and the Draft National Rail Plan (NRP) 2020 provide a detailed asset-level plan for the development of the railway sector. The NIP envisages a total capex of Rs 13.7 lakh crore by both the centre and states over FY 2022-25, of which Rs 1.6 lakh crore is envisaged through the PPP mode. The Draft NRP 2020 provides a strategic direction to the sector for the next 30 years, which includes an increase in the modal share (freight) of railways from 26% to 45%, while continuing to provide best-in-class services for passengers.

3.2.2 Assets for Monetisation

The railway assets considered for monetisation over FY 2022-25 are as explained below.

Table 3: Railway assets considered for monetisation

S.No.	Asset type	FY22	FY23	FY24	FY25	Total
1	Railway station development	40 stations	120 stations	120 stations	120 stations	**400 stations**
2	Passenger train operations (PTO)	—	30 trains	30 trains	30 trains	**90 trains**
3	Track – OHE InvIT	—	1,400 km	—	—	**1,400 km**
4	Good Sheds	—	75 nos.	100 nos.	90nos.	**265 nos.**
5	Konkan Railway	—	—	741 km	—	**741 km**
6	Hill Railways	2 nos.	2 nos.	—	—	**4 nos.**
7	Dedicated Freight Corridor	—	—	337 km	337 km	**673 km**
8	Railway Stadiums	3 nos.	5 nos.	5 nos.	2 nos.	**15 stadiums**
9	Railway Colonies	—	—	—	—	Numbers not provided

Approach to monetisation

Railway station redevelopment

- *Assets considered for monetisation* – The number of railway stations taken up for monetisation was arrived at based on GoI's Railway Station Redevelopment Program which envisaged redevelopment of 400 railway stations identified by Ministry of Railways. The railway stations were divided into three categories (Tier 1: 50 stations, Tier 2: 100 stations, and Tier 3: 250 stations) based on the commercial potential and potential scale of development.
- *Indicative Monetisation Value* – It has been arrived at based on Capex approach, i.e., the capital cost towards the redevelopment of railway stations. The capital cost per railway station was arrived at based on the estimates for 97 railway stations identified under the Draft NRP 2020. The median capex per railway station is around Rs 400 crore. With this as the base, capex per railway station for the three categories of assets was estimated as follows: Tier 1 – Rs 500 crore per station, Tier 2 – Rs 300 crore per station, and Tier 3 – Rs 85 crore per station.

Passenger train operations

- *Assets considered for monetisation* – The number of projects to be taken up for monetisation is based on ongoing tenders and proposed plans of IR. Bidding for first set of clusters envisaging ~150 passenger trains to be operated by private operators across 12 clusters and 109 O-D pairs of routes is presently underway. The project is currently under bidding stage and the concession is expected to be awarded in FY 2022. These trains are expected to be introduced in a phased manner over FY 2023-25 period. Of these, ~60% of trains (~90 trains) are expected to be operationalised and deployed during NMP period i.e. FY22-25.
- *Indicative Monetisation Value* – It has been arrived at based on Capex approach – capital cost towards acquisition of rolling stock plus an additional mark-up towards establishment and other PPP incidentals have been assumed. Additional revenue streams that may accrue to the Railways in form of revenue share and upfront premium if any under the PPP mechanism has not been included in the monetisation value.

Track, signalling, and Overhead Equipment (Track OHE) InvIT

- *Assets For monetisation* –The objective of proposed framework is to monetise existing railway infrastructure i.e. track, signalling, OHE etc across defined railway routes as a packaged asset. These railway infrastructure assets are currently utilised by IR with a potential for private sector operators also joining the fray in the near future. The monetisation of one major O-D route is envisaged under the NMP as a pilot project, which would serve as the framework for other profitable routes.

- *Indicative Monetisation Value* – It has been arrived at based on EV approach by carrying out a DCF based cashflow projection for a period of 25 years factoring in assumptions and available data on assumed Track Access Charge, number of trains plying, operating cost and renewal expenses. The same is only an indicative number at this stage and the detailed valuation may be carried out at the feasibility and transaction structuring stage. Further, for the purpose of NMP, it has been assumed that during the NMP period, about 85% of the units of the proposed InvIT will be divested and a proportionate enterprise value has been assumed.

Private Freight Terminals (PFTs)

- *Assets For monetisation* – As per Draft NRP 2020, IR manages 1,246 railway-owned goods sheds. It is envisaged that the assets in major locations (especially in and around major urban centres), totalling 265 nos. (i.e. 21% of total good sheds), may be monetised by inviting private sector participation in augmentation & O&M of these good sheds as private freight terminals.
- *Indicative Monetisation Value* – It has been arrived at based on capex approach. The NRP lays out an investment plan of Rs. 10,402 crore for developing around 170 greenfield terminals, translating to ~Rs. 60 crore per terminal. Considering the level of capex for upgradation of existing facilities is relatively low, a capex of about Rs. 21 crore per good shed has been derived and considered for arriving at indicative monetisation value. The 265 good sheds considered for monetisation have been phased out over the NMP period starting with 75 good sheds in FY 23.

Monetisation of track and allied infrastructure of Dedicated Freight Corridor of DFCCIL

- *Assets For monetisation* – Based on current DFCCIL capex plans, it is estimated that 2,843 km of DFCCIL corridors (excluding the PPP section) are expected to be fully commissioned by June 2022[17]. Once fully commissioned, it is assumed that DFCCIL will monetise ~673 km of track (either by way of grant of TOT like concessions to private players or through InvIT transaction with revenue in form of Track Access Charge) starting from FY 2024 onwards.
- *Indicative Monetisation Value* – Since detailed traffic and revenue projections for DFCCIL are not available at this stage, the indicative monetisation value for DFCCIL has been arrived at based on the Book Value approach i.e. taken at capital cost towards construction of existing DFCCIL corridors. The capital cost per km was estimated at Rs 30 crore (adjusted for land cost) based on ongoing capex costs.

Other assets: Konkan Railway, Hill Railways, Railway Stadiums and colonies

- *Assets for Monetisation* – The specific assets considered for monetisation have been selected based on the following factors: (i) profitability of routes, (ii) potential

17 *https://dfccil.com/Home/ProgressStatusImage*

to scale up a range of service offerings (tourism potential associated with Hill Railways networks), (iii) potential for improved O&M standards and utilisation of sports stadiums.

- *Indicative Monetisation Value* – It has been arrived at based on EV approach for Konkan Railway and capex approach for Hill Railways and Railway stadiums. For Railway colonies and stadiums, Capex data provided by Ministry of Railways has been considered for inclusion in the pipeline.

3.2.3 Indicative Monetisation Value of assets and phasing

The Indicative Monetisation Value is estimated at **Rs 1,52,496 crore** over the NMP period FY2022-25. Asset-wise phasing and values are provided in the table below.

Table 4: Asset-wise phasing of monetisation value (Rs crore)

S.No.	Asset type	FY22	FY23	FY24	FY25	Total
1	Railway station development	17,000	29,325	17,575	12,350	**76,250**
2	Passenger train operations	—	7,002	7,212	7,428	**21,642**
3	Track – OHE InvIT	—	18,700	—	—	**18,700**
4	Good Sheds	—	1,575	2,100	1,890	**5,565**
5	Konkan Railway	—	—	7,281	—	**7,281**
6	Hill Railways	460	170	—	—	**630**
7	Dedicated Freight Corridor	—	—	10,089	10,089	**20,178**
8	Railway Colonies redevelopment	350	450	650	800	**2,250**
TOTAL		**17,810**	**57,222**	**44,907**	**32,557**	**1,52,496**

The figure below depicts the annual phasing of the assets by total value generated.

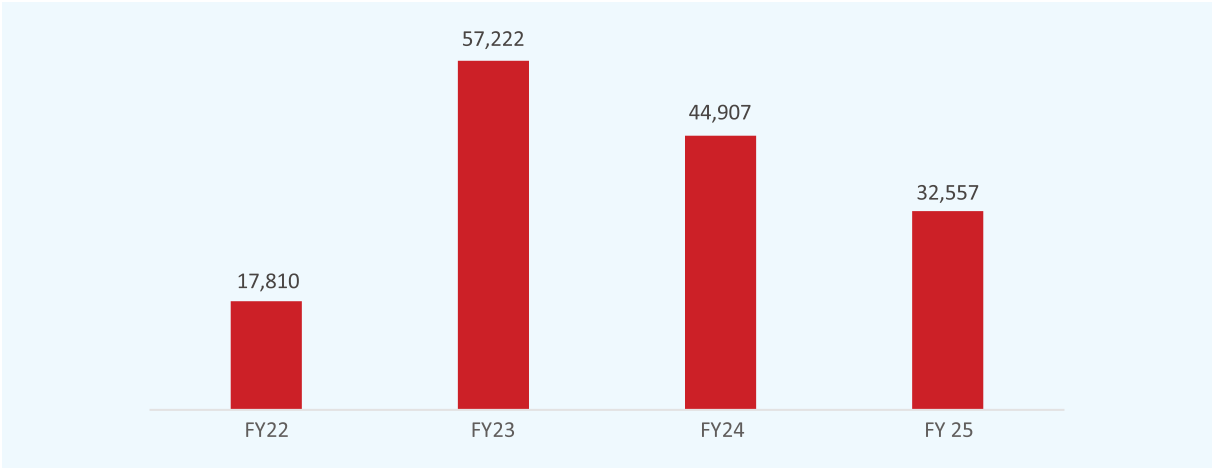


Figure 10: Pipeline phasing – Railway assets (Rs crore)

3.2.4 Marquee Projects

A. Station Redevelopment Programme

Redevelopment of railway stations across India is a priority agenda of Ministry of Railways, Government of India. Indian Railways has initiated the redevelopment of railway stations with the primary objectives of providing world class passenger amenities, making them hubs of economic development and re-establishing them as the nerve centres of cities. This initiative is being driven by the Government with the participation of private players as a part of PPP projects. This is envisaged to be achieved through leveraging the commercial development opportunity of land and air space surrounding the station and to create seamless travel and facilities experience to passengers with the aim to future-proof these important travel nodes.

Salient features and key locations

B. Private participation in Passenger Train Operations

Indian Railway (IR) has launched the project to invite private participation in running of passenger trains over its network. Indian Railway (IR) is one of the world's largest railway systems and the passenger business is estimated to be worth $ 7.5 billion annually. The passenger demand for IR is robust as it has withstood long term modal shifts and has consistently reported unserved demand levels of ~15% in form of waitlisted passengers. The cluster of projects identified envisages private train operations on ~109 pair of routes structured as 12 clusters with a targeted private investment of Rs. ~30,000 crore. The project will incrementally add over 150 modern trains to the IR system. The clusters in the current set of packages being bid out are dense demand routes and include Delhi-Mumbai, Delhi-Chennai, Mumbai-Chennai among others. The Model Concession Agreement guiding principles for the private passenger train operations has already been developed. Based

on market testing of current cluster of transactions, the model may be replicated on many more routes in future.

The bidding process for a batch of 12 clusters has been undertaken.

Salient features and clusters in the Private Passenger Train Operations project

Private Passenger Trains Operations (PTO)

- Anchored by Indian Railway
- RFQ invited for 12 Clusters comprising 109 OD pair of routes through introduction of 151 modern Trains to increase high quality trains operated on the network
- Concession Agreements developed; Typically DBFO
- Long term PPP concession ~ 35 years
- Right to determine and collect market linked fares; Access to Indian Railways' maintenance infrastructure
- Rationalised track access charges + Revenue share

Clusters in the current batch of projects

Sl No.	Cluster Name
1	Mumbai 1
2	Mumbai 2
3	Delhi 1
4	Delhi 2
5	Chandigarh
6	Howarh
7	Patna
8	Prayagraj
9	Secunderabad
10	Jaipur
11	Chennai
12	Bengaluru

3.2.5 Overview of other railway assets

This section comprises of an overview of other railway asset classes that have been identified and included in the pipeline. Some of these transactions are in the preparatory stage hence the structures and modalities for monetisation are indicative in nature and may evolve based on detailed transaction due diligence.

A. Track, Signalling, and Overhead Equipment (OHE) infrastructure

Indian Railways (IR) with its network of over 67,000 route kms is the world's fourth largest railway network in terms of size. Ministry of Railways may explore monetisation of its operating track infrastructure bundled with signalling and OHE/ TRD (Traction & Distribution) assets for selected origin-destination (O-D) pair through a structured financing mechanism. InVIT based structure may be explored for monetisation of this asset class. Besides, monetisation of track infrastructure, improvement in operating efficiency in long term is one of the key objectives guiding the transaction.

Table 5: Snapshot of Indicative Transaction structure

Asset Bundle	◆ Track infrastructure bundled with signalling and OHE/ TRD assets (specified assets) for a selected origin-destination (O-D) pair
Indicative monetisation instrument	◆ Infrastructure Investment Trust

Tenure	◆ Fixed term of 25 years (assets to be handed back to IR at end)
Structure	◆ Creation of an SPV for holding long term rights to earn Track access charge (TAC) revenue from IR for the specified asset bundle ◆ SPV's TAC revenue stream to be monetised by creation of an InvIT sponsored by IR, units of InvIT divested under a private placement/ public listing ◆ Maintenance payments (for routine/major upgrades to be borne by the SPV on pre-defined terms) ◆ Project manager may undertake O&M by subcontracting to IR
Revenue model	◆ Pre-determined Track Access Charges (TAC) (Rs per train km) paid by IR to the SPV ◆ Traffic guarantee from IR may be explored to provide predictability of operating environment to SPV
O&M charges paid to IR by SPV	◆ O&M responsibility of the asset bundle retained by IR who is appointed as the Project Manager by the InvIT ◆ Fixed annual amount, which may be escalated at a pre-specified rate ◆ A variable component may be linked to performance and efficiency ◆ Pre-specified outgo may be apportioned towards renewal and major maintenance expenditure
Status	◆ Transaction Structuring underway

The structure enables IR to tap domestic and foreign long-term capital at competitive cost of funds. Divestment of units of the InVIT provides upfront capital proceeds to IR as the sponsor, O&M expenses as sub-contracting revenue, and dividend income on the residual equity holding in InvIT. TAC (Track access charge) linked to utilisation incentive and availability. The figure below provides an overview of the transaction structure.

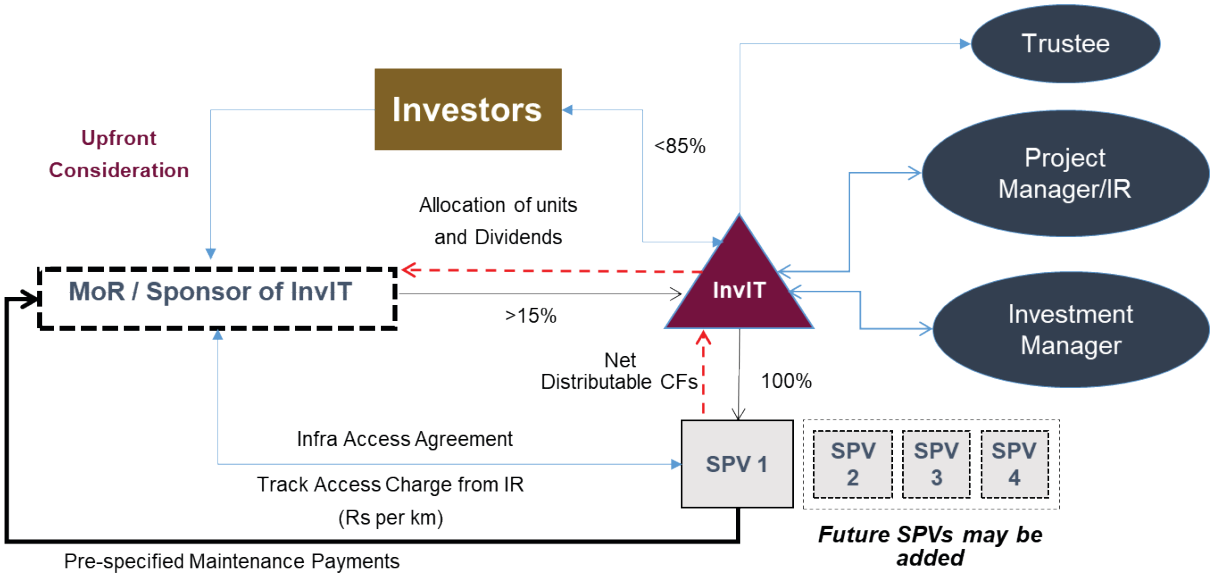


Figure 11: Monetisation of Track OHE infrastructure – indicative transaction structure

B. PPP for redevelopment of Good Sheds as Private Freight Terminals / Multi Modal Logistics Hubs

IR allows PFTs on railway land adjacent to stations with a view to utilising vacant land parcels better, increasing PPP investments, and boosting freight revenue. Commercial viability of private terminals is higher in case of terminals' proximity to cement industries, ports, and power plants, which are key consumption centres. At present, private freight terminals are built by private investors on private land, and connectivity is provided by railways to the operators on lease.

During October 2020, Ministry of Railways issued a Policy[18] on Development of Goods sheds aiming at augmenting terminal capacity through private participation by allowing setting up of new goods-shed facilities and developing existing railway owned goods-sheds at a larger number of stations.

Salient features of the Good Sheds Policy of IR

Private parties permitted to develop goods wharf, loading/unloading facilities, facilities for labour (resting space with shade, drinking water, bathing facilities, etc) approach road, covered shed and other related infrastructure. The facilities are to be created/ developed through the private investment.

Developments for the proposed facility to be as per approved Railway designs, standards and specifications.

The facilities created by the private party shall be used as common user facility, and no preference or priority will be granted to the traffic of the party over the traffic of other customers.

Responsibility for maintenance of assets and facilities created shall be vested with the party during the agreement period.

Incentives under the scheme: Share in the Terminal Charges (TC) and Terminal Access Charges (TAC), as the case may be, for all the inward and outward traffic dealt at the goods-shed for five (05) years, from the date of completion of the work.

The party seeking the least share (TC/TAC) to be selected through competitive bidding.

Additional revenue–utilization of available space for establishing small canteen/tea-shop, advertisements, etc.

C. Hill Railways

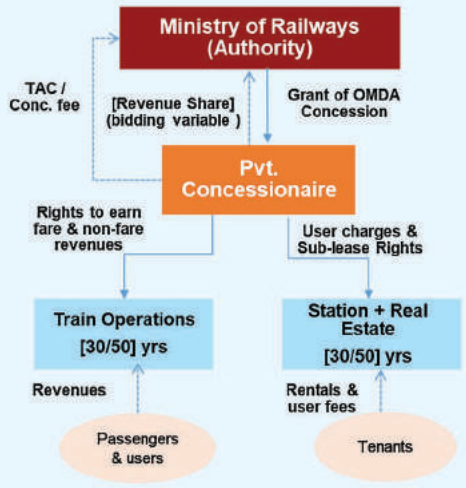
The Mountain railways of India consists of fully functional and operational railways networks in mountains and hilly terrains in India. The key assets are: Darjeeling Himalayan Railway located in the foothills of the Himalayas in West Bengal, the Nilgiri Mountain Railways located in the Nilgiri Hills of Tamil Nadu, the Kalka Shimla Railway located in the Himalayan foothills of Himachal Pradesh and the Matheran Railway located in Maharashtra. These locations are domestic tourism hubs with a heritage based appeal to these railways.

18 https://pib.gov.in/PressReleasePage.aspx?PRID=1664798

HILL RAILWAYS	Kalka Simla	Darjeeling Hill Railway	Nilgiri Mountain Railway	Neral Matheran Railway
				
Operational since	1903	1879	1908	1907
Length in kms	96.6 kms	~88 kms	~ 46 kms	~ 20 kms
Journey time (Hours)	~ 4-5 Hrs	5.30 Hrs	~ 3.5–5 Hrs	~ 2-2.5 Hrs
Fare / Trip /Person (INR/Person)	25/- (Passenger Train); INR 550 – 630/- (First Class Express Trains)	1,420 – 1,700/-	175 – 520/-	30 – 618 /-
Ridership (mn)	0.77	0.91	0.60	1.02
Key features of Locomotives	• Oldest steam engine (still operational) dates back to 1892, Hill Bird • 103 Coaches (includes ZDM-3, Diesel Rail Car and Passenger Coach)	• Most important element of DHR is its Class B Locomotives (Oldest Loco: Baby Sevok, 1892) • 13 Steam Engines and 6 Diesel Engines. • 73 coaches in total	• Oldest steam engine (built in 1918, coal fired) is still operational • 43 coaches, 28 are functional	• 11 Locomotives (1 Steam + 10 Diesel); • Total 49 coaches (across all categories)
Heritage status	2008	1999	2005	UNESCO's potential World Heritage Sites

Mountain railways may be monetised through the OMD based PPP model as the infrastructure may require rehabilitation and augmentation investment. The station and adjoining real estate on the Railway land may be bundled along with train operations to bring in viability and commercial attractiveness. Snapshot of a PPP based transaction structure is as below.

Snapshot of Indicative Transaction structure:



Potential monetization mode : OMDA based PPP model

Concession Period: 30 to 50 years, may be kept extendable

The Heritage nature of Project Assets and aesthetics to be preserved by Concessionaire

Any development / upgradation shall be subject to provisions of concession agreement

Concessionaire's revenues : Market linked

- ☐ Ticketing & value-added services for train ops
- ☐ Branding & Advt. rights in Train & stations
- ☐ Station User charges
- ☐ Commercial lease rentals in station premises & other designated Real estate site (if any)

Indicative Bidding Parameter : May be kept as Revenue share

Concession fee & Track Access Charges (TAC) may be pre-specified in CA

D. Dedicated Freight Corridor (DFC)

DFCCIL, an SPV, was established in 2006 under the administrative control of the MoR to undertake planning, development, mobilisation of financial resources, construction, maintenance, and operations of Dedicated Freight Corridors (DFCs). The two DFCs under implementation – Eastern and Western – are being funded through a mix of equity from the MoR and loan from multilateral development banks – the World Bank and the Japan International Cooperation Agency (JICA). These two DFCs, with an estimated project

cost (excluding land) of Rs 95,238 crore (as per status as on December 2020), are being funded through (a) JICA loans (47%), (b) World Bank loans (17%), and (c) the MoR's equity contribution (36%). The Western DFC is primarily funded through loans from the JICA and equity from the MoR, whereas the Eastern DFC is being funded through loans from the World Bank and equity from the MoR. DFCCIL is planning to develop a section of the Eastern DFC (Sonnagar-Dankuni) via the PPP mode.

In terms of revenue model, the key customer of DFCCIL would be IR, with DFCCIL earning revenue through a TAC mechanism. IR would decide the trains that would run on the DFC network. Freight booking would be done through IR, which would then assign traffic to the DFCs. TAC would be determined by DFCCIL in a way that it covers fixed and variable components of providing and maintaining track infrastructure.

Overview of Eastern and Western DFCs

The Western DFC project comprises 1,504 km of a double-line electrified track from JNPT to Dadri via Vadodara-Sanand-Palanpur-Phulera-Rewari. The alignment is kept parallel to existing lines, except provision of detours. The Western DFC is entirely on a new alignment from Rewari to Dadri and also from Sanand to Vadodara. This new line portion is designed to connect with the existing New Delhi-Mathura line at Asaoti railway station from Pirthala station of DFC. Moreover, the Western DFC is proposed to join the Eastern Corridor near Dadri.

Traffic on the Western Corridor mainly comprises ISO containers from JNPT and Mumbai Port in Maharashtra, and ports of Pipavav, Mundra, and Kandla in Gujarat destined for ICDs located in northern India, especially at Tughlakabad, Dadri, and Dhandari Kalan. Besides containers, other commodities moving on the Western DFC are POL, fertilisers, foodgrains, salt, coal, iron & steel, and cement. Further, owing to its faster growth than other commodities, the share of container traffic is expected to increase progressively. The maximum number of trains in the section is projected at 230 (both in UP and DN) in the Ajmer-Palanpur section in 2024.

The Eastern Corridor, with a route length of 1,861 km, consists of an electrified single-line segment of 401 km between Ludhiana and Khurja and an electrified double-line segment of 1,460 km between Khurja – Kanpur–Mughalsarai – Sonnagar- Dankuni.

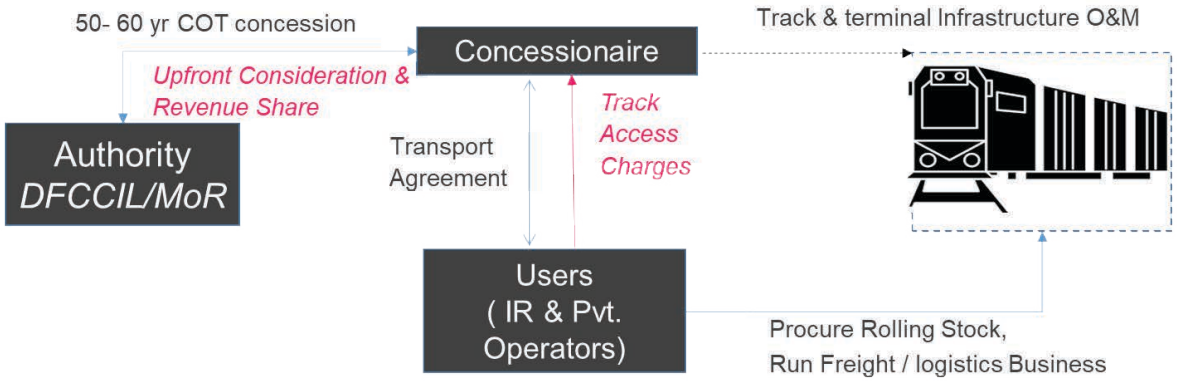
Traffic on the Eastern Corridor is mainly dominated by coal for power plants in the northern region of Uttar Pradesh, Delhi, Haryana, Punjab, and parts of Rajasthan – from coal fields situated in eastern part of the country, finished steel, foodgrains, cement, fertilisers, and limestone to steel plants and general goods.The number of trains with axle load of 25 tonne works out to a maximum of about 163 in the UP and DN direction in the Sonnagar-Mughalsarai section of the Eastern Corridor.

> Railways will monetise Dedicated Freight Corridor assets for operations and maintenance, after commissioning.
>
> —Union Budget 2021

Monetisation Strategy

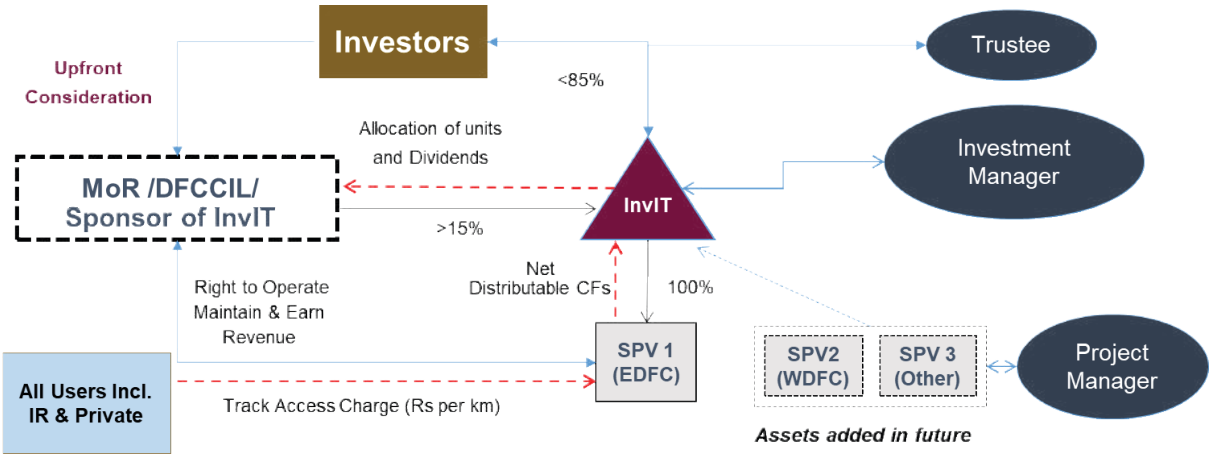
To attract large commercial investors, monetisation strategy for dedicated freight corridors would need to be designed along with ground work for monetisation of assets such as feasibility studies, transaction structuring and assessment of commercial potential. Once the project is substantially commissioned and there is visibility of revenue model, suitable models may be adopted. Two potential instruments may be explored for monetisation of dedicated freight corridor; InVIT and Carry Operate Transfer (COT) Concession. The target date of commissioning of the project is June 2022 with certain sections slated to be commissioned by December 2021. Certain sections of WDFC and EDFC have been commissioned already. Monetisation of the freight corridors in phases may accordingly commence post commissioning.

Indicative Transaction structure and terms under a COT Concession



Authority	◆ Ministry of Railways / DFCCIL
Concessionaire Scope	◆ Grant of a Carry Operate Transfer (COT) concession for operation and maintenance of Eastern and Western Dedicated Freight Corridors in separate packages
Concession Period	◆ 50-60 years
Revenue	◆ TAC (to be indicated under the Concession Agreement) with pre-specified indexation mechanism
Traffic	◆ Minimum traffic guarantee may be explored (as a % of existing traffic)
Monetisation consideration	◆ Monetisation value may be paid upfront (or in installment) ◆ Additionally, Revenue sharing mechanism from additional traffic over minimum traffic guarantee may be specified as per pre-specified percentage
Authority support	◆ Minimum traffic guarantee ◆ Approval for non-IR freight trains ◆ Reasonable support for approvals/clearances
Selection process	◆ Eligibility: threshold financial capacity (minimum net worth, annual revenue, profitability, etc.) ◆ Open competitive bidding process similar to PPP projects

Indicative Transaction structure & terms under an InvIT model



Key terms	• Asset Bundle OR Right to operate, maintain and earn revenue from such assets transferred under an InvIT • An SPV may be created sponsored by MoR/DFCCIL • Fixed term of 50-60 years (*Assets to be transferred to MoR/DFCCIL at end*) • Appointment of Trustee, Investment Manager, Project Manager as per SEBI regulations • Units of InvIT divested under a private placement/public listing (15% for at least 3 years; possibility of higher holding) • Professional Project Manager should undertake the O&M • Minimum Traffic Guarantee by Authority (As percentage of Existing Traffic) may be explored

Table 6: Comparative assessment of COT Vs InVIT Models for monetising Freight Corridor

	Carry, operate and transfer (COT)	InvIT
Lead time for Monetisation post commissioning	May be monetised as soon as a particular stretch is operational	May need to establish 1 year of operational history as per SEBI regulations
Target Investor category	Infrastructure focussed investors / developers and funds	Both public listing and private placement possible; possibility to tap retail investors in public listing
Valuation driver	Premium for control	Premium for liquidity
Future Cashflows for Authority	Revenue share to capture windfall gains	Dividend against holding of MoR/ DFCCIL
Phased addition of assets	Through grant of standalone PPP concessions	Possible by way of future offerings by the InVIT

3.3 POWER TRANSMISSION

Summary

28,608 ckt km	17%	Rs 45,200 crore	8%
Asset base considered for monetisation over FY22-25	Asset planned for monetisation as % of asset base over FY22-25	Indicative value over FY22-25	Share in overall NMP in value terms

3.3.1 Potential asset base

India's economic growth hinges on rapid growth in the energy sector. Energy consumption in the country has almost doubled since 2000 and is set to grow further. This calls for huge investments in infrastructure creation and augmentation over the next few years. As of March 31, 2019, the transmission asset base (in terms of network length) in India aggregated to a total length of 4,13,407 circuit kilometre (ckm), growing at a healthy CAGR of 7% since 2015. The shares of the Centre, States and private sector in the overall length of the transmission lines were 38%, 54%, and 8%, respectively.

The potential asset base considered for NMP under power transmission asset class is the transmission infrastructure of the nodal central transmission utility, Power Grid Corporation of India Ltd (PGCIL). As of September 2020[19], PGCIL owned and operated about 1,68,140 circuit kilometre (ckt km) of transmission lines and 252 sub-stations, with an aggregate transformation capacity of 419,815 MVA. Of the total transmission network, 93% was 400 KV and above. PGCIL owns inter-state transmission assets comprising of both the regulated tariff mechanism (RTM) and tariff-based competitive bidding (TBCB) modes.

The bulk of the PGCIL's assets (to the extent of about 95%) belong to the regulated assets category, viz. RTM which works on a cost-plus model providing for an assured return on equity and cost recovery through the tariff fixed by the regulator over 5 year control periods.

19 https://www.bseindia.com/downloads1/Powergrid%20Infrastructure%20Investment%20Trust_DOD.pdf

TARIFF BASED COMPETITIVE BIDDING ("TBCB")[20]

Being a critical link in the power sector value chain, the transmission sector needed more attention to cater to the growing power demand and the increasing generation capacity. Investments in the form of budgetary allocations, internal accruals and public sector undertakings ("PSU") borrowings were unable to fund this growing need. Keeping this in mind, the Electricity Act permitted competition in the power sector, including in the power transmission sector.

The policy framework for TBCB projects was introduced in 2011, which required for most transmission network development at the Centre to take place through the TBCB route unless for exceptions created under the policy necessitating RTM as a mode. Ministry of Power (MoP) constituted the National Committee on Transmission (NCT) to identify inter-state transmission projects to be developed through competitive bidding and to oversee the process of competitive bidding. Ministry of Power has also issued standard bidding documents, such as request for qualification ("RFQ"), request for proposal ("RFP"), transmission service agreements and share purchase agreements, and also appointed PFC Consulting Limited and REC Transmission Projects Company Limited as the bid process coordinators (each, a "BPC") for carrying out the bidding process.

Under TBCB mechanism, projects are bid for under a build, own, operate and maintain ("BOOM") model as per standard bidding documents notified by the MoP, which comprises a request for proposal and request for qualification and standard format of transmission agreement and share purchase agreement. The annual transmission charge for a 35-year period is discovered through this bidding process.

In the power sector, an estimated total capital expenditure of Rs ~14 lakh crore is envisaged by both the Centre and states over FY 2020 to 2025. As per NIP, an estimated total capital expenditure of Rs. ~3 lakh crore would be incurred on electricity transmission projects over financial years 2020 to 2025. In the transmission segment, PGCIL is undertaking major projects such as HVDC Bipole Link between western and southern regions, interstate Green Energy Corridor Transmission Link and construction of substations. Monetisation of seasoned transmission assets could help finance creation of new infrastructure, by bringing in much-needed capital.

Factors influencing monetisation of the asset class

Consistent and stable cash flows from assets with long-term visibility and low counterparty risks: Revenue for electricity transmission is generated from contracted transmission charges under long-term Transmission Service Agreements (TSAs), with a low level of operating risk and an availability-based payment mechanism. The recent PGCIL InvIT was backed by TBCB assets where the transmission charges are fixed for a period of 35 years, providing stability, consistent cash flows, and long-term visibility.

20 Powergrid InvIT filing document

Established track record of participation by private-sector and institutional investors: The transmission sector in India has witnessed increased participation of both large domestic and institutional investors, owing to the stability of asset class and availability based business model.

Stable availability and robust asset profile of transmission assets:

- Inter-state power transmission projects receive transmission charges on the basis of availability, including in case of outage due to a force majeure event, subject to requisite approvals and irrespective of the quantum of power transmitted through the system
- The availability for transmission projects was above 98% in the first nine months of FY 2021, and the operations of these projects were unaffected as they are classified as essential services making transmission a resilient asset class

3.3.2 Assets considered for monetisation

The transmission assets considered for monetisation over FY 2022-25 are ~28,608 circuit (ckt). This includes PGCIL's transmission assets of 400 KV and above. The total assets for monetisation constitute around 17% of the total asset base of PGCIL.

- FY 2022 : During FY22, –Transmission assets considered with indicative value of Rs 7,700 crore. Assets to be monetized during FY22 includes the PGCIL's InvIT issue transaction for which has already been concluded during Q1 of FY22.
- FY 2023, FY 2024 and FY 2025 –Aggregate length of 23,734 ckt kms has been considered for monetisation during this period.

Approach to monetisation

In the case of power transmission assets, the assets considered for monetisation (in ckt kms) and the indicative monetisation value (Rs crore) over FY22-25 are arrived at based on the following steps:

Step 1 – Asset considered for monetisation

- Out of the total transmission asset base of PGCIL, the scale of transmission assets with capacity of 400 KV and above (1.56 lakh ckt kms) was estimated. The monetisation potential is available in this category of long-distance transmission assets. This includes a mix of TBCB and RTM assets. While most TBCB assets of PGCIL are expected to be bought under the PGCIL InvIT over a period of time, inclusion of additional assets from RTM category is critical to achieve the required scale in monetisation.
- The transmission assets considered for monetisation over FY 2022-25 depend on factors such as transmission charges, asset availability, and asset mix. The total transmission assets for monetisation are considered at ~28,608 ckt kms.

Step 2 – Arriving at the indicative monetisation value

- A Market approach has been adopted to determine indicative monetisation value. Reference valuation (in terms of Rs crore per ckt km) has been taken with reference to PGCIL's recently closed InvIT. The indicative monetisation value of the transmission assets has been considered based on a factor of Rs ~1.58 crore per ckt km. It may be noted that this is only an indicative value and the actual realisation and valuation would depend of factors such as asset profile, transaction structure and market conditions.

3.3.3 Indicative Value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 45,200 crore** over FY 2022-25, as follows:

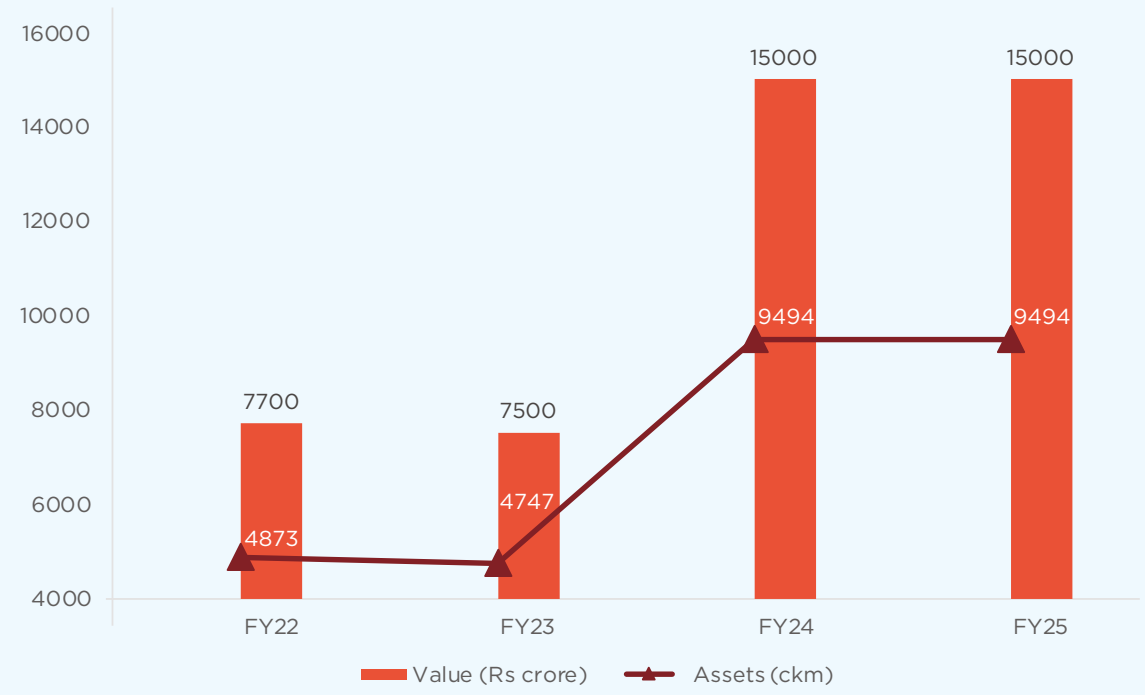


Figure 12: Pipeline phasing – power transmission (Rs crore)

3.3.4 Marquee projects

A. Monetisation of Transmission assets of POWERGRID through InvIT

Key features of the InvIT:

— The PGCIL InvIT has been set up with the objective of monetising its completed and operational transmission projects through alternative sources such as capital markets and by diversifying its investor base

- Union Cabinet approved monetisation of assets of POWERGRID, through Infrastructure Investment Trust (InvIT) model in September 2020. This is the first InvIT by a PSU.
- Pursuant to the Cabinet approval, POWERGRID monetised its 5 high voltage transmission assets held by POWERGRID in form of Special Purpose Vehicles (SPVs) with an aggregate gross block of Rs. ~7,220 crore as on March 31, 2020.
- The InvIT will initially have IPAs, comprising five power transmission projects located across five states of India
- The projects comprise 11 transmission lines, including six 765 kV transmission lines and five 400 kV transmission lines, with a total circuit length of ~3,700 ckt km, and three sub-stations with 6,630 MVA of aggregate transformation capacity and 1,956 km of optical ground wire
- Each of the IPAs has in place a long-term TSA of 35 years from the scheduled COD of the relevant IPA
- Upon expiry of the term of a TSA, the relevant IPA can apply to CERC for renewal if it is not unilaterally extended by CERC
- There is high visibility of potential revenue and cash flows from the InvIT due to availability of additional 18 projects involving an investment of Rs 22,500 crore to be offered as a "project pipeline" to the InvIT

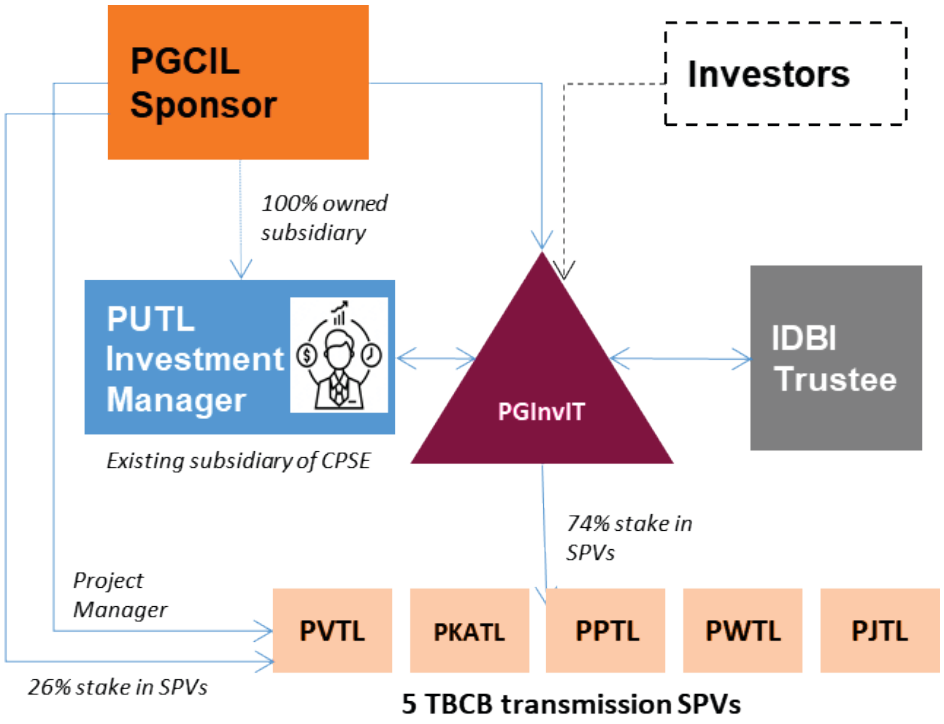


Figure 13: Proposed structure – PGCIL InvIT

B. Monetisation of RTM Transmission assets of POWERGRID

Cost-plus or RTM assets are based on regulated return or cost-plus tariff models, involving regulated returns on invested equity and are set by the regulator at intervals of 5 year control periods. Typically, such assets are housed in the parent entity's balance sheet and not under separate SPVs. Monetisation for such assets hence may require a scheme of arrangement / demerger process which may pose associated transaction overheads such as continuation of tax holiday on assets, capital gains tax, stamp duty etc., due to asset transfer.

The government vide the Finance Act, 2021 has amended various sections to make the reorganisation of a PSU into separate companies a tax-neutral transaction. With the Finance Act, 2021, the government has effected amendments to the Section 47 of the Income Tax Act which allows for transfer of capital assets by a PSU to another notified public sector company, central government or state government to not be regarded as transfer. Such transfer shall be under a plan approved by the central government.

Strategy for monetising RTM assets

- In order to effect value unlocking, carving out the revenue rights on these assets to a separate SPV by way of a special demerger may be explored as the investors value completed projects differently than the portfolio of assets in the balance sheet which also includes under construction risks and corporate risks. Tax efficiencies can be brought in by structuring of transaction as revenue rights as against transfer of assets into an SPV.
- Demerged SPV may be assigned rights to receive transmission charges as against asset. Since ownership does not change hands, stamp duty impact can be minimized.
- Regulator's consent and lenders' approval would need to be obtained prior to transaction process
- 80 (I) a: Impact can be minimized by choosing assets which have minimal negative impact on valuation or 80 (i) a benefit has been exhausted substantially

A monetisation model similar to the toll-operate-transfer (TOT) model may also be explored for successful monetisation of RTM transmission assets. The TOT model has been conceptualised by MORTH for undertaking the monetisation of operational toll road projects. This model focuses on income yielding assets with established cash flows, and there is no transfer of ownership of assets from the Authority to the Concessionaire. The concessionaire retains the revenues and is responsible for undertaking O&M obligations only, and this model does not involve the concessionaire assuming any construction risk. Besides, capacity augmentation, if required, is undertaken by the Concessioning authority at its own cost. Certain distinctions however exist between statutory bodies such as NHAI (which has in recent past adopted the TOT model) and PSUs such as PGCIL which functions as a corporate. The key aspects which need to be considered for adopting a TOT based model for RTM transmission assets are:

Aspect	NHAI	PGCIL
Regulatory	Can enter into concession agreements	Does not have regulatory powers/authority to grant transmission license/concessions for transmission business Regulator approval may be required for an investor to obtain a license from CERC/ SERC without owning the project assets
Income tax on upfront payment	Income of NHAI exempt (Sec.10(23C)(iv) of IT Act)	Payable at corporate rates
Toll/tariff determination	Approves toll rates based on formula linked to WPI	Tariff is decided based on Tariff norms; Challenges in ARR filing due to non-ownership of project assets by a concessionaire may need to be addressed at the time of obtaining regulator's consent

3.4 TELECOM

Summary

~ 2.86 lakh km of Bharatnet Fiber 14,917 Nos. of BSNL & MTNL towers	Bharatnet Fibre – 57% Towers – 21%	Rs 35,100 crore	6%
Assets for monetisation in FY 2022 to 2025	Asset monetised as % of asset base (FY 2022-2025)	Indicative monetisation value in FY 2022-2025	Share in overall NMP in value terms

3.4.1 Potential asset base

The potential asset base considered are telecom tower assets under the central sector entities, namely Bharat Sanchar Nigam Ltd (BSNL), Mahanagar Telephone Nigam Ltd (MTNL) and Bharatnet optical fibre assets under the central sector entities, namely Bharat Broadband Network Limited (BBNL) and Bharat Sanchar Nigam Ltd (BSNL). BSNL currently has 68,000 towers of which ~13,567 towers have co-locations from third party telecom operators. With more than 70% of BSNL towers fiberized, the tower infrastructure is amenable for 4G and 5G deployments. The tower assets with co-location based revenue stream have been considered as potential asset base for monetisation. Similar to BSNL, MTNL also has about ~1,350 towers with co-location/ rentals which may be suitably bundled along with BSNL tower assets for the purpose of monetisation.

About ~2,86,255 km of existing fibre assets of BBNL and BSNL, laid under the Bharatnet project spanning over 16 states has been considered for monetisation through PPP mode. Bharatnet is a flagship project of Government of India (GoI) funded by Universal Service Obligation Fund (USOF), Department of Telecommunications (DoT), with an aim to provide high speed broadband connectivity to all Gram Panchayats (GP) and extension to their villages across India. The network infrastructure under the Bharatnet project is a national asset and accessible on a non-discriminatory basis to all eligible service providers to enable them to provide services in rural areas.

Factors influencing monetisation of the asset class

Potential for deepening fibre penetration – The level of fixed broadband (FBB) penetration in India is estimated at 6.5%, which is considerably lower than that of the Asian peers (China 84%, Sri Lanka 26.2%, and Vietnam 49.5%). One of the primary challenges to this scale-up is the operational constraints in the deployment of fibre in the intra-city and last mile network segments. The Bharatnet initiative is aimed to plug this gap in FBB. Nevertheless, the considerable untapped market and the potential for greater penetration of fibre network is expected to generate investor interest in these assets.

Government policy push – The government's policy push to meet the supply-side gap is one of the critical drivers for growth over the medium term.

- The National Digital Communications Policy (NDCP) 2018 serves as an anchor for India's transition to a digitally-empowered economy. Under NDCP 2018, the government provides incentives to tower companies to facilitate the establishment of mobile tower infrastructure by: (i) extending incentives and exemptions for the construction of telecommunication towers; (ii) according accelerated right of way (ROW) permission for telecommunication towers in government premises; and (iii) promoting and incentivising deployment of solar and green energy for telecommunication towers.
- The Bharatnet project is the backbone of 'Digital India' and aims to reduce the digital divide between urban and rural India. The project involves laying of optical fibre cable (OFC) between block and gram panchayats. This infrastructure would be made available to service providers on a non-discriminatory basis who, in turn, would utilise it to provide affordable high-speed broadband to rural citizens and institutions. As of March 19, 2021, about 5.13 lakh km of OFC laying has been completed covering 1.57 lakh gram panchayats.

Established processes for passive infrastructure sharing (tower assets) – India has seen active participation between telecom providers on passive infrastructure sharing. Currently, the country has seen robust frameworks for passive infrastructure sharing between telecom operators called Master Service Agreements (MSA). These agreements clearly spell out the pricing, tenure, roles and responsibilities of the parties, and other binding terms. The establishment of such formal frameworks will bring in the necessary transparency to the monetisation process and help investors identify the risks upfront.

3.4.2 Assets considered for monetisation

The following core infrastructure assets have been considered for monetisation during FY 2022 to 2025:

- **Bharatnet Fibre assets**: ~2.86 lakh route-km of Bharatnet fibre assets proposed to be bid out through PPP model by DoT through nine packages comprising 16

states. The bidding process for this project is expected to be initiated during FY22 and the actual outlay of capex will happen over 2 years from the date of award.

- **BSNL & MTNL Tower assets**: ~14,900 towers (~13,567 towers of BSNL and ~1,350 towers of MTNL) with co-locations from third party telecom operators have been considered for monetisation during FY23. The feasibility study and transaction preparation work for the same is presently being undertaken.

Approach to monetisation

The scale of asset monetisation is guided by the urban-rural distribution of the assets. In case of tower assets, 14,900 towers have been considered.

Tower Assets: The indicative monetisation value for tower assets is arrived at based on the EV approach factoring in available data on revenue earned from co-location rentals, pass through charges, O&M and assumptions based on tower tenancy, ramp up over a 30 year period. NPV of EBITDA has been taken as the indicative monetisation value from tower asset monetisation. The same is indicative only and the actual value realisation is a function of multiple factors intrinsic utilisation, tariff, market conditions, MSA terms and transaction structure. Further, there are two reference transactions in the market for monetisation of tower assets in the private sector which have seen valuation per tower asset of about Rs ~38 lakh.

Bharatnet Fibre Assets: The indicative monetisation value for Bharatnet fibre assets is considered based on Capex approach. The estimated capex for 9 Bharatnet packages envisaged to be tendered out in FY 2022 has been considered at Rs 26,300 crore. It may be noted that these packages are being structured on PPP mode with grant / premium as the bidding parameter. The actual private investment towards these packages could be lower than the estimated capex and a portion of capex may be met out of grant. The capex phasing towards the assets has been assumed as 60% during year 1 and 40% during year 2.

3.4.3 Indicative Value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 35,100 crore** for FY 2022 to 2025, with the following asset phasing:

- **Bharatnet Fibre assets**: Indicative monetisation value of Rs. 26,300 crores has been considered as over FY23 and FY 24. It may be noted that the actual private investment towards these packages could be lower than the estimated capex and a portion of capex may be met out of grant. The capex phasing towards the identified packages has been assumed as 60% during year 1 (assumed as FY23) and 40% during year 2 (assumed as FY 24).
- **BSNL & MTNL Tower assets** : Indicative valuation of Rs. 8,800 crore has been considered as monetisation value to be accrued split equally over FY22 and FY 23.

Table 7: Phasing of monetisation value – Telecom assets (Rs cr)

Sl no.	Asset type	FY22	FY23	FY24	FY25	Total
1	Bharatnet Fibre	—	15,780	10,520	—	26,300
2	BSNL & MTNL Tower assets	—	4,400	4,400	—	8,800
TOTAL		—	**20,180**	**14,920**	—	**35,100**

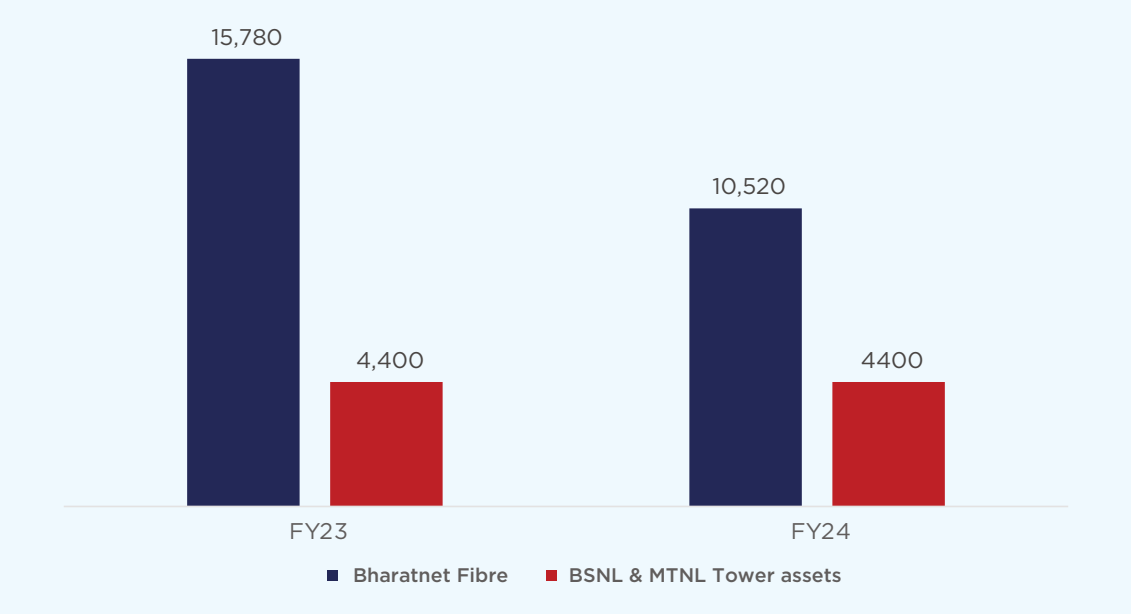


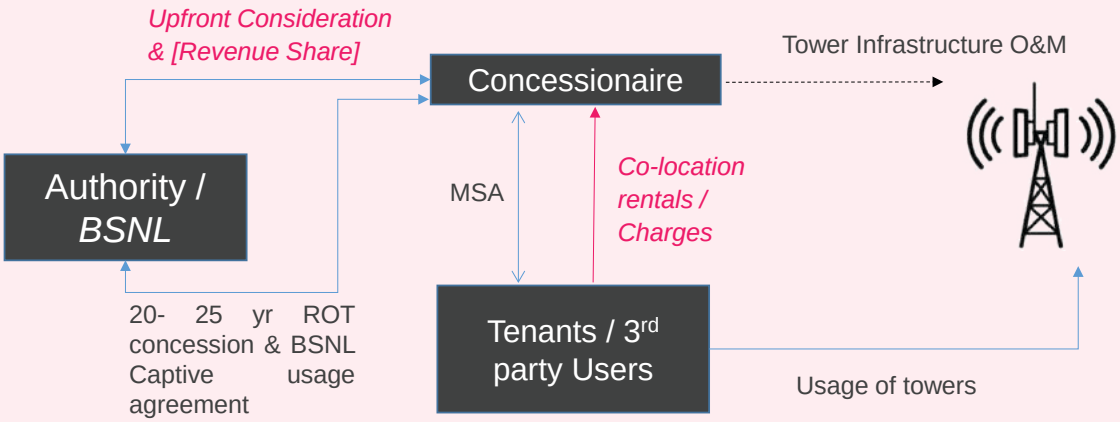
Figure 14: Pipeline phasing – Telecom assets (Rs crore)

3.4.4 Monetisation potential of telecom towers of BSNL

BSNL currently has about 68,000 towers, of which about 13,000 provide co-location facilities to other telecom operators. BSNL is looking to increase the tenancy of these towers to boost revenue. In the past few years, BSNL's revenue through lease rentals has been increasing with rise in the number of tower co-locations. More than 70% of the BSNL sites are connected through fibre compared with the industry average of less than 25%. Of the total 5.8 lakh towers in India, only 1.5 lakh are connected through fibre which provides a huge competitive advantage to marketability of tower infrastructure of BSNL. With the existence of a large number of BSNL towers at own exchange sites, there is ample space to house the equipment. Space has been a key issue in enhancing co-location through the number of tenants or augmenting technology. Further, BSNL's tenancy ratio on towers is 1.2 compared with the average of 1.9 for private players. In view of all of above, there is significant scope for monetisation of tower rental receivables through a PPP based concession which will also help in generating upfront equity liked funds for BSNL for deployment towards capex.

Rent-Operate-Transfer (ROT) Concession model for Telecom towers

This model entails grant of a long-term PPP concession for the utilisation of operational pipeline capacity through a PPP concession akin to the TOT model successfully employed by NHAI in the roads sector. The right to rent, operate and maintain the tower rentals will be granted to a concessionaire for a pre-defined concession period as against an upfront consideration, which could be the bidding parameter.



3.4.5 Monetisation potential of Bharatnet Fiber Network

The project is proposed to be implemented through DBFOT model under PPP mode. The implementation shall be through an SPV wherein the Concessionaire, selected through a competitive bidding process, would enter into a Concession Agreement with the Authority to Develop, Build, Finance, Operate and Maintain the Project Facilities over the pre-agreed Concession Period and Transfer the same to the Authority or its designated agency at the end of the Concession Period (DBFOT).

- Creation and Upgradation: To build and upgrade network infrastructure across GP and Block locations and extend the network to connect villages under the scope of work
- Operation and Maintenance: To operate and maintain the existing and the newly deployed network infrastructure
- Utilization: To ensure and manage utilization of existing and deployed capacity across the network infrastructure in a non-discriminatory manner.

Table 8: Project packages envisaged under Bharatnet

Packages	Licensed Service Area (LSA)
Package 1	Kerala, Karnataka
Package 2	Uttar Pradesh (East)
Package 3	Uttar Pradesh (West)

Package 4	Rajasthan
Package 5	Punjab, Haryana, Himachal Pradesh
Package 6	West Bengal
Package 7	Arunachal Pradesh, Mizoram, Tripura, Manipur, Nagaland, Meghalaya
Package 8	Madhya Pradesh
Package 9	Assam

The Concession Period of 25 years (including construction period) from the appointed date (fulfilment of conditions precedent) is envisaged. Upon the expiry of the Concession Period, project facilities would be handed over to the Authority at no cost. Bid parameter shall be Grant or Premium.

3.5 POWER GENERATION

Summary

6.0 GW (~3.5 GW Hydro, ~2.5 GW RE)	6%	Rs 39,832 crore	7%
Assets for monetisation over FY22-25 (GW)	Assets planned for monetisation as % of asset base over FY22-25	Indicative monetisation value over FY22-25	Share in overall NMP in value terms

3.5.1 Potential asset base

The power sector accounts for the largest share of investments in infrastructure. The energy use is projected to grow rapidly to fuel economic development, urbanisation and improved electricity access. India's growing per capita consumption of energy, calls for huge investments in the sector for installation of new capacities and upgradation of existing ones. Electricity Act, 2003 has been a game changing comprehensive legislation in the sector pushing the sector onto a trajectory of commercial growth.

The potential asset base considered is the existing power generation capacity of central sector entities under the Ministry of Power. The total installed capacity of power generation sector in India was 382 GW as on April 30, 2021[21]. The private sector share in installed generation capacity is ~47%. Out of the total installed capacity of 382 GW, about 97.5 GW is in the Central sector and under central PSUs as on April 30,2021. Bulk of this capacity is coal and gas based. Based on estimates, the share of central sector agencies according to the nature of fuel is as follows: coal – 74%; gas – 9%; hydro – 15%; and renewables – 3%. Various central sector entities such as National Hydroelectric Power Corporation Ltd. (NHPC), National Thermal Power Corporation Ltd (NTPC), Satluj Jal Vidyut Nigam Ltd (SJVNL) and NLC India Ltd (Neyveli Lignite Corporation Ltd) under Ministry of Coal hold this asset base.

Renewable Energy (RE) segment has made significant strides in recent years reporting substantial increase in capacity on the back of strong government support, private sector investment, favourable policies and incentives, as well as falling cost of generation, particularly for the wind and solar power. There is also strong investor appetite for stable RE assets as evidenced by recent transactions.

21 https://powermin.gov.in/en/content/power-sector-glance-all-india

Factors influencing monetisation of the asset class

Focused government initiatives – The government's recent initiatives to address the weakest link in the power sector, viz. distribution, is expected to boost investor interest in power generation projects. Key steps include the following:

- *Mitigation of counterparty risks associated with discoms* – Introduction of Solar Energy Corporation of India (SECI) as a nodal agency and as an intermediary between the private sector (power gencos) and discoms for RE projects presents a credible counterparty to the private sector vis-à-vis discoms
- *Liquidity support packages* – The government had approved liquidity support packages involving one-time loans of about Rs 1,30,000 crore from Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) to discoms, to clear their overdue payments to power generating companies. To date, total disbursements under this scheme have aggregated to about Rs 75,000 crore. Timely implementation of this liquidity support scheme is crucial in the near term amid the adverse impact of the Covid-19 event and related lockdown
- *Other long-term measures* are being introduced for sustained improvement in discoms' finances – (i) Recent directive from the power ministry to all regulatory bodies to issue tariff orders of all distribution licensees with an objective to ensure timely revision of cost-reflective tariffs[22]; (ii) installation of smart meters and moving the consumers to prepaid basis to reduce AT&C losses; (iii) introduction of a Rs 3 lakh crore reforms-linked distribution reforms scheme involving disbursement of funds to discoms linked to them achieving set milestones
- The government has announced key measures to address investor concerns related to sanctity of contracts not being honoured – the Electricity Contract Enforcement Authority would adjudicate on performance of contracts

ESG-compliant clean energy projects – Investments in clean energy projects help institutional investors comply with their goals related to environmental, social, and governance (ESG) investments. Hence, renewable energy projects are expected to garner significant investor interest over the medium term.

Strong economic case for investing in renewable energy – Increasing investor interest in the renewable generation sector can be attributed to the government placing greater emphasis on promoting renewable energy investments, through measures such as providing fiscal incentives, and enabling more favourable policies and regulatory frameworks. Further, investors are looking at renewable energy as part of their ESG considerations.

3.5.2 Assets considered for monetisation

The assets considered for monetisation over FY 2022-25 aggregate to 6.0 GW. Out of this, about ~3.5 GW is from hydel assets and about ~2.5 GW is RE assets (solar and wind).

22 In compliance with the provisions of Electricity Act 2003 and Tariff Policy 2016

Together, 6.0 GW asset base considered for monetisation constitute about ~6% of total generation capacity under central PSUs. Key entities whose assets have been considered are NHPC, NTPC & SJVNL who own bulk of the hydel assets and NTPC (under Ministry of Power) and NLC (under Ministry of Coal) that own renewable assets.

Table 9: Phasing of pipeline of power generation Assets (figures in MW)

Category	FY 22	FY 23	FY24	FY 25	Total
Hydro assets–existing	373	870	870	1,243	3,355
RE assets – existing	—	245	612	1,106	1,962
Hydro assets – *to be operational*	—	—	59	59	117
RE assets – *to be operational*	—	—	235	300	532
Total	**373**	**1,115**	**1,775**	**2,707**	**5,970**

Approach to monetisation

In the case of power generation assets, the assets considered for monetisation (GW) and the indicative monetisation value (Rs crore) over FY 2022-25 are arrived at based on the following steps:

Step 1 – Asset considered for monetisation

- Monetisation of coal and gas assets has not been considered during the NMP period. The interest of global investors in these assets is limited by the strict ESG guidelines under which they operate and the uncertain long-term potential of the assets. Further, asset-level risks such as the dependence on high-cost LNG imports also limit private-sector participation in gas-based power plants, unless backed by (i) assured supply of cheaper gas, or (ii) policy-level push to incentivise discoms to buy gas-based power, or (iii) bundling with Renewable Energy (RE) power to firm up supply from RE sources
- Operational hydel generation assets are more amenable to monetisation given the offered flexibility in operations and renewable nature rendering them eligible for meeting Renewable Purchase Obligation (RPO) for states. Further, the hydro assets operating under a regulated tariff regime provide a degree of predictability to investors on the return on their invested capital. Around 3.5 GW of hydro assets (which is 27% of the existing hydro generation asset capacity of central PSUs of about 12,864 MW) have been considered for monetisation over FY 2022-25 as these could be seasoned assets and have a proven track record of operations and stabilisation in receivables (days) due from off-takers.
- The existing solar capacity of central sector agencies is estimated at ~2.5 GW, with an additional 1 GW capacity to be added over the next two years. Around 2.5 GW of solar capacity (i.e. ~100% of the existing solar capacity by central PSUs namely, NTPC and NLC, of about 2,447 MW) has been considered for monetisation over

- FY 2022-25 assuming seasoning for such assets. Given that solar generation is largely private-sector driven and given that government should rather take the 'stewardship' role of nurturing the sector and giving policy direction rather than operating these assets, a larger chunk of RE assets have been considered for monetisation.

Step 2 – Arriving at the indicative monetisation value

- The book value approach has been adopted to determine an indicative value of the above-mentioned assets varying based on the vintage value of the asset. (i) the average realisation value for hydel assets has been tentatively considered as Rs 7.5 crore per MW; (ii) the average realisation value for solar assets has been tentatively considered as Rs 5.5 crore per MW
- The product of asset considered for monetisation (in MW) and above-mentioned book value of assets (Rs crore per MW) are used to compute the annual indicative monetisation value (Rs crore) for assets in each sub-sector, such as solar, hydel, and wind power plants

3.5.3 Indicative value of assets and phasing

The indicative value of assets considered for monetisation is considered at **Rs 39,832 crore** over FY 2022-25. The summary of annual phasing is as follows:

Asset type	FY 22	FY 23	FY 24	FY 25	Total
Monetisation Value (Rs crore)	2770	7808	11704	17550	**39,832**
Assets considered (MW)	373	1,115	1,775	2,707	**5,970**

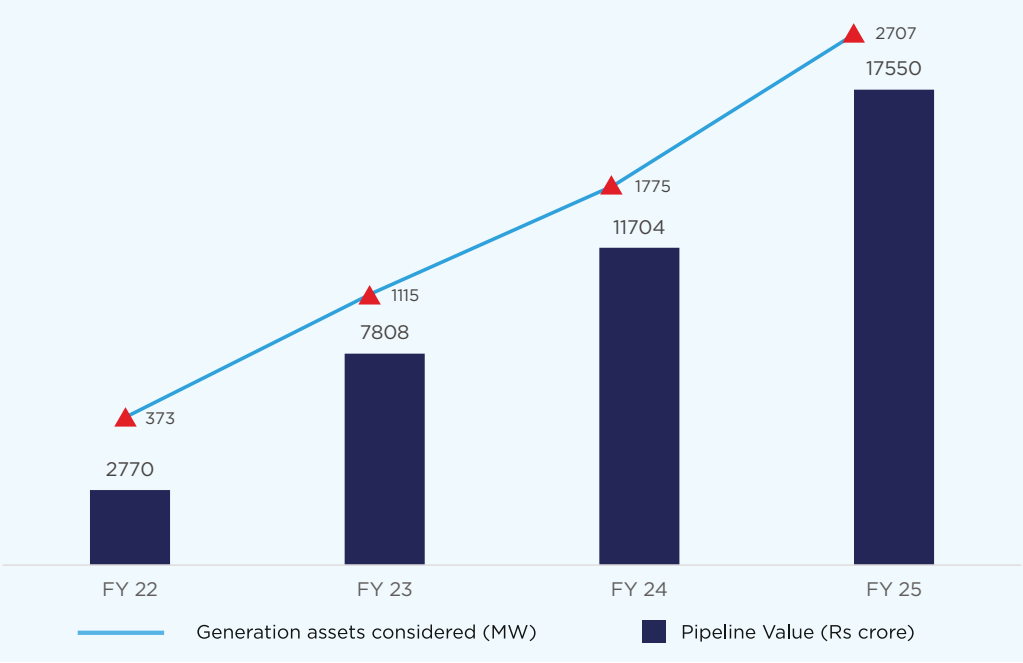
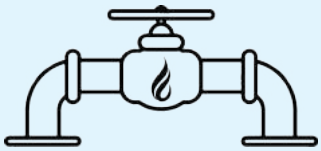


Figure 15: Monetisation pipeline phasing – power generation (Rs crore)

3.6 NATURAL GAS PIPELINES



Summary

8,154 km	25%	Rs 24,462 crore	4%
Assets for monetisation in FY22-25 (km)	Asset planned for monetisation as a % of asset base (FY22-25)	Indicative monetisation value in FY22-25 (Rs crore)	Share in overall NMP in value terms (%)

3.6.1 Potential asset base

The total potential asset base considered are the natural gas pipeline assets managed by the central sector entities. **Natural Gas Pipeline Infrastructure** connects various gas sources to different gas markets to meet the existing/ future natural gas demand of various Power, Fertilizer, CGD and other industries in the Country. The gas pipeline infrastructure has facilitated widespread industrialization and has brought significant socio-economic changes to different parts of the country.

India is the third-largest global energy consumer, after China and the US. India's primary energy requirement is met through a mix of oil and coal, with natural gas forming a 6% share of the energy mix. As part of its environmental agenda, the government aims to increase the share of gas to 15% by 2030. Towards this, expansion of the existing transmission pipeline network and improvement in capacity utilisation of available pipelines become essential. The operational network of natural gas pipelines in India spans about ~16,900 km with a design capacity of ~400 mmscmd.[1] An additional 18,363 km of natural gas pipeline network is approved/under construction stage. Hence, the natural gas grid of India is estimated to expand to ~35,263 km in the next three to five years.

The public sector utilities dominate the pipeline development and operation space. The Government recognizes the need to augment the natural gas transmission infrastructure in the country and has been driving the development of natural gas pipeline connecting all regions of the country which is shaping-up into Natural Gas Grid (NGG).

Over the years, GAIL as a major gas pipeline operator has contributed to the growth and development of natural gas pipeline infrastructure and natural gas market. It has an existing gas pipeline network of 13,389 km with a capacity of 204 MMSCMD.

The table below summarises the total asset base of operational Natural Gas Pipelines of GAIL.

Table 10: Operational Natural Gas Pipelines of GAIL (Common Carrier + Dedicated)

S. No.	Network/ Region#	Length (KM)*
1	Hazira-Vijaipur-Jagdishpur & Gas Rehabilitation and Expansion Project & Dahej-Vijaipur Pipeline Network (HVJ-GREP-DVPL-I)	5,030
2	Dahej-Vijaipur Pipeline (II) & Vijaipur-Dadri Pipeline Network.	1,290
3	Tripura Network	60
4	Cauvery Basin	242
5	Chhainsa-Jhajjar-Hissar Pipeline Network (CJPL)	304
6	Dahej-Uran-Panvel-Dabhol Pipeline Network	935
7	Dadri-Bawana-Nangal Pipeline Network	868
8	Dabhol-Bengaluru Pipeline Network (DBPL)	1,148
9	Gujarat Regional Pipeline Network	663
10	Jagdishpur Haldia & Barauni Guwahati Pipeline Network (JHBDPL)	1,098
11	KG Basin Pipeline Network	889
12	Kochi-Koottanad-Bengaluru-Mangaluru Pipeline Network (KKBMPL)	504
13	Mumbai Regional Pipeline Network	125
14	Dedicated Networks	233
Total Length		**13,389**

GAIL has been operating at about ~49-52% capacity utilisation levels in recent years. GAIL markets about 25% of its pipeline capacity as common carrier capacity. It has a 100+ customer base of shippers that use its pipeline network on an open-access basis. While the trunk/cross-country pipelines of GAIL do report higher capacity utilisation levels, the overall utilisation is still sub-optimal.

Factors influencing monetisation of the asset class

Established customer relationships: The natural gas pipeline assets are usually backed by long-term customer relationships, ensuring cash flow stability. The market leader GAIL has well established and long-standing relationships with customers across industry segments, including power, fertiliser, city gas distribution companies, etc.

Regulated pricing regime: The natural gas pipelines operate under a regulated pricing regime. The oil regulator Petroleum and Natural Gas Regulatory Board (PNGRB), by tariff regulations, determines the per unit tariff for natural gas pipelines, allowing operators a reasonable post-tax return on capital employed, and remains fixed for its entire economic life. The 'per unit tariff' is determined for the natural gas pipeline over its economic life and is levelised across certain periods.

Policy measures to open up the gas market: India has become one of the fastest-growing natural gas markets globally, led by supportive government policies–aggressive investment plans towards production, import and distribution infrastructure, and measures such as new licences for city gas distribution, raising pipeline tariffs for long-haul pipes, and banning more polluting fuels like fuel oil and pet coke. In November 2020, PNGRB simplified the country's gas pipeline tariff structure to make fuel more affordable for distant users and attract investment for building gas infrastructure. Further, to usher gas-based economy, a national gas exchange plan is under discussion to bring market-driven pricing in the Indian energy market.

Structures to enable consistent and stable cash flows: The pipeline business's performance depends on the volume of gas transported. The gas transmission revenues are substantially derived from gas transportation agreements with customers having high dependence on select large customers. Structures, where the central sector agencies provide some backstop arrangements to reduce the counterparty risks, may provide some comfort to investors. This will enable near-term revenue visibility with a minimum guaranteed offtake. Possible arrangements include:

SPV may enter into a pipeline usage agreement (PUA) with the sponsor, whereby the latter could contract a certain capacity of the pipeline for a long term, thus providing assured offtake for a threshold level of throughput

The arrangement could ensure steady cash flows to the SPV in case the actual revenue is lower, either on account of lower gas volume or tariff considerations

3.6.2 Assets considered for monetisation

The assets considered for monetisation during FY 2022-2025 are select gas pipelines with an aggregate length of ~8,154 km, of which 7,928 km are from the existing operational pipeline assets and the rest from pipelines that are expected to become operational during the NMP period.

During FY22, two pipelines with a total length of 2,229 km namely, Dabhol-Bengaluru pipeline (length of 1,414 km & capacity of 16 mmscmd) and Dahej-Uran-Panvel-Dabhol pipeline (length of 815 km & capacity of 20 mmscmd) have been identified for monetisation.

Over the balance NMP period (FY23-25), a total of 5,925 km of pipeline assets have been considered for monetisation (~1554 km in FY 23, ~2073 km in FY 24 and ~2298 km in FY 25). The specific pipelines / bundles would need to be identified corresponding to the years pipeline.

The total assets considered for monetisation (~8154 km) over FY23-25 form around 23% of the aggregate pipeline asset base (total gas pipeline network of ~35,263 km envisaged as part of the Gas Grid).

Monetisation approach

In case of natural gas pipeline assets, the assets considered for monetisation (in kilometres of pipeline) and the indicative monetisation value (Rs crore) over FY 2022-2025 are based on the following:

Step 1 – Asset considered for monetisation.

- Existing assets are shortlisted based on (i) the existing capacity utilisation of the piped network, and (ii) potential demand, especially based on connected regions. Through this methodology, pipeline assets of 7,928 km for monetisation have been identified during FY 2022-2025
- Of the new natural pipelines to be constructed, about 200 km of pipeline assets[23] have been estimated to be monetised over the NMP period. For any new project, at least two years of operational track record has been assumed (to ensure the minimum level of capacity utilisation)

Step 2 – Arriving at the indicative monetisation value

The Enterprise Value (EV) approach (in Rs crore per km) has been considered for estimating indicative value based on available data on pipeline tariff order and assumptions w.r.t. utilisation, peak utilisation, ramp up, tariff and throughput. However, the valuation differs from one pipeline to another. The average value for the purpose of ascertaining monetisation value has been accordingly considered at Rs 3.0 crore per km. The same is indicative only and the actual value realisation is a function of multiple factors intrinsic pipeline utilisation, tariff, assured capacity offtake and transaction structure terms.

A reference transaction available for pipeline valuation is the East West pipeline monetisation (Kakinada to Bharuch) undertaken in the private sector in 2019. The reference valuation of this asset was about Rs. 10 cr / km. The said transaction however had components of captive utilization and assured offtake / revenue arrangements.

3.6.3 Indicative value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 24,462 crore** during FY 2022-2025

23 This is because the existing assets already include a bulk of the ongoing and under construction projects, which will be operational by FY 2022 or FY 2023

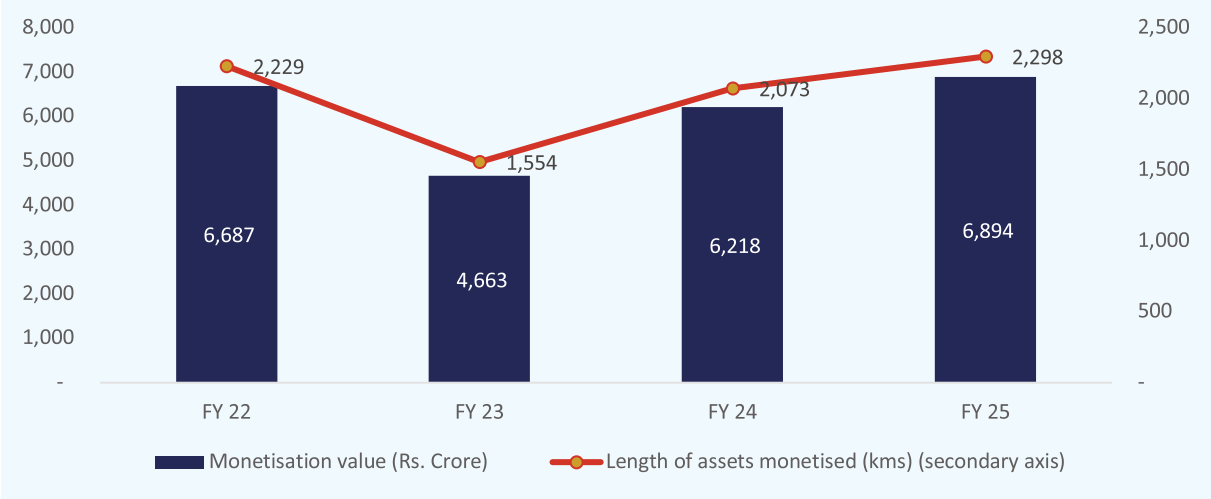


Figure 16: Pipeline phasing – Natural gas pipelines (Rs crore)

3.6.4 Indicative structures for monetisation

Carry-operate-transfer (COT) concession

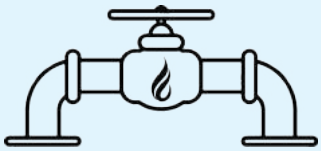
This model entails grant for a long-term PPP concession to utilise operational pipeline capacity through a PPP concession akin to the TOT model, successfully employed by NHAI in the roads sector. Entities can explore this model without creating the pipeline subsidiary or actual transfer of pipeline assets from the balance sheet into a separate SPV. The rights to utilise and market the capacity of the pipeline on a common carrier principle will need to be valued to determine the initial estimated concession value in this option. This structure will require regulatory consultation and approval from the regulator PNGRB to determine regulatory feasibility of grant of concession by GAIL.

Creation of a Pipeline InvIT

In the recent past, InvITs have emerged as a preferred infrastructure financing vehicle to attract investments, especially by foreign institutional investors. In the natural gas transmission sector, there is a precedence of InvIT-based structure, when India Infrastructure Trust, an infrastructure investment trust sponsored by Brookfield Asset Management (BAM), took over 100% ownership of 1,375 km long Kakinada to Bharuch natural gas pipeline from a private sponsor for a period of 20 years against an upfront consideration.

Under an InvIT structure, operational pipeline assets or revenue rights on the assets can be parked directly or through an SPV under an InvIT. InvIT (the trust) can be owned by the asset owner CPSE as the 'Sponsor' with investors holding a partial stake. An InvIT structure involves high standards of strong corporate governance through the appointment of an investment manager, project manager and trustee.

3.7 PETROLEUM, PETROLEUM PRODUCT PIPELINES & OTHER ASSETS



Summary

3,930 km	23%	~Rs 22,503 crore	4%
Assets for monetisation over FY22 to FY25 (km) (Product + LPG pipeline)	Asset monetised as % of asset base (FY22-25) (Product + LPG pipeline)	Value in FY22-25 (Rs crore)	Share in overall NMP in value terms (%)
Asset Classes:	• LPG Pipelines • Petroleum product pipelines • Hydrogen generation plants • ESG assets (Effluent treatment plants, Sulphur recovery units, Flare gas recovery systems)		

3.7.1 Potential asset base

The total potential asset base considered are the operational product and LPG pipelines operated by the central sector entities, namely Indian Oil Corporation Ltd (IOCL), Hindustan Petroleum Corporation Ltd (HPCL) and Gas Authority of India Ltd (GAIL). The operational product and LPG pipelines in India are ~17,432 km, including (i) 43 product pipelines extending to 14,063 km, and (ii) 6 LPG pipelines extending to 3,369 km.

In this segment, IOCL is the key central sector entity, as it has about 52% share in product pipelines (by length) and operates a network of more than 14,600 km long crude oil, petroleum product and gas pipelines with a throughput capacity of 94.42 mmtpa of oil and 21.69 mmscmd of gas. Other entities that also operate product pipelines are BPCL, HPCL and GAIL. The bulk of the pipelines have utilisation levels exceeding 100%, ensuring a strong revenue visibility. Around 45% of the total product pipeline length (~6,292 km) reported utilisation levels above 100%; another 21% of the pipeline network with utilisation levels of between 80-100%.

Factors influencing monetisation of the asset class

High utilisation levels and counterparty risk profile ensure stable cash flows: The bulk of the crude pipelines network has a capacity utilisation exceeding 100%. Almost 45% of the total pipeline network reports capacity utilisation of more than 100%. Another 21% of the total network reported a capacity utilisation between 80% and 100%. The utilisation levels are similar in case of LPG pipelines with 42% of the network (in km) reporting a capacity of 100% and above.

Regulated pricing regime: Similar to the natural gas pipelines, PNGRB grants the authorisation for the development of petroleum and petroleum product pipelines. The product pipelines operate under a regulated pricing regime. The tariff of Petroleum and Petroleum Product Pipelines (other than those awarded through bidding process) is determined under PNGRB (determination of Petroleum and Petroleum Products Pipeline Transportation Tariff) Regulations, 2010. According to these regulations, the transportation tariff for such pipelines is determined by benchmarking the same against an alternate transportation mode (i.e. rail) at the level of 75% on a full train load basis for equivalent rail distance, except for LPG where 100% parity with rail tariff is allowed.

3.7.2 Assets considered for monetisation

The assets considered for monetisation during FY 2022-2025 are petroleum product / LPG pipelines of ~3,930 km. Out of this, ~3,196 km are product pipeline assets and ~733 km are LPG pipeline assets.

HPCL's, Mangalore – Hassan pipeline (LPG pipeline) has been identified for monetisation during FY 23. Other assets for monetisation from HPCL for subsequent years in NMP will be identified.

The total pipeline assets identified for monetisation under the product pipeline (3,196 km) and LPG pipeline (734 km) assets category as a percentage of total respective asset base (product pipelines of 14,063 km and LPG pipelines of 3,369 km) are 23% and 22%, respectively.

Besides the pipeline assets above, other asset classes including 2 Hydrogen Generation plants at the Gujarat Refinery of IOCL have been identified for monetisation over FY22 and FY23 with an estimated indicative monetisation value of Rs. 1,200 crore. Other asset classes from IOCL include ESG assets (effluent treatment plants, Sulphur recovery units, Flare gas recovery systems) in a phased manner over the NMP period with an estimated indicative monetisation value of Rs. 8,000 – 10,000 crores.

Table 11: Phasing of assets identified for monetisation

S.No.	Asset type	FY22	FY23	FY24	FY25	Total
1	Petroleum product pipelines (km)	755	629	906	906	**3,196**
2	LPG pipelines (km)	-	141	296	296	**733**
3	Hydrogen generation plants (nos.)	1	1	-	-	**2**
4	ESG assets*	Not available	Not available	Not available	Not available	Not available

**Details of ESG assets to be monetised are available with the respective line ministries*

Approach to monetisation

In case of product and LPG pipeline assets, the assets considered for monetisation (in kilometres of pipeline) and the indicative monetisation value (Rs crore) over FY 2022-2025 are arrived through following steps:

Step 1 – Asset considered for monetisation

- The assets for monetisation have been shortlisted based on the existing capacity utilisation of the piped network. The pipelines with the capacity utilisation of 100% and above have been considered. However, the public sector agency may bundle some of the high utilisation assets with moderate and low utilisation assets to ensure better risk transfer
- Out of the overall asset base of product pipeline assets of 14,063 km, ~2,643 km of pipeline assets have been considered for monetisation over FY 2022-2025. New product pipeline assets (including under construction pipelines and projects currently under preparation stage) totalling ~554 km is envisaged to be monetised over the same period
- Similarly, out of the overall asset base of LPG pipeline assets of 3,369 km, ~734 km of assets have been considered for monetisation over FY 2022-2025
- Based on this process, a total of 3,930 km of petroleum product and LPG pipeline assets have been identified for monetisation during FY 2022-2025

Step 2 – Arriving at the indicative monetisation value

- **Hydrogen Units & ESG assets:** Indicative monetisation value for these assets has been taken based on information on monetisation value received from the ministry. Based on the range provided by the ministry of Rs. 8,000 – 10,000 crores, Rs. 8,000 crore has been considered divided equally over the NMP period for ESG assets which will be monetised as core assets. For Hydrogen generation Plants, Rs. 1,200 crores divided equally over FY22 & 23, has been taken as the indicative monetisation value based on information provided by the ministry.

- **Product pipeline assets**: EV approach has been adopted to determine the indicative monetisation value for pipeline assets. The NPV of the operating profit across pipeline assets has been taken as the basis for arriving at indicative monetisation value. The operating profit has been estimated across two steps: (i) Estimation of tariff based on PNGRB approved rates in NPV terms across fixed (Rs 0.1 per MT) + variable component (Rs 10 per MT per km) for recent pipeline transactions (ii) Operating margin factor of 65% assumed on the above tariff to estimate the NPV of operating profit. The above figures are indicative in nature and the actual value realisation is a function of multiple factors including intrinsic pipeline utilisation, tariff, assured offtake and transaction structure.
- **LPG pipeline assets**: EV approach has been adopted to determine the indicative monetisation value for LPG pipeline assets. As in the case of product pipeline assets, the NPV of the operating profit across LPG pipeline assets has been taken as the basis for arriving at indicative monetisation value. The NPV of tariff of Rs 12 per MT per km (in line with tariffs for select pipeline transactions) and an operating margin of 65% has been assumed for estimating the indicative value. The same is indicative only and the actual value realisation is a function of multiple factors including intrinsic pipeline utilisation, tariff, assured offtake and transaction structure.

3.7.3 Value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 22,503 crore** for FY 2022-2025.

Table 12: Phasing of monetisation value – Petroleum product / LPG pipeline & other assets (Rs cr)

Sl no.	Asset type	FY22	FY23	FY24	FY25	Total
1	Petroleum product pipelines	2,697	1,873	4,164	4,164	12,898
2	LPG pipelines	0	40	183	183	405
3	Hydrogen generation plants	600	600	-	-	1,200
4	ESG assets	2,000	2,000	2,000	2,000	8,000
TOTAL		**5,297**	**4,513**	**6,347**	**6,347**	**22,503**

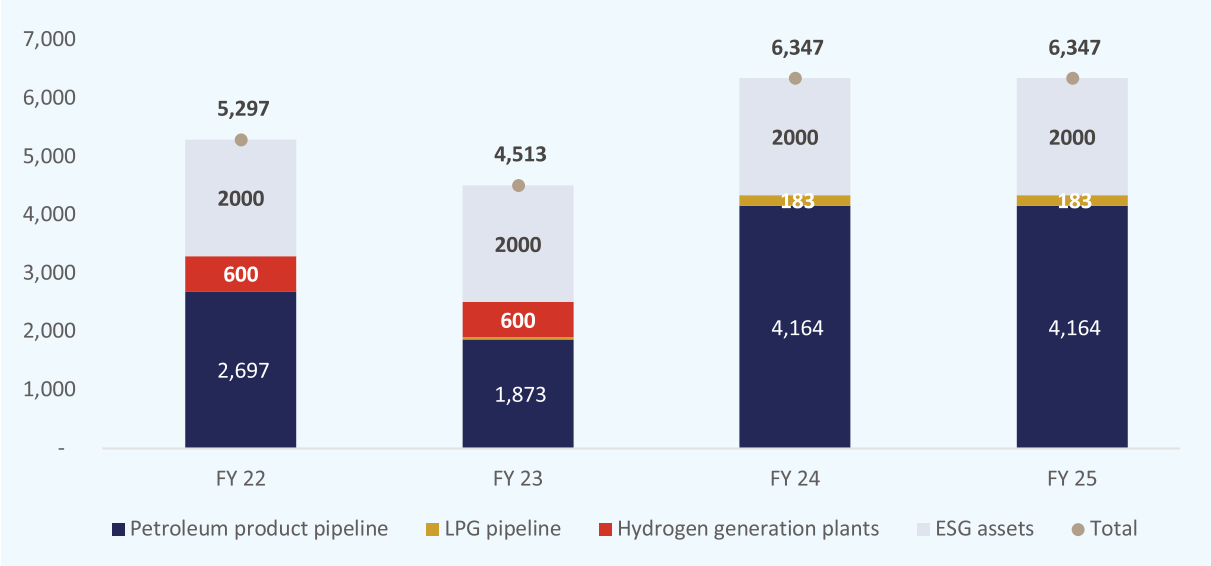
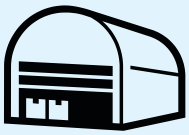


Figure 17: Pipeline phasing – Petroleum product / LPG pipeline & other assets (Rs crore)

3.8 WAREHOUSING ASSETS



Summary

~210 lakh metric tonne (LMT) — 175 LMT – FCI — 35 LMT–CWC	39%	Rs 28,900 crore	5%
Assets planned for monetisation in FY 2022 to 2025	Asset monetised as % of asset base (FY 2022 to 2025)	Indicative Monetisation value in FY 2022-2025	Share in overall NMP in value terms

3.8.1 Potential asset base

The potential asset base considered for monetisation under warehousing assets consists of storage depots, warehouses under the central sector agencies, Food Corporation of India (FCI) and Central Warehousing Corporation (CWC), with both entities operating under the aegis of Department of Food & Public Distribution. Existing storage capacity with FCI and other agencies for central pool stocks as on April 1, 2020 is 755 Lakh Metric Tonne (LMT). Out of this, 412 LMT is available with FCI and 343 LMT with the state agencies. FCI's storage capacity of 412 LMT is in turn 30% owned and 70% hired (through CWC, SWCs, and the private sector). CWC operates 422 warehouses with a total operational storage capacity of 109.72 LMT[24]. This includes custom bonded warehouses, container freight stations, inland clearance depots, air cargo complexes, etc. The potential assets for monetisation are owned warehouses of FCI and CWC.

The aggregate storage capacity with the key central sector agencies – FCI and CWC – is estimated to be ~521 LMT (~412 LMT with FCI & 109 LMT with CWC). Out of the FCI available asset base, FCI owned storage infrastructure i.e. about 123 LMT is amenable for monetisation as the facilities have a strong potential for augmentation and capacity expansion. CWC's entire capacity of ~110 LMT is amenable for monetisation as it has a revenue stream (in form of storage charges from FCI & other users) and also a strong commercial potential for augmentation, capacity expansion and O&M.

The public distribution system (PDS) is an integral part of India's food security system, operated by the nodal Ministry of Consumer Affairs, Food, and Public Distribution. The central government, through FCI, has assumed the responsibility for procurement, storage, transportation and bulk allocation of food grains to the state governments, for eventual distribution to beneficiaries through the PDS. FCI manages the functions of procurement

24 *https://dfpd.gov.in/cwc.htm*

under its minimum support price (MSP) operations for price support, bulk storage, and transportation of food grains and other notified commodities. These stocks eventually are distributed to the beneficiary consumers at the PDS shops through various welfare schemes of the government.

Hence, owing to the policy mandate of MSP operations, there is a continual need to augment the storage capacity. In this context, adequate storage infrastructure is of paramount importance owing to the requirement to hold huge inventories of food grains over a significant period of time. Adequate scientific storage is, hence, a pre-requisite to fulfil the policy objectives assigned to FCI, for which it has a country-wide network of strategically located warehouses and storage depots.

India needs more bulk handling facilities than it currently has. Many of FCI's old conventional storage warehouses and depots (covered-and-plinth [CAP] type storage) have existed for several years and are located in proximity to production hubs. There is significant potential in improving the infrastructure and reducing the cost of storage and handling losses by tapping private sector efficiencies in operations and management. The continual need to augment the storage infrastructure necessitates leveraging the existing storage warehouses and depots to tap private long-term institutional capital by employing structured investment vehicles and brownfield PPP models so as to ease the burden on budgetary support requirement.

Factors influencing monetisation of the asset class

***Growth in e-commerce space*:** The expanding e-commerce space offers a new set of opportunities for the warehousing and logistics players. FCI and CWC have a sizeable number of underutilised warehouses near urban centres. Considering the potential growth in demand for warehouses due to e-commerce growth, monetisation of such assets is expected to bring in significant value from the private sector.

***Established track record of agencies in private sector engagement*:** FCI and CWC have an established track record in dealing with private sector players over the years. Hence, the institutional understanding as well as the regulatory framework for engagement is successfully in place in these firms. One of the landmark private sector engagement initiatives is the Private Entrepreneurs Guarantee (PEG) Scheme for augmenting the storage capacity of FCI in PPP mode. Under this scheme, storage capacity is created by private parties under an assured capacity offtake arrangement by FCI. A total of 153 LMT of storage capacity has been initiated under the scheme as of February 2021.

Value maximisation: Most of the warehouses that were planned and constructed between 1980 and 1990 are located in prime locations and in proximity to city centres that have now become part of the urban landscape. Thus, these land parcels can be leveraged for augmenting the quality as well as capacity of storage infrastructure. The private sector can be mandated to undertake the task of redevelopment/ refurbishment of assets while ensuring minimal operational disruption and incremental cost for the authority.

***Capacity rationalisation and operational efficiencies*:** Peak stock requirement during the normal procurement season for central pool food grains in the country is ~650 lakh MT. Against this, the total storage capacity available with FCI, CWC, and the state agencies (both owned and hired capacity, including CAP) is 875.09 lakh MT at a pan-India level. Thus, it is imperative to optimally rationalise the existing capacity, while ensuring high operational efficiency by leveraging the strength of specialised firms.

Approach to monetisation

In case of warehouses, the assets considered for monetisation have been taken based on preliminary pipeline information provided by the Department of Food & Public distribution (DoFPD). The pipeline presently consists of storage infrastructure assets with need of significant augmentation in infrastructure and rehabilitation. Accordingly, the key project interventions have been identified by the line ministry. Hence the monetisation value has been considered in form of private sector investment towards augmentation of these assets.

The indicative monetisation value has been arrived at based on the 'Capex approach'. The capex for all the projects has been based on high level estimates provided by the DoFPD as part of the pipeline. The cost assumptions are as follows: (i) capex per LMT for silos has been estimated at Rs 100 crore per LMT, (ii) cost per cold storage facility has been considered at Rs 40 crore per location.

Indicative Monetisation Value considered at this stage is only a preliminary estimate based on high level asset information and thumb rule estimates.

Besides, storage infrastructure, DoFPD has also identified land parcels and vacant land for monetisation however the same has not been considered under NMP as they will be monetised as non-core assets.

3.8.2 Assets considered for monetisation

The assets considered for monetisation during FY 2022 to 2025 have an aggregate capacity of ~210 LMT.

The key asset classes under asset monetisation include (i) development of 175 LMT of wheat silos by FCI, (ii) development of 35 LMT silos at 45 locations by CWC, (iii) development of cold storage facilities in 190 locations by CWC and (iv) development of 1.16 LMT storage capacity by Central Railside Warehouse Company Ltd (CRWCL).

The DoFPD is also in process of developing pipeline of other brownfield assets and finalisation of monetisation mechanisms other than development of Silos and cold storages.

The assets of FCI & CWC considered for monetisation aggregating to ~210 LMT are about 39% of the existing storage capacity available with FCi & CWC i.e. 512 LMT (~412 LMT with FCI & 109 LMT with CWC).

3.8.3 Indicative Value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 28,900 crore** for FY 2022 to 2025, and phased as follows:

Table 13: Phasing of monetisation value – Warehousing assets (Rs cr)

S.No.	Asset type	FY22	FY23	FY24	FY25	Total
1	Storage Infrastructure-FCI	3,500	5,250	5,250	3,500	17,500
2	Storage Infrastructure-CWC	2,280	3,420	3,420	2,280	11,400
TOTAL		**5,780**	**8,670**	**8,670**	**5,780**	**28,900**

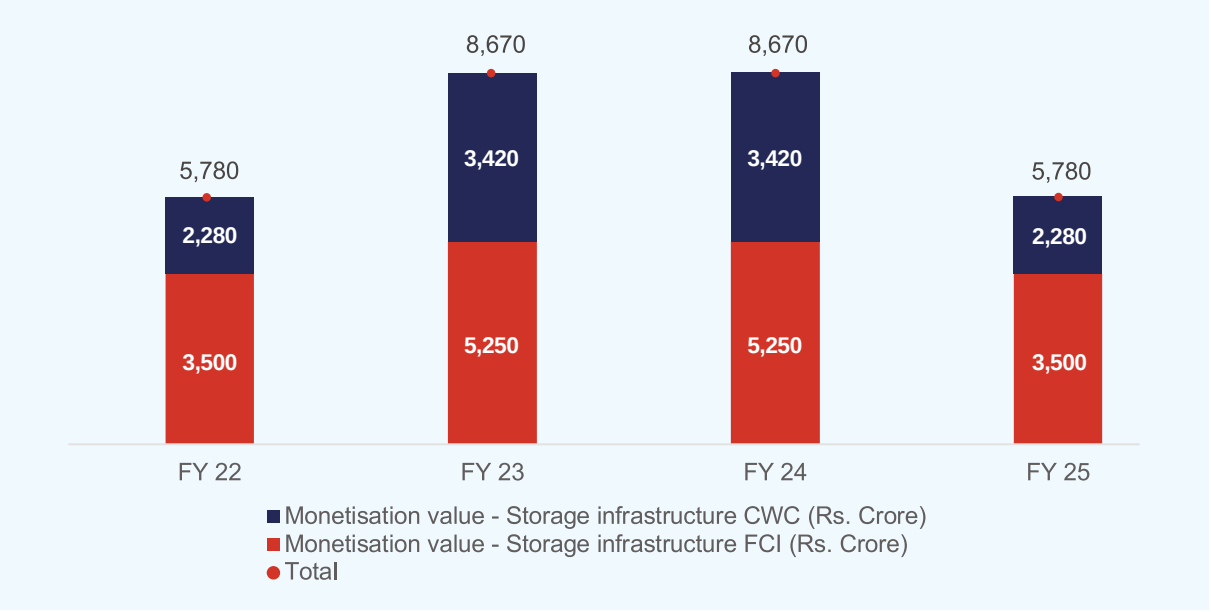


Figure 18: Monetisation value – Warehousing (Rs crore)

3.8.4 Indicative structures

In recent years, alternative means of monetising operating projects have evolved in India, wherein significant interest has been showcased by potential private investors. Several options have been successfully implemented depending on the specific requirement of shareholders. However, the success of such monetisation would depend on the location selected, keeping in mind the interest/ appetite of investors, regulatory requirements, shareholder requirements, type of contracts and governance/ control sought by investors in operating projects, etc. In view of these factors, the following options can be considered:

1. *Monetisation via the infrastructure investment trust (InvIT) route*
2. *Suitable PPP models akin to TOT (toll-operate-transfer) model adopted by NHAI for highways suitably customised for brownfield warehousing assets and OMD based model for assets where augmentation and capacity expansion is envisaged.*

Monetisation Models for warehousing assets

Multiple structures to monetisation have been evaluated, including InvIT, OMD model. A typical structure of transaction is as follows:

InvIT-based monetisation

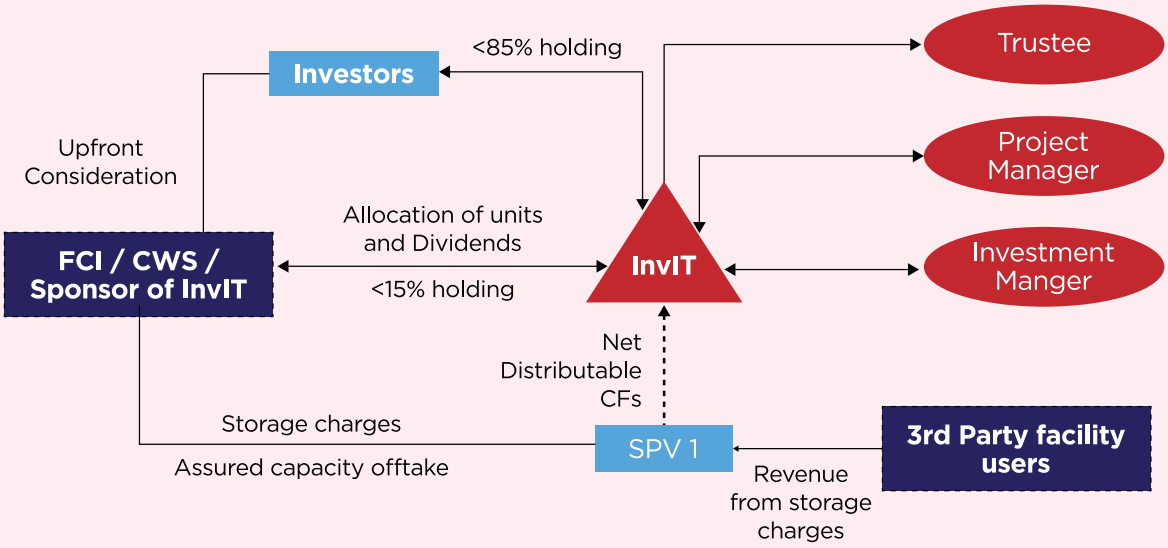
InvIT-based monetisation of SPV (north/ west/ east zone-wise warehousing asset clusters may be formed) with long-term contracted rights to earn storage charges from FCI and other third party users. This structure may entail creating an SPV with requisite revenue rights. Independent investment manager and specialist professional project managers are key to this InvIT based monetisation.

Tenure: 25-30 years with transfer back to the Authority / Sponsor at the end

Other features:

- Assured storage capacity for FCI's captive use and storage needs
- Professional management and key performance indicators (KPIs; handling losses, etc)
- FCI and / or CWC could be co-sponsors of the InvIT
- Since investors look at scale, region-wise clusters may be formed. InvIT-based monetisation of SPV (north/ west/ east zone-wise) with long-term contracted rights to earn storage charges from FCI

Indicative transaction structure

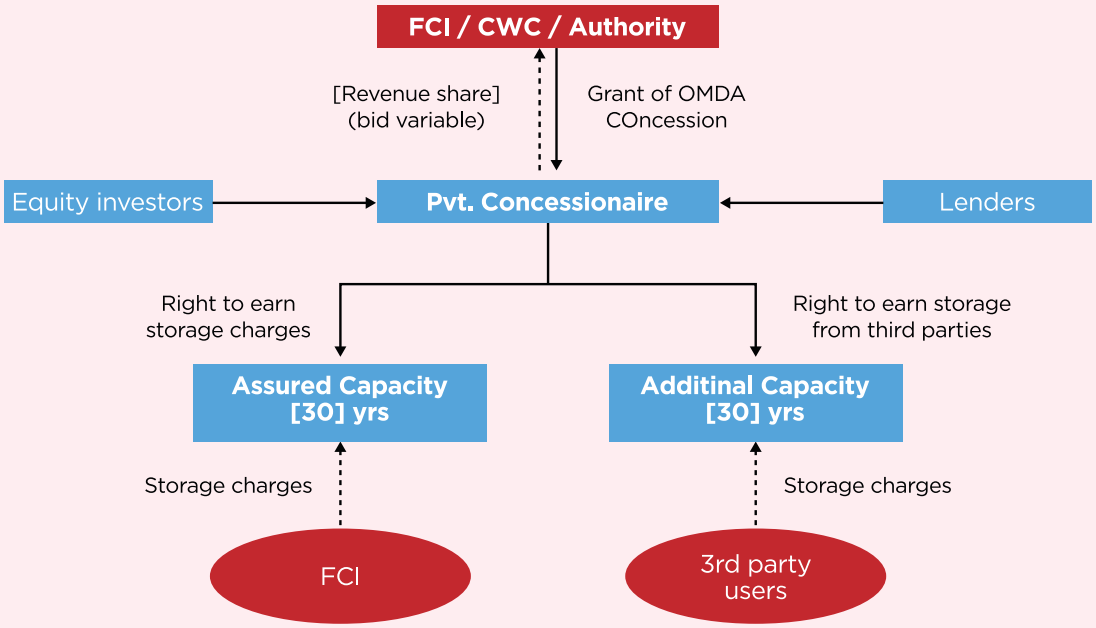


Operate, Manage and Develop (OMD) based PPP model

- OMD for brownfield warehousing assets with rights to add additional capacity/ augment existing infrastructure and at vacant land
- **Tenure**: 25-30 years with transfer at the end of the concession

- **Revenue model**: Storage and handling charges paid by FCI (assured capacity) and third parties (surplus capacity)
- **Other features:** Strict KPIs (handling losses, etc) and mandatory investments may be specified
- **Benefits to Investors:**
- Strategic locations: surplus production areas or in the consumption areas
- Presence of trunk infrastructure
- Reduced gestational time
- Professional management and investment in mechanisation

Indicative transaction structure for an OMDA-based model for warehouse monetisation



3.9 MINING ASSETS

Coal Mining Assets–Summary

160 projects	Rs 28,747 crore	5%
Number of identified projects for monetisation over FY22-25	**Indicative monetisation value over FY22-25 period**	**Share in overall NMP in value terms**

Mineral Mining Assets–Summary

761 blocks over FY22-25	Fresh mineral blocks G4 level Composite License, G2 / G3 level Mining Lease Non-working mines ML applications under Section 10A(2B)	Auctioned by : Respective State Governments Value : Not assessed

3.9.1 Potential asset base

Coal Mining Assets

The total inventory of coal resources in India (up to a depth of 1,200 metre) was estimated[25] at about 344 billion tonne as per GSI as on April 1, 2020. As per CIL (Coal India Limited) demand for coal was estimated at 1,000 MT for FY 2020, whereas the indigenous availability was estimated at 811 MT. The gap of 189 MT was projected to be met through imports.

Factors influencing monetisation of the asset class

Strong policy push by the government to open up the sector – The push towards reducing dependence on coal imports was one of the major policy initiatives under the pioneer 'Atmanirbhar Bharat' initiative by the government. The government's recent initiatives towards opening up commercial mining to the private sector in India remains a landmark reform for asset monetisation. The Mineral Laws (Amendment)

25 Prepared by the Geological Survey of India on the basis of resources estimated by CMPDI, MECL, GSI, and SCCL

Act, 2020[26], is expected to bring in higher inventory of assets towards auction, and increase participation of the private sector by removal of end-user restriction on coal assets for the private sector. It also amends the methodology for auction of coal and lignite mines/blocks for sale of coal/lignite on a revenue-sharing basis. The sector is also open to global investors as 100% FDI (Foreign Direct Investment) is allowed for the coal and mining sector.

Streamlining the approval process – The government's recent launch of the Single Window Clearance portal for coal mining is expected to streamline the approval process and reduce the lead time to starting commercial exploration of coal assets. It is a unified platform that facilitates grant of clearances and approvals required for starting a coal mine in India.

Success of the first auction – Pursuant to the opening of the commercial coal mining sector, the first auction was held in June 2020. Out of the 38 mines put on auction, financial bids were received for 19 mines[27]. These assets saw a fair bit of competition and high premium (despite uncertainties due to the Covid-19 event and related lockdown). The highest premium was 66.75%, whereas the average premium was 29%. States are also expected to raise revenue of Rs 6,656 crore annually through the auction.

Mineral Mining Assets

Auction of mineral blocks is undertaken by the respective State Governments. Once a mineral block is auctioned, various clearances such as forest clearance, environmental clearance and other statutory clearances are obtained prior to commencement of production. Upon commencement of production, the royalty and auction premium on the mineral produced and dispatched typically constitutes the income from the mine. However, royalty and auction premium are paid to the Government as and when the mineral is removed from the leased area. Hence, the auction of mineral blocks may not yield upfront lump sum proceeds. The proceeds / revenues accrue to the State governments and is spread throughout the mining lease period.

Ministry of Mines in 2015 amended the MMDR Act, 1957 which introduced auction regime to bring transparency in allocation of mineral blocks. Besides, the Ministry has initiated a number of reforms pertaining to auction of mining blocks as a result of which a large number of mineral blocks will be available for auction during the coming years.

26 Reforms to the Coal Mines (Special Provisions) Act, 2015, and the Mines and Minerals (Development and Regulation) Act,1957

27 Out of these successfully auctioned 19 mines, 11 are opencast, five are underground mines, and the remaining three are a mix of underground and opencast mines. These mines are spread over five states – Madhya Pradesh, Chhattisgarh, Odisha, Jharkhand, and Maharashtra – and have consolidated peak rated capacity of 51 MT per annum.

3.9.2 Assets considered for monetisation

Ministry of Coal

The Ministry has identified more than 160 projects for private-sector participation towards improving efficiency as well as scaling up production. The projects are expected to be implemented over the next 2-3 years and include the following:

- Mine developer and operator (MDO) model – 17 projects with total capacity of ~178 MTY (15 projects of CIL and 2 projects of NLCIL
- Establishment of 3 washeries (BOO – Build, Own, Operate model)
- 1 Coal gasification plant (BOO – Build, Own, Operate model)
- 35 identified first-mile connectivity projects for building coal silos/ mechanised loading
- Operationalisation of 4 discontinued / abandoned projects
- Commercial auction of mines[28]

Ministry of Mines

About 761 mineral blocks are expected to be put on auction over FY22-FY25 period. Year wise mineral blocks asset phasing is summarised in table below:

Table 14: Phasing of Mineral Blocks

S.No.	Category of Mineral blocks	FY21—22	FY22—23	FY23—24	FY24—25
1	Fresh mineral blocks ready to be auctioned	49	—	—	—
2	50 blocks of G4 level for Composite License or CL and 12 blocks of G2 / G3 level for Mining Lease or ML	62 (50 CL+12 ML)	62 (50 CL+12 ML)	—	—
3	Non-working expired mines (~50% of total 104 i.e. 52)	18 (Working expired mines which have not been auctioned)	26	26	—
4	Mines expiring till 2024	9	34	53	29
5	ML applications under Section I0A(2B) (Total of 393 Nos.)	—	131	131	131
Total		**138**	**253**	**210**	**160**

28 CMDPI (subsidiary of CIL) plans to explore/discover approximately five mines every quarter to the pool of coal blocks available for auction. Accordingly, around 80 coal blocks are expected to be added in the next 4 years. Valuation of the commercial auction has not been considered as it depends on the success of the same.

For the above mineral blocks, monetisation value has not been determined. The premium amount that may accrue to auctioning authorities typically depends upon the quality and quantity of the resources, and the market prices during the lease period. Reserve positions of many mines are not known at present and are yet to be ascertained by the State Governments. Therefore, the information regarding estimated proceeds from auction of such mineral blocks can be discovered only after the auction process is completed and mining has commenced.

Approach to monetisation

The approach to monetisation has been anchored on the project assets identified by the line ministries for monetisation. The value has been phased out for the period FY 2022 to FY 2025 based on the year in which the project is planned to be awarded. The actual capex may be phased out across multiple years.

3.9.3 Indicative value of assets and phasing

The total indicative value of assets considered for monetisation is estimated at **Rs 28,747 crore** over FY 2022-25. About Rs. 22,625 crore of the assets are expected to be tendered out during FY 2022. However, the actual capex will be phased out across the next three years. The Monetisation value in the pipeline has been accordingly considered based on actual capex phasing assumed over 4-5 years, as set out in the figure below.

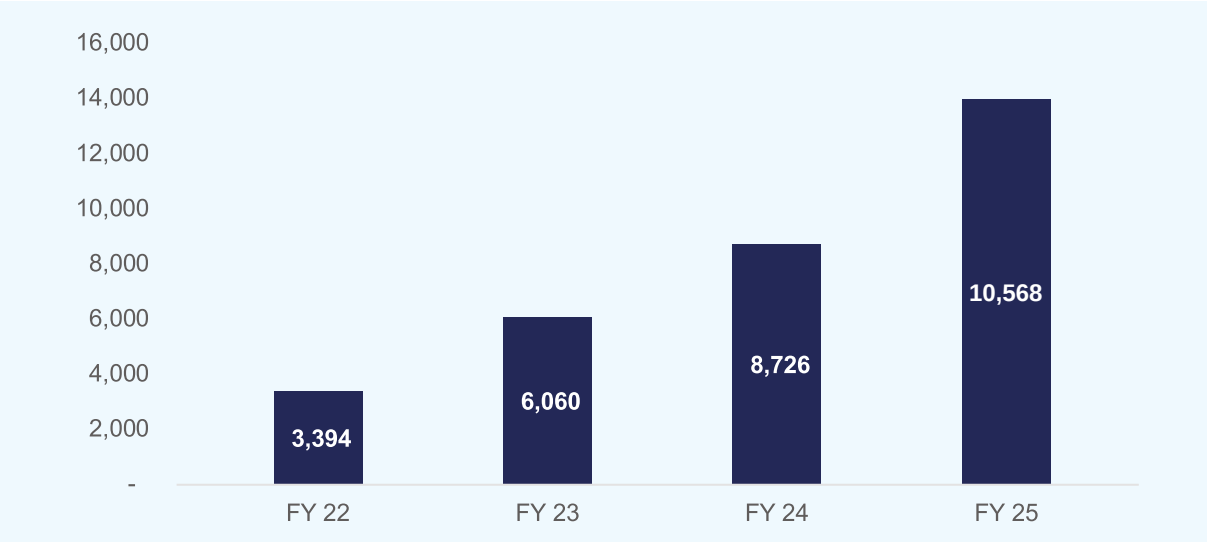


Figure 19: Phasing of Monetisation pipeline – coal mining (Rs crore)

3.10 AIRPORTS

Summary

25	18%	Rs 20,782 crore	4%
Number of AAI airports considered for monetisation	Assets planned for monetisation as % of existing AAI airports	Indicative Monetisation Value over FY22-25	Share in overall NMP in value terms (%)

3.10.1 Potential Asset Base

India has seen massive growth in the airport sector with investments from both the government and private sector. The country has become the third-largest domestic civil aviation market in the world and has immense potential to grow further. This calls for higher investment to build new airports and augment the existing airport infrastructure to support future growth.

The total Potential Asset Base considered includes airports under Airports Authority of India (AAI) and its joint venture (JVs)[29] under the aegis of the Ministry of Civil Aviation. AAI is a statutory body constituted by an Act of Parliament with the responsibility of creating, upgrading, maintaining, and managing civil aviation infrastructure both on the ground and air space in the country. AAI manages 137 airports[30], including 24 international airports, 10 customs airports, and 103 domestic airports. In FY 2020, AAI airports handled ~160 million passengers (international: 22 million and domestic: 138 million), which accounted for ~35% of the total passenger traffic handled by airports in India. Over the years, AAI has made significant strides in tapping private sector efficiencies in development, operations and management of airports which has resulted in about 65% of passenger traffic throughput being managed by private airports in India. PPPs in major airports such as Delhi, Mumbai have contributed significantly in pushing the aviation sector ahead.

29 Assets held via other subsidiaries or JVs of AAI or entities directly under the purview of MoCA (as applicable) have not been included. However these assets are proposed to be included as part of NMP in due course as necessary.

30 *https://www.aai.aero/en/corporate/organization#:~:text=During%20the%20year%202019%2D20,International%20452.46%20%26%20Domestic%20456.85%5D*

Factors influencing monetisation of asset classes:

Airport monetisation through brownfield PPP models has been boosted in India by the success stories of asset monetisation of four airports – Mumbai, Delhi, Hyderabad, and Bengaluru. This is primarily in terms of improved user experience and increase in value for all stakeholders. During FY 2020-21, 6 AAI airports were leased out to private sector through PPP based model, namely, Ahmedabad, Lucknow, Mangalore, Guwahati, Jaipur and Thiruvananthapuram and the assets are in process of getting handed over to the operator. Further, this is backed by the presence of a strong regulatory and contractual framework which has helped retain investor confidence.

Policy enablers – Government initiatives such as the introduction of the Airports Economic Regulatory Authority (AERA) of India (Amendment) Bill, 2021, in the Lok Sabha proposing amendment of the definition of 'major airport'.

- Currently, 25 AAI airports have been considered for asset monetisation. Given their nascent stage of actual traffic and expected ramp-up period to achieve a minimum scale of operations, a strategy of bundling such airports with smaller airports is being explored.
- In order to enable bundling of airports as a bidding strategy, a bill for Amendment in AERA Act has been introduced during March 2021 in Lok Sabha with an intent to empower AERA to determine tariff for a 'group of airports'.
- ***Government vision for the sector*** – The NIP has provided for capex of Rs ~90,000 crore over FY 2020-25 to scale up passenger handling capacity. For this, a number of projects for construction of new terminals, runways, taxiways, and parking facilities are being undertaken. Several airports are being developed under the Regional Connectivity Scheme-*Ude Desh Ka Aam Nagrik* (RCS-UDAN), and terminal buildings are being expanded to improve amenities and passenger handling capacity. Development of the airport sector through PPP is one of the key areas of focus identified in the government's NIP 2020.

3.10.2 Assets considered for monetisation

Twenty-five major AAI airports are considered for monetisation over FY 2022-25. The larger objective is to focus on monetisation of these 25 airports, while bundling of smaller airports may be explored based on market testing of transactions and investor feedback.

During FY 22, AAI has identified 6 airports in Tier 2/Tier 3 cities namely, Amritsar, Varanasi, Bhubaneswar, Indore, Raipur and Trichy for the purpose of monetisation through brownfield PPP models. To ensure commensurate development of non-profitable airports along with the profitable airports with the help of private sector investment and participation, pairing /clubbing of smaller airports with each of the six bigger airports and leasing out as a package is being explored.

Further, divestment of AAI's residual stake in four airport JVs has also been considered under the monetisation pipeline. This includes the private sector operated airports in Mumbai (26% stake), Delhi (26% stake), Hyderabad (13% stake), and Bangalore (13% stake).

The total airport assets for monetisation account for ~18% of the total airport assets under management of AAI.

Approach to monetisation:

Step 1 – Asset considered for monetisation: It includes a combination of large and small airports, in line with the current monetisation plans of the Ministry of Civil Aviation.

Airports with a threshold level of traffic: Scale is an important factor in determining investor interest. Hence, airports having annual traffic above the threshold of ~0.4 million passengers (in FY 2019 and 2020) have been considered.

Airports with a sizeable ongoing/proposed capex plan as per the NIP have been considered for monetisation. Such projects can be financed via the PPP mode.

Step 2 – Arriving at the indicative monetisation value

The 'Capex approach' has been considered for arriving at the Indicative Monetisation Value. In the absence of availability of airport-wise capex, a normative assumption of Rs 130 crore per million incremental passenger capacity (for moderate sized airports) and Rs. 200 crore (for larger airports i.e. FY 19 annual passenger throughput of more than 1 million) per million incremental passenger capacity has been considered. This is in line with the capex per million passengers for select projects considered under the NIP.

A 'Market approach' has been adopted for determining indicative valuation of AAI stake in private JV airports. As per secondary sources and estimates based on recent transactions involving sale of stake in Indian airports, the total indicative value of AAI's residual stake in the above-mentioned four JVs has been tentatively taken at ~Rs 10,000 crore[31] for inclusion in the pipeline. The valuation of AAI stake in JV airports is only an indicative high level value and the actual price discovery will be made from the market transaction. The actual realisation will depend on multiple factors such as transaction timing, market conditions, investor appetite and transaction terms.

3.10.3 Indicative Monetisation Value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 20,782 crore** for FY 2022-25.

Out of this **Rs. 10,000 crore** of monetisation value has been tentatively considered on account of divestment of AAI stake in private JV airports. The same has been phased out equally over FY22 and FY23. It may be noted that the actual realisation from AAI stake sale will depend on multiple factors such as transaction timing, market conditions, investor appetite and transaction terms.

31 The values are indicative in nature. While the initial estimates pegged the value at ~Rs 16,000 crore, a lower estimate has been taken consider13ing the adverse impact of Covid-19 and related travel restrictions

The remaining pipeline is contributed by estimated investment towards the augmentation of 25 airports identified for monetisation. Based on assumptions explained above, the total estimated capex towards the 25 airports is estimated to be **Rs.13,945 crore**. However, the actual investment towards the augmentation will be phased out over 2-3 year period and in certain cases in phases. Since the same cannot be reasonably determined at this point in time, for the purpose of NMP, the actual investment has been assumed to be phased out over 3 year period from the target year of award. Hence, during the NMP period of FY22-25, monetisation value of **Rs. 10,782 crore** has been considered on account of estimated capex towards identified airports. The phasing considered for capex towards identified airports is as per table below:

Table 15: Assumed phasing considered for capex of identified airports

Parameter	FY 2022	FY 2023	FY 2024	FY 2025
Phasing of 6 airports with target award in FY22	720	1,440	1,440	—
Phasing of 8 airports with target award in FY23	—	859	1,718	1,718
Phasing of 6 airports with target award in FY24	—	—	839	1,677
Phasing of 5 airports with target award in FY25	—	—	—	371
Total	**720**	**2,299**	**3,996**	**3,767**

It may be noted that under PPP based mechanisms, based on final transaction structure for the projects, there could be additional revenue streams to AAI as an authority such as passenger fees, upfront premium or any other charges to authority. The same have not been factored in the indicative monetisation value.

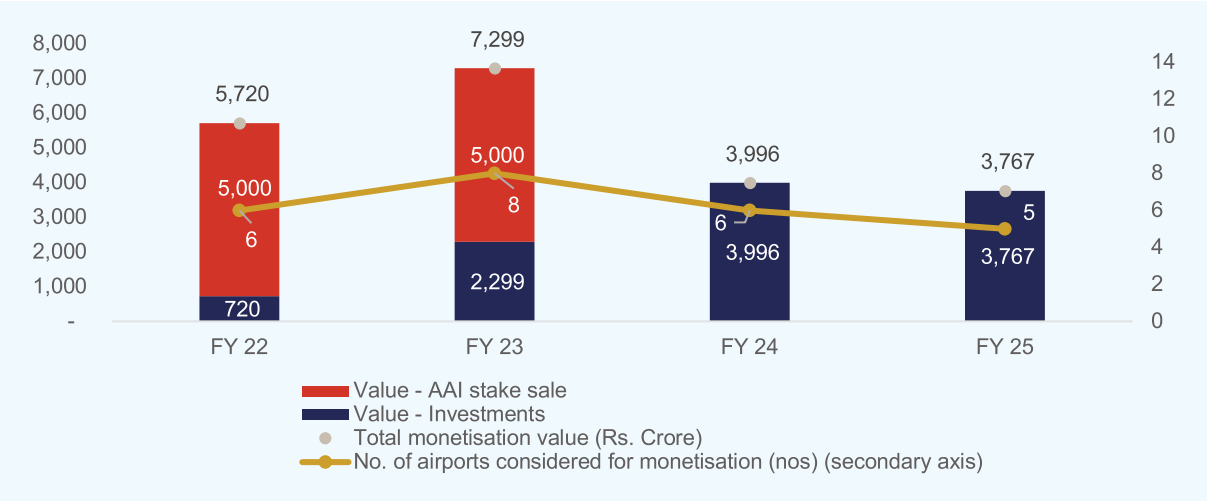


Figure 20: Phasing of Monetisation pipeline – airports (Rs crore)

Table 16: Phasing for Airport assets identified for monetisation

S.No.	City / Airport	Estimated Capex (Rs cr)
6 Airports in FY22		**3,600**
1	Bhubaneswar	900
2	Varanasi	500
3	Amritsar	500
4	Trichy	700
5	Indore	400
6	Raipur	600
8 Airports in FY 23		**4,295**
1	Calicut	562
2	Coimbatore	500
3	Nagpur	400
4	Patna	1000
5	Madurai	694
6	Surat	301
7	Ranchi	708
8	Jodhpur	130

S.No.	City / Airport	Estimated Capex (Rs cr)
6 Airports in FY24		**4,193**
1	Chennai	2800
2	Vijayawada	600
3	Tirupati	260
4	Vadodara	245
5	Bhopal	159
6	Hubli	130
5 Airports in FY25		**1,857**
1	Imphal	253
2	Agartala	418
3	Udaipur	491
4	Dehradun	566
5	Rajamundhry	130

25 Airports in Tier 2 & 3 cities spread pan India

Table 17: Passenger traffic (in FY 19 & 20) and existing capacity of the identified airports

Sl. No.	Airport	Existing Annual capacity (million pax)	Traffic– FY19 (million pax)	Traffic– FY20 (million pax)
1	Chennai	21.00	22.54	22.27
2	Bhubaneswar	4.50	4.16	3.67
3	Calicut	2.19	3.36	3.23
4	Coimbatore	2.50	3.00	2.84
5	Varanasi	2.50	2.79	3.01
6	Amritsar	2.50	2.52	2.46
7	Trichy	1.50	1.58	1.61
8	Imphal	1.73	1.28	1.29
9	Vijaywada	2.00	1.18	1.13
10	Tirupati	1.00	0.83	0.83
11	Nagpur	3.00	2.80	3.06
12	Patna	5.00	4.06	4.53
13	Madurai	1.28	1.52	1.42
14	Surat	1.10	1.24	1.52
15	Indore	3.00	3.16	2.92
16	Ranchi	1.46	2.25	2.49
17	Raipur	2.00	2.03	2.12
18	Agartala	0.91	1.44	1.51
19	Udaipur	0.55	1.39	1.25
20	Dehradun	0.46	1.24	1.33
21	Vadodara	1.28	1.16	1.10
22	Bhopal	1.28	0.81	1.33
23	Jodhpur	0.50	0.51	0.57
24	Hubli	1.00	0.46	0.48
25	Rajahmundry	1.00	0.44	0.41

Source: AAI

3.11 PORTS

Summary

31 projects in 9 major ports	Rs. 12,828 crore	2%
Number of development projects planned in major ports	Total Indicative Investment over FY 2022-2025 (Rs crore)	Share in overall NMP in value terms (%)

3.11.1 Potential Asset Base

India comprises a significant size maritime sector with 12 Major and 200+ Non-Major Ports situated along its 7500 km long coastline and a vast network of navigable waterways. The country's maritime sector plays a crucial role in its overall trade and growth, with 95% of the country's trade volume and 65% of the trade value being undertaken through maritime transport. Port development in India is guided by the flagship Sagarmala programme[32] and the recently unveiled Maritime India Vision 2030.

Maritime India Vision 2030

Maritime India Vision 2030 (MIV 2030) is a ten-year blueprint for the maritime sector that was released by the Prime Minister of India at the Maritime India Summit in February 2021. It aims to boost waterways, give a fillip to the shipbuilding industry and encourage cruise tourism in India. With the objective of propelling India to the forefront of the global maritime sector, the Ministry of Ports, Shipping and Waterways formulated the MIV 2030, a blueprint to ensure the coordinated and accelerated growth of India's maritime sector over the next decade. MIV 2030 has been formulated in consultation with over 350 public and private sector stakeholders, comprising ports, shipyards, inland waterways, trade bodies and associations, national and international industry and legal experts.

32 Sagarmala is the flagship programme of the Ministry of Shipping to promote port-led development in the country

As part of MIV 2030, Major Ports need to undertake 423 MTPA capacity addition. A total investment cost of over INR 33,400 Cr. has been envisaged for this capacity expansion. Out of this, approximately 95% capacity expansion is likely to be planned under Public Private Partnership (PPP)/ Captive mode by Major Ports[33].

With 12 major ports, the aggregate asset capacity under the purview of Central line ministry (MoPSW,) directly held by the Port Trusts[34] is around 1,494 MMTPA, as on March 31, 2020[35]. Of this, the total capacity under PPP mode/ captive use is estimated at around 664 MMTPA (~44% of total capacity), while the capacity under the purview of respective Port Trusts is around 830 MMTPA (~56% of total capacity).

3.11.2 Assets considered for monetisation

The assets considered for monetisation from FY 2022 to 2025 are spread across 9 of the 12 major ports. Towards this, 31 projects have been identified for private sector participation for improved operational efficiency and capacity utilisation of existing port assets.

Approach to monetisation

In the case of port assets, monetisation potential has been arrived at based on key development and maintenance projects envisaged over FY 2022-25 for private sector investment through PPP mode. Key projects include additional berths, mechanisation, development of oil jetty, container jetties, O&M of container terminal, O&M of International cruise terminal and development of marina. The proposed capex (in Rs crore), as estimated by the Ministry of Ports, Shipping & Waterways, has been taken as the basis for estimation of indicative monetisation value. Further, the actual capex outlay has been assumed to take place over a three year period from the date of expected award and in certain cases in two phases.

The primary model for monetisation of ports and shipping assets is by way of grant of PPP concessions.

3.11.3 Indicative Monetisation Value of assets and phasing

The total estimated capex towards 31 identified projects considered for monetisation is estimated at **Rs 14,483 crore** for FY 2022-25. Out of 31 projects, 13 projects with expected capex of Rs. 6,924 crore are envisaged to be tendered out in FY 2022, followed by another 10 projects with expected capex of Rs. 4,680 crore are envisaged to be tendered out in FY 2023.

However, the actual investment towards the development of assets will be phased out over a defined time period as laid out under the contract. Since the same cannot be

33 MIV 2030 document

34 Additional assets held via subsidiaries or JVs have not been included.

35 IPA Yearbook 2019-20

reasonably determined at this point in time, for the purpose of NMP, the actual investment has been assumed to be phased out over 3 year period from the target year of award. Hence, during the NMP period of FY22-25, monetisation value of **Rs. 12,828 crore** has been considered on account of estimated capex towards identified the 31 projects.

Table 18: Pipeline of Ports projects over FY22-25

S.No.	Port	Total No of Projects	FY22	FY23	FY24	FY25
1	Paradip Port	4	2			2
2	Deendayal Port (Kandla)	4	2	2		
3	JNPT(Mumbai)	3	1	2		
4	Mormugao Port	3	1	2		
5	Mumbai Port		2			
6	Shyama Prasad Mukerji Port Kolkatta (Khidderpore)	4	1		1	2
7	Shyama Prasad Mukerji Port Kolkatta (Haldia)	3	1	1	1	
8	Visakhapatnam Port	4	1	2	1	
9	V. O. Chidambaranar Port (formerly Tuticorin)	3	2	1		
10	New Mangalore Port	1				1
Total		**31**	**13**	**10**	**3**	**5**

FY 2022 – A total of 13 projects adding up to Rs 6,924 crore are envisaged to be awarded during FY 2022. The monetisation pipeline phasing represents the year in which a certain project is envisaged to be tendered out and the actual capex investment is likely to happen in phases during the initial years in the envisaged concession period.

Table 19: Port Projects to be tendered out during FY2021-22

S. No.	Project Name	Port	Estimated Investment (Rs. Cr.)	Target award
1, 2	Deepening and optmisation of Inner Harbour facilities including development of Western dock Captive berth (1 nos) to handle cape size vessel	Paradip Port	3,005z	Jan,2022
3	O&M of Mumbai International cruise terminal 'Capacity-10 L pax pa	Mumbai Port	495	Sep,2021
4	Mechanization of Berth No. 2 (erstwhile No.3 (PPP))	SMP, HDC	332	Mar,2022

S. No.	Project Name	Port	Estimated Investment (Rs. Cr.)	Target award
5	Conversion of 2 Berths as container Jetty at Kidderpore dock (PPP)	SMP, KDS	96 (Phase-1), 86 (Phase-2)	Jan ,2022
6	O&M of Proposed Mormugao Port International Cruise Terminal (PPP)	Mormugaon	102 (EPC), 22 (PPP)	Dec, 2021
7	Oil Jetty No. 9	Kandla	123	March,2022
8	Berth No.14 Mechanized Fertilizer Handling Facility	Kandla	300	Dec,2021
9	Container Terminal	JNPT	863	Sep, 2021
10	Berth No. 9	VOCPT	435	Sep,2021
11	NCB-III Berth	VOCPT	420	Dec, 2021
12	WQ-7&8	Visakhapatnam	288	Jan, 2022
13	Development of Marina (PPP),Capacity:300 yacht	Mumbai	357	Oct, 2021
Total (FY22)			**6,942**	

- **FY 2023 to 2025** – A total of 18 projects adding up to Rs 7,168 crore are expected to be awarded during the period. The phasing represents the year in which a certain project is envisaged to be tendered out; the actual capex investment is likely to happen in phases during the envisaged concession period.

Table 20: Port Projects to be tendered out during FY2023-25

SN	Project Name	Port	Estimated Investment (Rs. Cr.)	Target award
1	Berths 1,2,3&4	VOCPT	2,144	FY22-23
2	Development of Additional Liquid Cargo Jetty	JNPT	181	FY22-23
3	Redevelopment of Berth No. 9 and 3 barge berths	Mormugaon	700	FY22-23
4	O&M of Berth Nos. 10& 11 on PPP	Mormugaon	200	FY22-23
5	Mechanization of EQ-7 berth	Visakhapatnam	200	FY22-23
6	Mechanization of WQ-6 berth	Visakhapatnam	250	FY22-23
7	Mechanisation of Berth No. 10	SMP (HDC)	350	FY22-23
8	Oil Jetty No. 10	DPT (Kandla)	123	July ,2022
9	Oil Jetty No. 11	DPT (Kandla)	362	Nov, 2022
10	Operationalization of Coastal Berth	JNPT	170	July,2022
Sub-total (FY23)			**4,680**	

SN	Project Name	Port	Estimated Investment (Rs. Cr.)	Target award
1	Mechanization of EQ-6 berth	Visakhapatnam	250	FY23-24
2	Strengthening and Mechanization of Berth 7,8 NSD on DBFOT basis	SMP (KDS)	340	FY23-24
3	Mechanisation of Berth No. 5	SMP (HDC)	325	FY23-24
Sub-total (FY24)			**915**	
1	Mechanization of CQ1 & CQ2 Berths	Paradip	1103	Sep, 2024
2	Berth 9,10&11	New Mangalore	200	FY24-25
3	Mechanization of Berths 4 & 5 NSD on DBFOT Basis	SMP (KDS)	270	FY24-25
4	Construction and mechanisation of container berths at NSD outer Terminal	SMP(KDS)	298	FY24-25
5	Mechanization of SQB Berth	Paradip	75	FY24-25
Sub-total (FY25)			**1,946**	

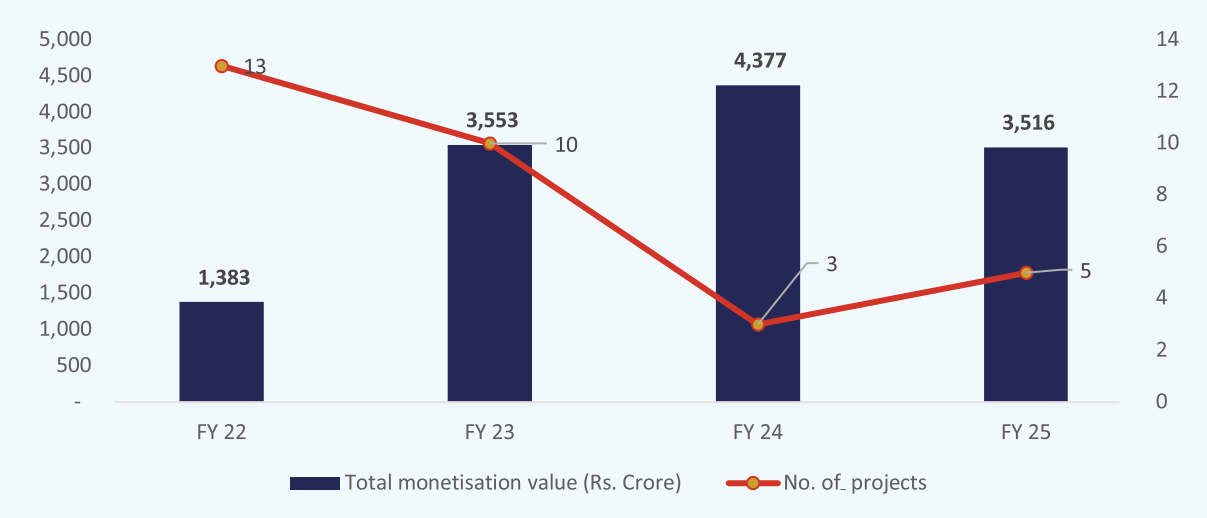


Figure 21: Monetisation pipeline phasing – Ports (Rs crore)

Factors influencing monetisation of asset class

The ports sector has witnessed many policy initiatives over the last decade to revive investor interest and facilitate asset recycling. Key actions include:

- 100% FDI permitted under the automatic route
- Central government has already taken multiple initiatives like Major Port Authorities Act 2021 which enables Major ports to move from a service model to a landlord model and bring in more private sector participation to drive operational efficiency.

- Major Port Authorities Act 2021 enables Major ports to transform effectively for the future. Key areas to be implemented on the ground as per the Major Port Authorities Act 2021 are[36]:

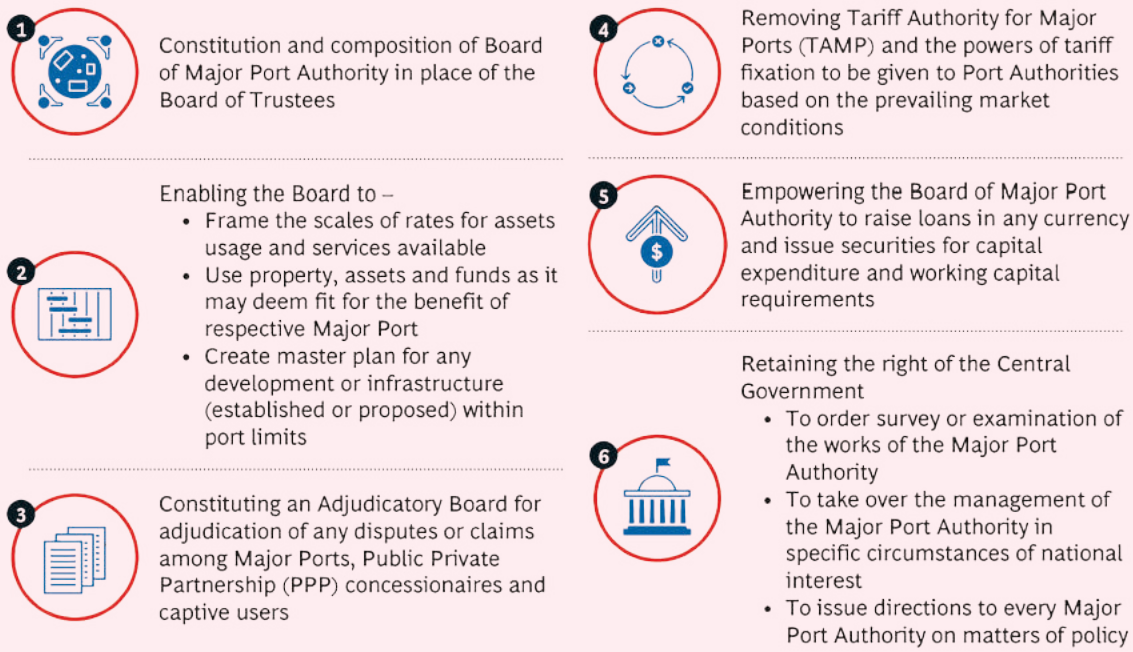


Image source : Maritime India Vision document, 2030

- An evolved framework and MCA for PPP projects in major ports was approved by the Cabinet in 2018 to make investments in the ports sector more attractive. The amendments approved by the Cabinet include dispute resolution mechanism (SAROD[37]–Ports), relaxed exit clause for developers.

  i. Constitution of the SAROD–Ports as a dispute resolution mechanism similar to the SAROD in highways sector

  ii. Concessionaire to pay royalty on "per MT of cargo / TEU handled" basis; this would be inflation-indexed annually, with port operator to pay royalty on actual and not notional income. Ministry has recently constituted an empowered committee to review the MCA and recommend amendments (if any).

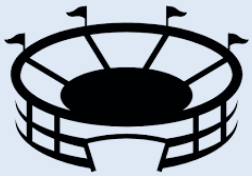
  iii. Providing an exit route to developers for complete stake sale post two years of project completion date

These initiatives will help usher in increased private sector interest and also result in improved operational efficiencies with reduction in turnaround time at Major Ports.

36 maritime-india-vision-2030.pdf (maritimeindiasummit.in)

37 SAROD – Society for Affordable Redressal of Disputes is a dispute resolution mechanism similar to SAAROD in the highways sector

3.12 SPORTS STADIA



Summary

2 National stadiums and 2 regional centres	Rs 11,450 crore	2%
Assets planned for monetisation in FY22-25	Indicative monetisation value in FY22-25 (Rs crore)	Share in overall NMP in value terms (%)

3.12.1 Potential asset base

The total potential asset base considered are the assets under the Sports Authority of India (SAI) under the aegis of the Ministry of Youth Affairs & Sports. The assets are largely managed under the Sports Authority of India (SAI) and categorised into three broad categories – stadiums (managed by the Stadia division), regional centres and academic institutions. The focus of monetisation is on the stadiums and regional centres.

The Stadia division is responsible for formulating policy guidelines for the utilisation of five SAI stadiums in Delhi, having different facilities created with the twin objective of broad-basing sports and to achieve excellence in sports. The five stadiums include: (i) Jawaharlal Nehru Stadium Complex, (ii) Indira Gandhi Sports Complex, (iii) Dr. Shyama Prasad Mukherjee Swimming Pool Complex, (iv) Major Dhyan Chand National Stadium and (v) Dr. Karni Singh Shooting Range.

The SAI regional centres/sub-centres and academic institutions are the implementing agencies for its sports promotional schemes and academic programmes across the country. The 10 regional centre assets include (i) SAI Netaji Subhas Eastern Regional Centre (NSEC), Kolkata; (ii) SAI Netaji Subhas Southern Centre (NSSC), Bengaluru; (iii) SAI Netaji Subhas Western Centre (NSWC), Gandhinagar; (iv) SAI Udhav Das Mehta (Bhai ji) Central Centre, Bhopal; (v) SAI Ch. Devi Lal Northern Regional Centre, Sonipat; (vi) SAI Regional Centre, Chandigarh; (vii) SAI Netaji Subhas North-East Regional Centre, Imphal; (vii) SAI Regional-Centre, Lucknow; (ix) SAI Regional-Centre, Guwahati; and (x) SAI Regional Centre, Mumbai.

Factors influencing monetisation of the asset-class

World class sports infrastructure: Sports stadiums not only serve as playing venues but also are centres of training and excellence in sports. Large infrastructure facilities host several international events, and maintaining these venues after the events are over or in between events is a challenge globally. Stadia fall to disrepair and disuse due to lack of foresight across the life cycle of a stadium. Over the last few years, the sports industry has witnessed a transformation with growing sophistication in infrastructure needs, increased visibility of competitive sports and emergence of sports as a business proposition. Recently, India has made proactive efforts to host numerous mega sporting events. Majority of sports stadia in India require better utilisation, revitalisation of sports usage and upgradation of infrastructure.

Brownfield PPPs in sports infrastructure: There is a pressing case for PPPs in sports' infrastructure development in India to augment and maintain sports facilities and for tapping private sector efficiencies in management of infrastructure. An integrated multi-use sports infrastructure development model, focusing on optimisation of sports facilities by hosting sporting and non-sporting events, upgrading sports infrastructure technology and mixed-use urban development, can drive the provision of world class sports infrastructure. Limited funding avenues for sports and lack of state-of-the-art facilities make a strong argument for attracting private capital in sports infrastructure development through brownfield PPP models. Under a PPP framework, private sector efficiencies in design and management can revitalise the facilities and usage.

Sports facilities have strong latent demand: The existing sports stadiums provide infrastructure for user groups that pursue sports as a career. There is a strong demand for sports facilities that tap an additional user segment who play games/sports for entertainment, fun, and rejuvenation. Investments in sports, leisure and such recreational facilities have a positive impact on the regeneration of urban centres, including:

- Building a strong community spirit
- Providing opportunities for young people to develop lifelong skills
- Increasing the motivation and self-esteem of young people
- Attracting people from outside the area to work and participate in newly developed communities
- Improving the health and lifestyle of people in the local community
- Increasing the economic profile of the area

3.12.2 Assets considered for monetisation

The assets considered for monetisation during FY 2022-2025 cover 2 national stadiums (JLN and one more national stadium to be identified) and 2 SAI regional centres (at Bangalore & Zirakpur). The mode of monetisation for the identified assets will be PPP based concessions on OMDA model.

While the award of the 4 assets is planned in a phased manner over FY22 and FY 23, the actual capex may take place over a 3-4 year period. Further, any concession fee, upfront premium and revenue share payments to authority are over and above this indicative monetisation value and will be discovered based on market testing with transaction.

Approach to monetisation

The assets considered for monetisation include specific assets for which ministry has identified specific plans towards the development of the facilities under brownfield PPP mode. Capex approach has been adopted to determine the indicative monetisation value for stadium assets. The estimated capex has been considered as the approach to estimate the monetisation value. This is only an indicative value at this stage and actual valuation will be arrived at based on detailed feasibility and transaction preparation stage.

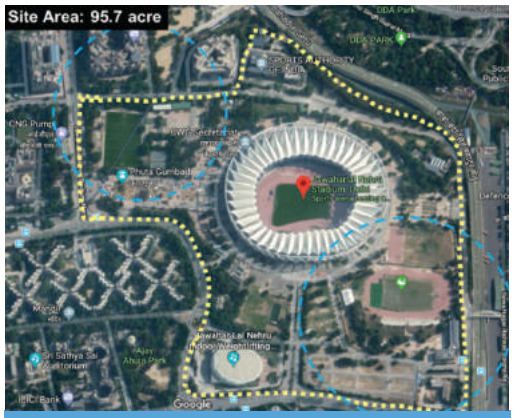
3.12.3 Indicative Value of assets and phasing

The total value of assets considered for monetisation is estimated at **Rs 11,450 crore** for FY 2022-2025, with capex phasing as follows:

- FY 2022 –Rs.1,650 crore
- FY 2023 – Rs 2,100 crore
- FY 2024 – Rs.3,200 crore
- FY 2025 – Rs.4,500 crore

3.12.4 Marquee project: Development of JLN Stadium

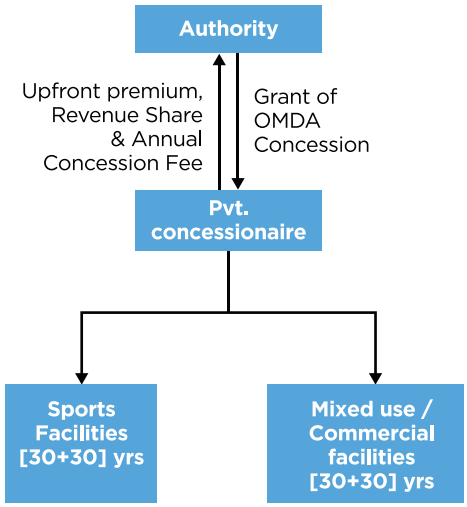
Jawaharlal Nehru (JLN) Stadium in New Delhi is expected to be a pioneer in creating a financially sustainable sporting model in India through an OMDA-based PPP concession agreement for integrated development with shared usage of sports facilities. There is a pressing need for financial sustainability in sports and to explore mixed-use areas that are connected and accessible to promote sporting culture. Hence, the PPP framework is being explored to tap private sector efficiencies in design and management, which can revitalise the facilities and optimise usage.



Transit Oriented Development (TOD) influence area: proximity to 2 Metro stations (Jangpura & JLN)

7,853 Cr

Indicative Capex Investment



Existing facilities & consumed built-up		
S.No.	**Facility**	**Seating/Capacity**
1	Main Arena	60,000 (fixed)
2	Auditorium	2,172 (fixed)
3	Hostel complex	140 rooms + 100 u/c
4	Indoor sports	Table Tennis (2)
5	On Ground facilities	2nd Football ground, Archery, Cricket practice net, Volleyball, Handball

Responsibility	SAI	Operator
Site access	√	
Bid Procedure and criteria	√	
Set the design & specs	√	
Contract monitoring	√	
Commercial revenues		√
SPorting zone revenues	√	√
O&M		√

Figure 22: Snapshot of the JLN stadium asset (New Delhi)

OMDA-based model for monetisation of sports stadiums/ complexes

Rationale

The PPP concept envisages that the selected PPP concessionaire will be given the rights for development and commercialisation of the sports facility through an OMDA. The project structure envisages grant of a concession to a private operator to operate, maintain and augment or redevelop and upgrade the existing facilities at the stadium. As part of the concession, the private partner may be granted development rights at the site subject to compliance with applicable local laws.

Salient features of the OMDA-based PPP model

Scope: The scope of such concessions would entail getting the existing asset at site into the specified condition over an initial development period; developing, operating and maintaining an additional infrastructure at a designated site; operating and maintaining the asset for the concession period followed by transfer back of the asset at the end of the concession in the specified condition. The nature of additional infrastructure may be specified upfront and should be complementary to the existing site usage.

Concession period

A concession period of 30 years may be explored, extendable by another 30 years subject to asset life and viability considerations.

Revenue streams for concessionaire

- Commercial lease rentals
- User fees from sports facilities (sports club and memberships)
- Space renting for sports/ non-sports events and food and beverages for events
- Parking, entry fees, advertisements, etc

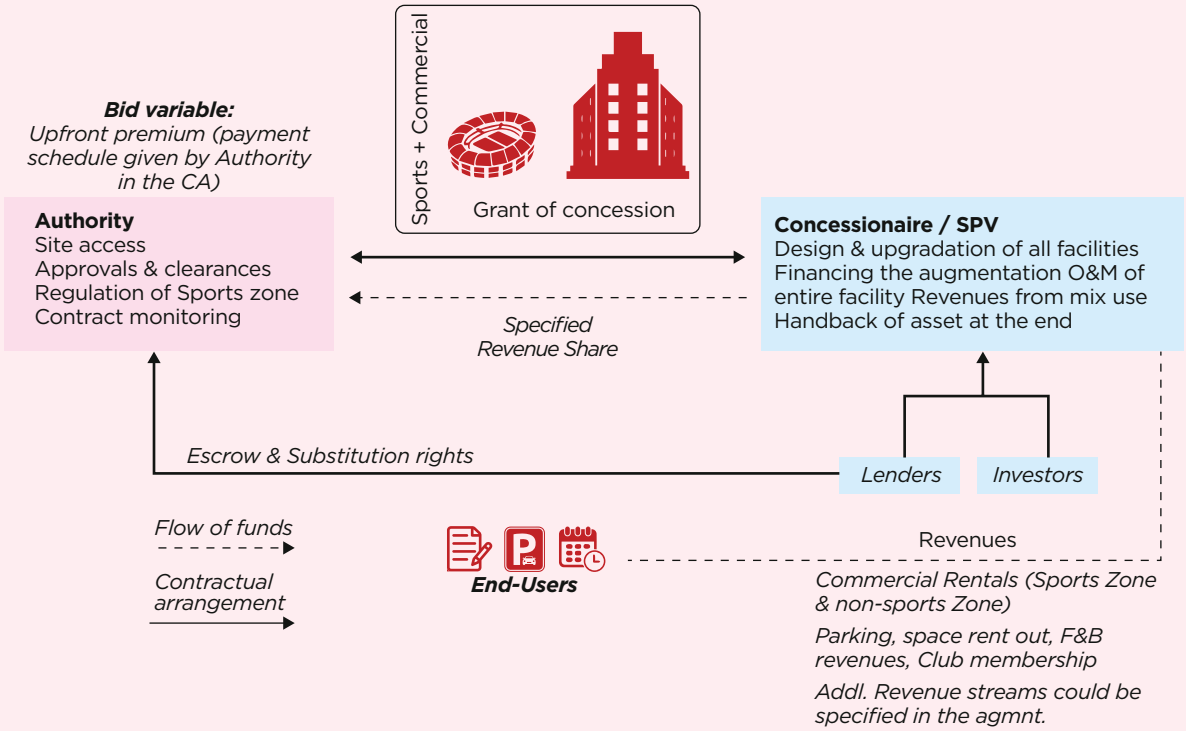
Authority's users and events

- Year-round access to the authority's designated users and campers at regulated charges
- Pre-specified event roster and event day-sharing for the authority's sports and other events

Authority revenue

- Revenue share
- Annual concession fee
- Upfront premium

Indicative transaction structure of OMDA-based sports stadiums/ complex is depicted in the exhibit below.



3.13 URBAN REAL ESTATE ASSETS

Redevelopment of Colonies

Ministry of Housing & Urban Affairs (MoHUA) owns and manages land through the Land and Development Office (L&DO). During the NMP period, the following projects pertaining to redevelopment of colonies are being envisaged. PPP based model is recommended for redevelopment of such GPRA projects cross subsidized through sale / lease of commercial BUA.

Proposed projects are real-estate projects which envisage mixed use redevelopment of a vacant tract / brownfield sites at prime locations in Delhi–NCR. They entail development of general pool residential accommodation and commercial office complexes in one of the most prime areas of the country through a self-funded mechanism.

Considering the prime location and attractive commercial potential of the Project, development of these projects is recommended through private sector participation. This will not only enhance the commercial and operational efficiencies but also ensure upfront / periodic consideration to the Authority / Ministry of Housing and Urban Affairs.

Table 21: Identified projects–Redevelopment of Colonies

Housing redevelopment Assets		
Category	**Locations / particulars**	**Estimated Investment (Rs crore)**
Redevelopment of 7 General Pool Residential Accommodation (GPRA) Colonies in Delhi	Sarojini Nagar Naoroji Nagar Netaji Nagar Sriniwaspuri Thyagraj Nagar Mohammdpur Kasturba Nagar	32,276 crore
Development of residential / commercial units on 240 acre land in Ghitorni (Delhi)	8000 units of GPRA 3000 units for migrant construction workers	15,000 crore

Under a PPP based model for such projects, the entire land parcel should be transferred into an SPV owned by the Authority with requisite change of land use etc wherever required. Multiple statutory clearances are typically required for such Projects which should be pre-obtained by the Authority and housed in the SPV. The SPV should then be bid out under PPP mechanism through a transparent competitive bidding system.

Hospitality assets

The total asset universe considered for the exercise are the hotel assets under the central sector agencies India Tourism Development Corporation (ITDC) under administrative control of the Ministry of Tourism. ITDC is running hotels, restaurants at various places for tourists, besides providing transport facilities. The present network of ITDC consists of 4 Ashok Group of Hotels, 4 Joint Venture Hotels, 7 Transport Units part of the travel & tourism infrastructure, 14 Duty Free Shops at Seaports, 1 Sound & Light Show and 4 Catering Outlets. The hotel assets under ITDC comprise of the following:

Table 22: Identified projects–ITDC Hotel assets

S.No	Hotel Name	Location
1	Hotel Pondicherry	Puducherry
2	Hotel Kalinga	Bhubaneshwar
3	Hotel Ranchi	Ranchi
4	Hotel Nilachal	Puri
5	Hotel Anandpur Sahib	Rupnagar
6	Hotel Samrat	New Delhi
7	Hotel Ashok	New Delhi
8	Hotel Jammu Ashok	Jammu

ITDC is exploring monetisation of its properties which have been considered under the monetisation pipeline. Major assets which are under various stages of discussion as following:

- Joint leasing of Hotel Pondicherry Ashok, Puducherry
- O&M contract for Hotel Kallinga Ashok, Bhubaneshwar
- Divestment of Hotel Ranchi Ashok, Ranchi
- Divestment of Hotel Nilachal, Puri
- Transfer of ownership of Anandpur Sahib Hotel
- Subleasing of Hotel the Ashok, New Delhi
- O&M contract for Hotel Samrat, New Delhi
- O&M contract for Hotel Jammu Ashok, Jammu

Factors influencing monetisation of the asset class

Potential to leverage the Brand Value of Ashok Group – The Ashok group of hotels is the flagship hotel chain under ITDC which have a brand value developed over last 40-50 years and has been the centre stage for all government events organised by various ministries and public sector entities. The Ashok hotels has been the key part of major Conferences, Exhibitions, Workshops/ Seminars and other National and International events organised.

Government push for underutilised assets – ITDC chain of hotels being placed at ~125 acres of land parcels spanning across major cities across the country have not been utilised to their maximum potential.

Strategic Location Advantage – ITDC hotels have the location advantage as majority of the hotels are placed at the heart of the city in prime locations *(Hotel the Ashok, Hotel Samrat, Hotel Kalinga etc.).*

All 8 hotel assets of ITDC have been considered for monetisation during FY 2022 to 2025. Long-term leasing, divestment, long term OMT contract may be explored as potential models for monetisation to be ascertained on a case to case basis as per detailed asset level due diligence.

4

Implementation Plan

This section highlights the framework for monitoring progress of transactions forming part of the NMP.

Successful implementation of NMP hinges on an effective governance framework with escalation matrix for real time monitoring of progress. This will help all stakeholders in monitoring the implementation of projects by comparing actual progress vis-a'-vis planned pipeline for the NMP assets. Which in turn will ensure effective programme implementation. The figure below captures the monitoring and evaluation tools available with an objective to help all stakeholders monitor the implementation and progress of the NMP projects. Real time monitoring will be undertaken through the asset monetisation dashboard, as envisaged under Union Budget 2021-22.

The basic elements of the monitoring and evaluation framework are highlighted in figure below.

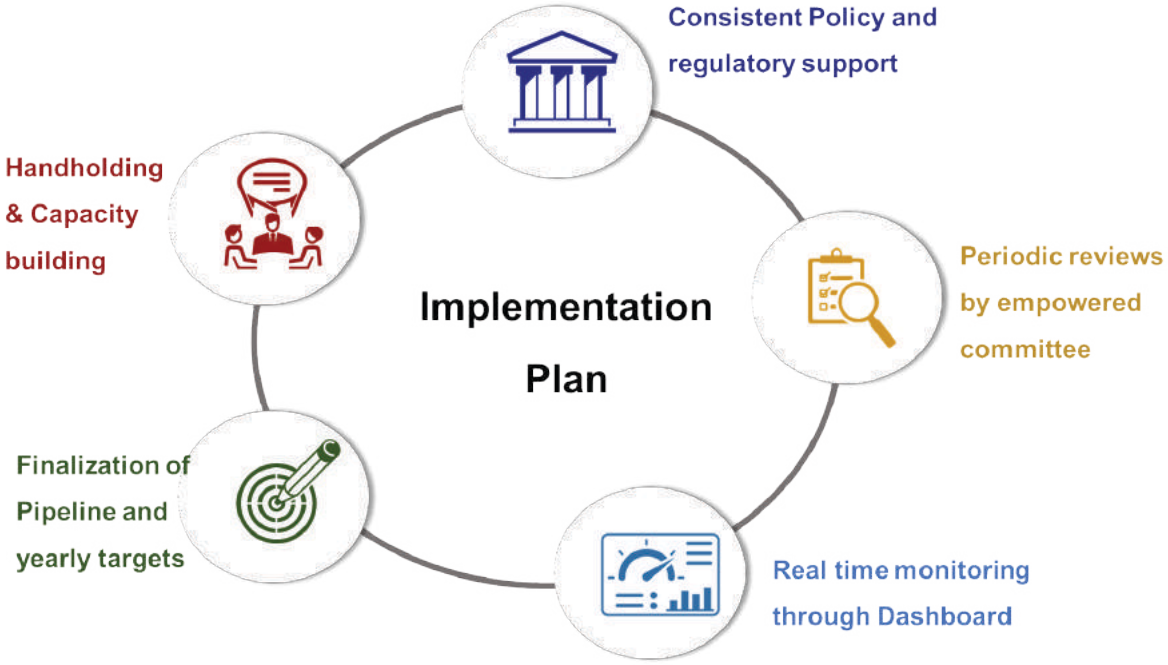


Figure 23: Implementation framework

The programme is envisaged to be supported through necessary policy and regulatory interventions by the Government in order to ensure an efficient and effective process of asset monetisation. These will include streamlining operational modalities, encouraging investor participation and facilitating commercial efficiency, among others. Union Budget 2021-22 has been a witness to commitment of the Government in this regard.

Further, the initiative mandates adoption of innovative models and extensive private sector collaboration, which in turn necessitates augmentation of knowledge base and capacity at the sponsoring ministries/ public sector entities level. Such knowledge and capacity is proposed to be shared across ministries/ public sector asset owners, in form of guidance material, model documents etc so as to avoid redundancies and to ensure value accretive transactions. The end objective of this initiative to enable 'Infrastructure Creation through Monetisation' wherein the public and private sector collaborate, each excelling in their core areas of competence, so as to deliver socio-economic growth and quality of life to the country's citizens.

Annexure

ANNEXURE I: KEY NH STRETCHES TO BE MONETISED OVER FY 2022-2025

North region	State	Length (km)
Hissar–Dabwali	Haryana	47
4 laning of Hissar–Dabwali (2 pkgs)	Haryana	145
6 laning of Panipat-Jalandhar existing Saraswati bridge	Haryana	1
6 laning Eastern Peripheral Expressway (Pkg 1)	Haryana	22
6 laning Eastern Peripheral Expressway (Pkg 3)	Haryana	25
Jammu bypass–Udhampur	J&K	65
Chenani–Nashri	J&K	12
Jhansi Shivpuri	UP / MP	35
Indore–Khalghat	MP	80
Lakhnadon–Mahagaon	MP	57
Patiala bypass-Sangrur bypass	Punjab	61
Sangrur bypass (BP)–Tapa incl. Sangrur & Dhanuala BP	Punjab	59
Farukhanagar–Kottakatta (NS 2 / AP 3)	Haryana	46
Farukhanagar–Kottakatta (NS 2 / AP 4)	Haryana	33
Agra bypass	UP	33
6 laning Eastern Peripheral Expressway (pkg 2)	Haryana	25
6 laning Eastern Peripheral Expressway (pkg 4)	Haryana	22
6 laning Eastern Peripheral Expressway (pkg 5)	Haryana	21
6 laning Eastern Peripheral Expressway (pkg 6)	Haryana	22
Agra Bharatpur	UP / Rajasthan	45
Orai Bara	UP	61
Cable stayed bridge at Naini and approach	UP	4
Fatehpur Khokharaj	UP	58
Chakeri Usrania	UP	21
Allahabad–Handia–Varanasi	UP	72
Chhindwara–Amarwara incl. Chhindwara ORR section	MP	123
Chhindwara (from Ring Road)–Seoni	MP	61
Amarwara–Narsinghpur	MP	70
Amritsar–Wagah	Punjab	36
Total	**29 stretches**	**1361 km**
East region	**State**	**Length (km)**
Hazipur-Muzaffarpur on NH-77 and NH-28	Bihar	39
Chas-Ramgarh (2 sections)	Jharkhand	77

Puintola–Sunakhala	Orissa	58
Sunakhala–Bhubaneshwar	Orissa	76
Bhubaneshwar–Puri	Orissa	59
Palsit–Dankuni	West Bengal	64
Panagarh–Palsit	West Bengal	67
Purnea–Dalkhola	West Bengal / Bihar	36
Dalkhola–Islampur	West Bengal	88
Islampur–Sonapur–Ghoshpukur	West Bengal	44
Salsalabari to West Bengal Assam border	West Bengal	26.5
Kotwa–Mehsi–Muzaffarpur	Bihar	80
Khagaria–Purnea	Bihar	70
Muzaffarpur–Sonbarsa	Bihar	142
Chandikhol Bhadrak	Orissa	75
Aurangabad–Barachetti	Bihar	60
Gorhar–Barwa Adda	Jharkhand	79
Bhadrak Balasore	Orissa	63
Barachetti–Gorhar	Bihar	80
Chandikhol Paradip	Orissa	77
Mokama Munger	Bihar	69
Shillong bypass	Assam	49
Total	**22 stretches**	**1478 km**
West region	**State**	**Length (km)**
Chittorgarh-Kota and Chittorgarh bypass	Rajasthan	161
Palanpur-Abu Road	Gujarat / Rajasthan	45
Abu Road–Swaroopganj	Rajasthan	31
Vadodara–Surat	Gujarat	7
Bharuch–Surat (6 lane) (BOT-II)	Gujarat	65
Bharuch–Surat (6 lane) (BOT-I)	Gujarat	83
Saoner-Chindwara	Maharashtra	76
Deodhari-Kelapur	Gujarat / Maharashtra	30
Borkhei-Wadner-Deodhari	Gujarat / MP border	86
Kelapur-Maharashtra/Telangana border	Maharashtra	23
Pimpalgaon Nashik Gondhe	Maharashtra	57
MP/Maharashtra border-Dhule	Maharashtra	89

Dhule-Pimpalgaon	Maharashtra	118
Kondhali-Talegaon	Maharashtra	50
Talegaon-Amravati	Maharashtra	58
Baran-Shivpuri	Rajasthan/MP	121
Reengus-Sikar	Rajasthan	44
Jaipur-Kishangarh	Rajasthan	90
Bharatpur–Mahua	Rajasthan	57
Mahua–Jaipur	Rajasthan	108
Jaipur-Reengus	Rajasthan	52
Suratgarh–Sri Ganganagar	Rajasthan	78
Kota to Chittorgarh (RJ-7 and RJ-8)	Rajasthan	128
Rajasthan & Gujarat Palanpur-Swaroopganj	Gujarat / Rajasthan	76
Kota-Baran-Shipuri–Jhansi	Rajasthan / MP / UP	300
Total	**25 stretches**	**2031 km**
South region	**State**	**Length (km)**
Kothakota Bypass–Kurnool	A.P.	75
Maharashtra/Karnataka border to Belgaum	Karnataka	78
Hyderabad-Bangalore (6 sections)	A.P. / Karnataka	251
Chikalurper–Vijaywada (6 laned)	A.P.	68
AP/Karnataka Border–Devanhalli	Karnataka	72
Nandi Hill crossing & Devenhalli to Meenu Village AP/KA border	Karnataka	61
6 laning of Bangalore-Hosur section of NH-7	Karnataka	14
AP/KA border–Nandi Hill crossing & Devenhalli to Meenu kunte Village	Karnataka	61
Ulundurpet–Padalur (pkg VI B)	Tamil Nadu	94
Ulundurpet–Tindivanam (pkg VI A)	Tamil Nadu	73
Trichy–Padalur (pkg VI C)	Tamil Nadu	38
Krishnagiri–Thopurghat (NS 2 / TN 1)	Tamil Nadu	63
6 laning of Hosur–Krishnagiri	Tamil Nadu	60
Kadtal-Armur	Telangana	31
Adloor Yellareddy–Chegunta	Telangana	52
Chegunta–Bowenpally	Telangana	62
MH/AP border to Islamnagar (NS-2 / BOT / AP-8)	A.P.	55
Farukhanagar–Kottakatta (NS 2 / AP 3)	Haryana	46
Farukhanagar–Kottakatta (NS 2 / AP 4)	Haryana	56

Armur to Kadloor Yellareddy (NS 2 / AP 1)	Telangana	59
Kadloor Yellareddy to Gundla Pochampali	Telangana	86
Hyderabad-Bangalore (NS-2 / BOT / AP-7)	Karnataka / Telangana	75
Tambaram–Tindivanam	Tamil Nadu	46.5
Hadadi–Devgiri	Karnataka / Maharashtra	80
Hadadi–Doddasiddanahally	Karnataka	71
Gabbur–Devgiri	Karnataka	64
Hattargi – Hirebagewadi	Karnataka	22
Trichy–Karaikudi including Trichy bypass (2 sections)	Tamil Nadu	117
Total	**28 stretches**	**1,931 km**

Designed by yaap