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Institute for Energy Economics and Financial Analysis

GOVERNMENT OF JHARKHAND

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# A Just Transition Financing Pathway for Jharkhand

Three-pronged strategy for a just transition, minimising socio-economic impacts and ensuring long-term fiscal stability and sustainability

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## Key Findings

**Fossil fuels accounted for 32% of Jharkhand's Own Revenue in the fiscal year (FY) 2022-23, showcasing the dependency of the state on fossil fuel sectors.**

**Jharkhand's coal production growth is slowing. While the central government's push to accelerate coal production may help in the short term, the long-term outlook for coal is negative.**

**Any revenue reduction due to the energy transition will negatively affect social sector spending.**

**Implementation of green budgeting and setting up a Just Transition Fund are crucial for Jharkhand to progress towards a just transition.**

# Executive Summary

Jharkhand is at a crucial point in the just transition journey owing to its heavy reliance on fossil fuel revenue, particularly from coal and petroleum. Compared to major coal-producing states like Chhattisgarh and Odisha, Jharkhand's dependency on fossil fuels is significantly higher.

Fossil fuels accounted for 32% of its revenue in the fiscal year (FY) 2022-23. While Chhattisgarh gets 22% of its revenue from fossil fuels, Odisha gets 16%.

On the other hand, the growth in coal production is slowing down. Jharkhand registered modest growth – from 113 million tonnes in FY2013-14 to 156 million tonnes in FY2022-23. While the central government's push to accelerate coal production may help in the short term, the long-term outlook for coal is negative.

Jharkhand's economic reliance underscores the need for strategic planning to address future fiscal risks. While it has made minimal investments in green sectors so far, the state must start reallocating public finances to bolster green industries, which offer high employment potential and alternative revenue streams. Additionally, investing in skill development and technical education is crucial.

While these investments are key, Jharkhand also needs to protect spending in education and health, as its per capita expenditure in these areas is the lowest among the top coal-producing states. The anticipated decline in coal production poses significant risks to Jharkhand's revenue, especially affecting social sector spending, which relies heavily on government funding.

To navigate these challenges, Jharkhand requires a three-pronged strategy:

- **Prioritise public expenditure through green budgeting:** Channel limited public investment into emerging sectors that promise growth and sustainability while supporting economic diversification and safeguarding social sector spending.

- **Mobilise additional finance through a sustainable finance framework:** Utilise private, public and blended capital sources, such as green bonds and blended finance mechanisms, to attract investment. Establish a dedicated just transition fund to support sectors and communities transitioning to a low-carbon economy.

- **Build state capacity:** Train state actors in green budgeting and sustainable finance to effectively attract and manage investments in sustainable development.

By adopting these strategies, Jharkhand can advance towards a just transition while minimising socio-economic impact and ensuring long-term fiscal stability.

# 1. Introduction

India's decision to strive towards the ambitious net-zero emissions goal by 2070 requires a groundbreaking energy transition. The shift from the reliance on traditional fossil fuels to renewable and sustainable energy sources promises far-reaching environmental and socio-economic benefits. Yet, despite the promising prospects, it is crucial to acknowledge and address the potential adverse impact on communities and regions that rely heavily on fossil fuel revenue.

Undoubtedly, transitioning to clean energy is crucial for mitigating climate change, improving air quality and fostering a sustainable future. However, the shift will have significant consequences for communities that have depended on revenue from fossil fuel industries for decades. It is imperative that policymakers approach this transition with equity and justice to minimise its adverse effects on vulnerable communities.

Jharkhand, one of India's largest coal-producing states, will likely face the toughest challenges of the energy transition. With approximately half of its districts rich in coal deposits, Jharkhand has been a key contributor to the nation's energy needs. As a result, revenue from coal and petroleum forms the bedrock of the state's fiscal health.

This report analyses the Jharkhand government's dependency on revenue from fossil fuel industries. Our comprehensive study of these revenue streams highlights their critical role in sustaining the state's economy. This report explores how the state utilises revenue for public expenditure and social programmes. Moreover, it analyses Jharkhand's long-term challenges as the state transitions to a low-carbon economy. It will also examine the potential impact on social expenditure and overall economic stability within the state.

Finally, this report proposes a viable pathway for Jharkhand's just transition[1] financing. It outlines strategic measures and offers policy recommendations to reduce the state's reliance on fossil fuel revenue while ensuring a fair and equitable transition. The report highlights the importance of efficiently utilising public resources and fostering private financing. It proposes actionable steps to bolster funding for emerging sectors, such as renewable energy, sustainable agriculture and green infrastructure. These measures aim to create employment opportunities, stimulate economic growth and ensure that Jharkhand can thrive in a low-carbon future.

# 2. High Fossil Fuel Dependency of Jharkhand

In order to chart out the just transition financing pathway, we start by analysing Jharkhand's dependence on fossil fuel revenue. We break down our analysis into five parts – decoding the sources of Jharkhand's revenue, the direct contribution of fossil fuels to its revenue, the indirect reliance on fossil fuels, the comparison with other coal-producing states and the overall importance

[1] A just transition aims to ensure that the significant benefits of moving to a green economy are broadly shared, while also providing support to those who may face economic disadvantages, including communities, workers and consumers.

of fossil fuels to Jharkhand's economy. Our findings show the critical role of fossil fuels in maintaining the state's economic and fiscal health. Jharkhand is the most fossil fuel revenue-dependent state in India. Its overdependence on fossil fuels for economic sustenance highlights the urgency for planning the transition.

## 2.1 Components of Jharkhand's Total Revenue

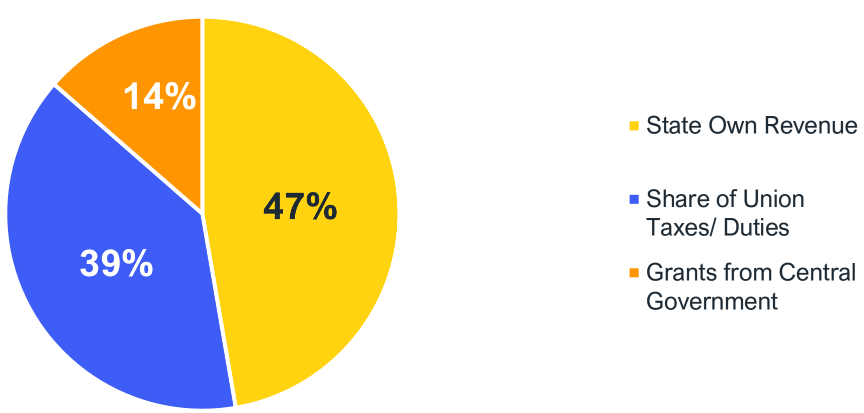
Jharkhand derives its total revenue from three primary components: the share of net proceeds of taxes, grants-in-aid from the central government and its own revenue.

**Share of Net Proceeds of Taxes:** This includes the devolution of taxes by the central government to the states based on the recommendations of the Finance Commission. For the fiscal year (FY) 2022-23, this constituted approximately 39% of Jharkhand's total revenue.

**Grants-in-Aid from the Central Government:** The central government provides these funds through various centrally sponsored schemes, Finance Commission grants and transfer grants. In FY2022-23, grants-in-aid comprised about 14% of Jharkhand's total revenue. These grants are crucial for implementing state-specific projects and addressing budgetary needs.

**Jharkhand's Own Revenue:** This is the most important component of the state's revenue as it reflects its economic health and economic independence. Jharkhand's Own Revenue includes state taxes such as state goods and services tax (GST), value added tax (VAT), excise duty and non-tax revenue from fees, fines and charges for state services. The component makes up around 47% of Jharkhand's total revenue.

**Figure 1: Jharkhand's Total Revenue (FY2022-23)**




*Source: IEEFA Analysis*

In this report, we focus primarily on Jharkhand's Own Revenue, as it is a key indicator of the state's economic status and autonomy. Strengthening this component is essential for the state's financial sustainability and growth.

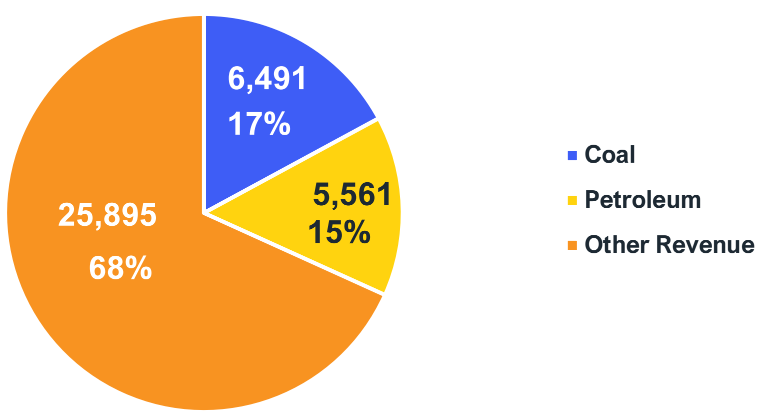
## 2.2 Direct Dependence on Fossil Fuels

Jharkhand's economy relies heavily on revenue generated from fossil fuel resources, particularly coal and petroleum. In FY2022-23, such revenue contributed substantially to the state's financial stability. It accounted for 32% of Jharkhand's Own Revenue and 15% of its total revenue.

> **Fossil fuels account for 32% of Jharkhand's Own Revenue.**

Analysing the specifics shows that coal and petroleum contribute 17% and 15%, respectively, to Jharkhand's Own Revenue. This highlights the reliance of the state's independent income on coal-mining activities. Similarly, coal makes up 8% of Jharkhand's total revenue, and petroleum, 7%.

**Figure 2: Jharkhand's Direct Fossil Fuel Revenue Dependency (FY2022-23) (in Rs Crore)**



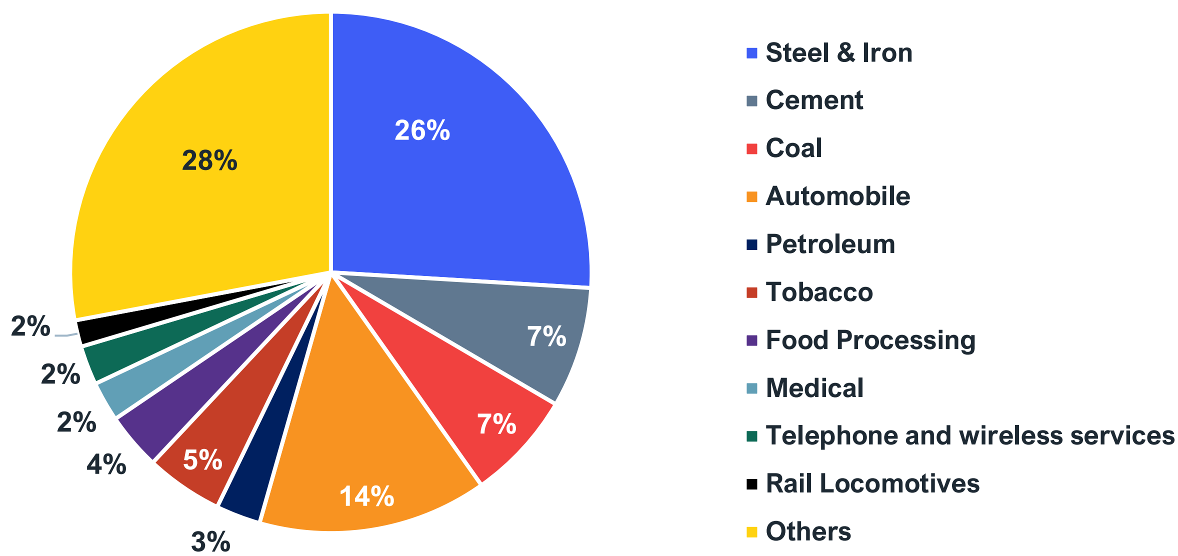

*Source: IEEFA Analysis*

The data in Figure 2 emphasises Jharkhand's dependence on revenue from coal and petroleum sources. This reliance underscores the need for diversification and strategic planning to mitigate potential economic vulnerabilities from overdependence on these finite resources.

## 2.3 Indirect Dependence on Fossil Fuels

An examination of the value of goods supplied[2] from Jharkhand (GST database) shows the inextricable link between the state's revenue and fossil fuels, given the significant contributions from energy-intensive industries.

**Figure 3: Jharkhand's GST Collection (FY2022-23)**




*Source: IEEFA Analysis*

Steel and iron, cement and coal contribute around 40%, while the automobiles and petroleum sectors add another 17%. Approximately 57% of Jharkhand's GST collection comes from fossil fuel-dependent sources. This analysis highlights Jharkhand's heavy reliance on revenue from fossil fuels and the industries that utilise them.

## 2.4 Overall Economic Dependency on Fossil Fuels

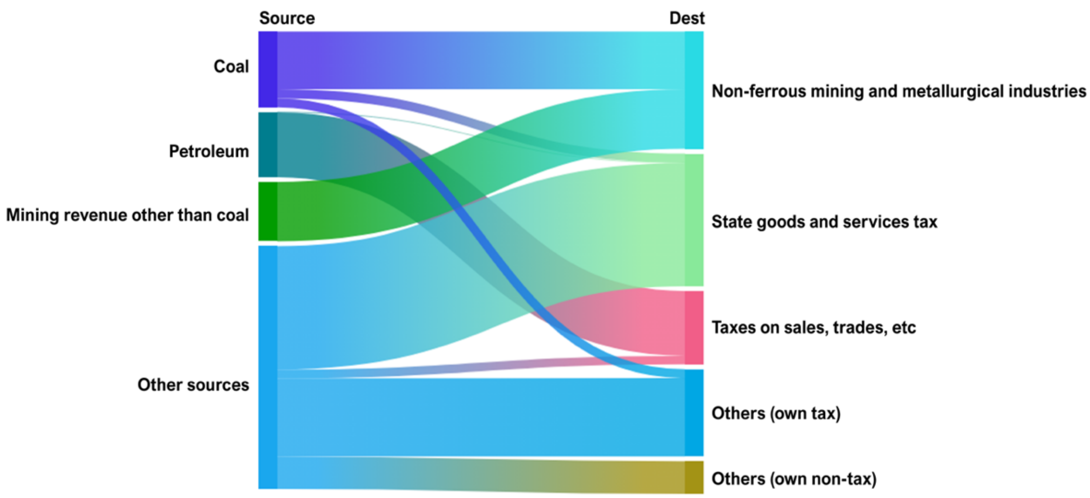
As established in the previous two sub-sections, Jharkhand's revenue landscape relies heavily on fossil fuels. The Sankey chart below (Figure 4) illustrates this further.

Taxes on sales and trade primarily originate from petroleum products. Similarly, coal accounts for the majority of revenue under the non-ferrous mining and metallurgical industries category. As previously established, coal and petroleum-dependent industries significantly contribute to state GST

[2] This represents the total GST tax collection, encompassing all constituent elements, namely, State Goods and Services Tax (SGST), Central Goods and Services Tax (CGST) and Integrated Goods and Services Tax (IGST). The calculation is conducted prior to any deductions, such as input tax credits, transaction reversals and exceptions.

(SGST) revenue. Therefore, it is clear that most economic activities in Jharkhand have close ties to fossil fuels.

**Figure 4: Fossil Fuels' Influence on Jharkhand's Revenue Landscape**




*Source: IEEFA Analysis*

The gross state domestic product (GSDP) data also highlights the substantial contribution of fossil fuels, particularly coal and coal-dependent industries, to the overall economic output. The mining and quarrying sector, encompassing coal activities, made a noteworthy contribution of approximately 8% of total gross value added (GSVA) at constant prices in FY2022-23.[3]

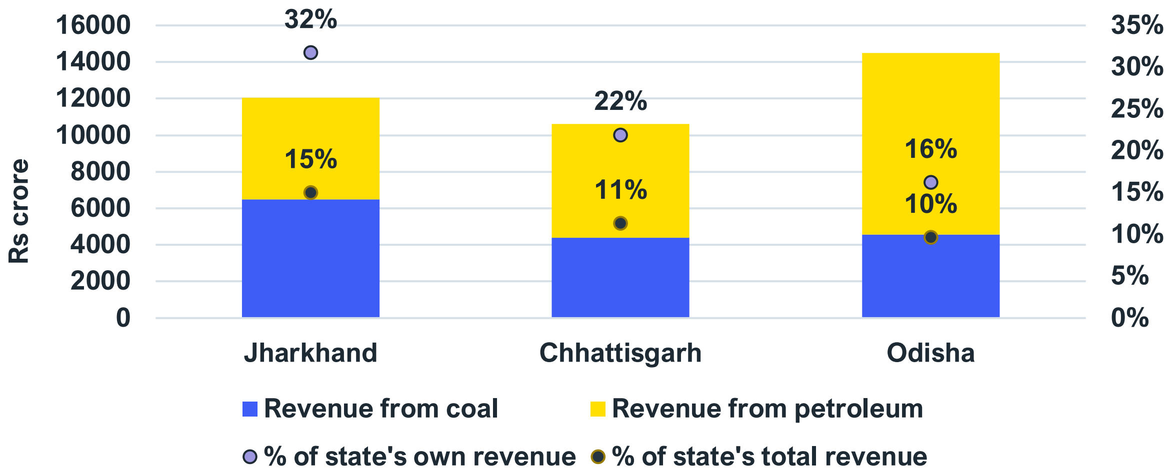
Examining GST and GDP figures further shows that the steel and iron, and cement industries, which are heavily reliant on coal, predominantly shape the manufacturing landscape in Jharkhand. Manufacturing accounted for a significant 23.2% of the total GSVA in FY2022-23. The influence of the coal economy extends beyond these industries, significantly affecting Jharkhand's transport and electricity sectors. Coal's influence extends to the transport and electricity sectors, providing substantial employment opportunities and underscoring its significant economic impact. This raises concerns about the state's overdependence on fossil fuels for economic sustenance.

## 2.5 Comparison with Other Coal-Producing States

To highlight the significance of coal revenue and fossil fuel dependency, we analysed India's top three coal-producing states in depth. The findings show that Jharkhand is the most dependent on fossil fuels, which account for 32% of its own revenue. In comparison, Chhattisgarh shows a lower dependency at 22%, while Odisha has significantly reduced its reliance on fossil fuels, with only 16% of its own revenue coming from these sources.

[3] Department of Finance. Jharkhand Economic Survey 2023-24. February 2024.

**Figure 5: Direct Fossil Fuel Comparison of Jharkhand, Odisha and Chhattisgarh FY2022-23 (in Rs crore)**




*Source: IEEFA Analysis*

This comparative analysis underscores Jharkhand's pronounced reliance on coal and petroleum revenue. Although Jharkhand generates less revenue from coal and petroleum than states like Odisha, its dependency on these resources is significantly higher.

# 3. Low Public Investment in Green Sectors

While numerous sectors contribute to state development, certain sectors are particularly significant for just energy transition pathways. A comprehensive sectoral assessment is crucial, considering both the impact and opportunities within the just transition framework. Based on existing literature and established frameworks, this assessment has led to the creation of a sectoral framework that categorises sectors based on their impact and opportunities.

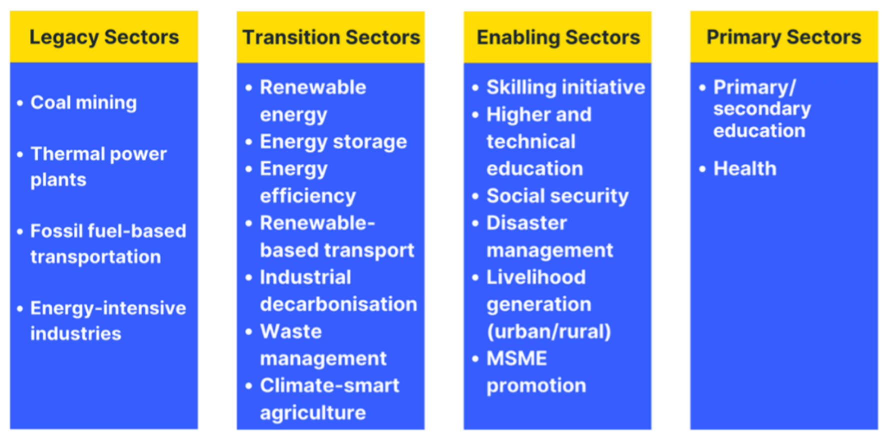
**Legacy Sectors:** Characterised by a historical reliance on coal and petroleum, these sectors have a predominantly negative impact but offer opportunities for positive change, such as repurposing thermal power plants.

**Transition Sectors:** These sectors, including renewable energy, e-transportation, industrial decarbonisation and waste management, have a high positive impact and provide ample opportunities. Known as "sunrise sectors", they are central to just transition efforts.

**Enabling Sectors:** Although their immediate impact is lower, sectors like technical education, skill development and livelihood generation play a crucial supporting role in the medium term. Social safety nets are essential in these areas to mitigate the impact of transitioning from fossil fuels.

**Primary Sectors:** Primary education and public health are fundamental for long-term sustainable development. While their immediate impact on the transition is modest, they are indispensable for human development and form the foundation for sustainable progress.

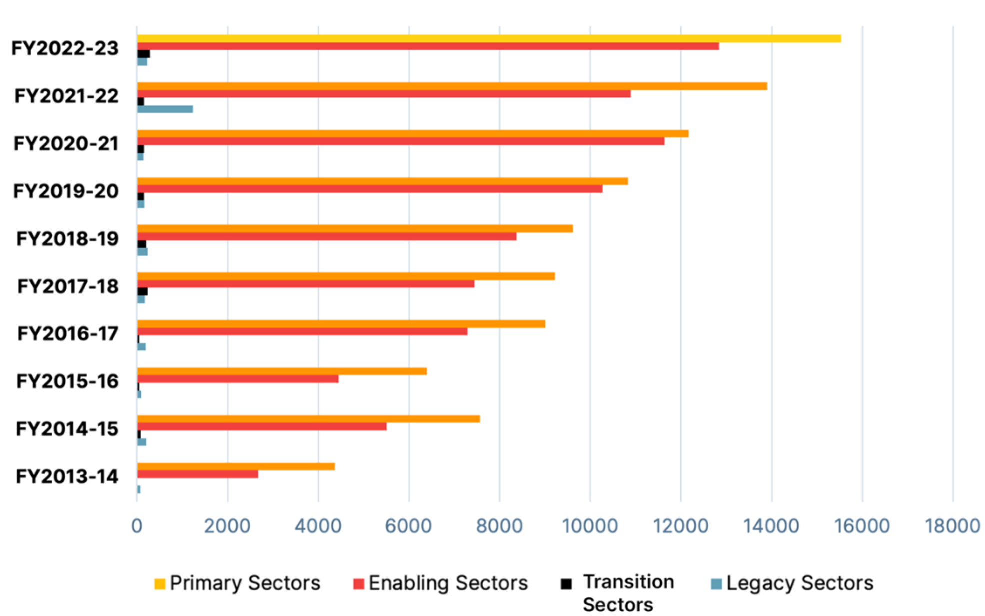
### Figure 6: Sectoral Framework Just Transition




*Source: IEEFA Analysis*

The sectoral assessment of public expenditure from FY2013-14 to FY2022-23 reveals minimal spending in the transition sectors. The legacy sector, particularly mining, saw a boost in FY2021-22 due to the infusion of share capital into Jharkhand Exploration and Mining Corporation Limited (JEMCL), but came down in FY2022-23.

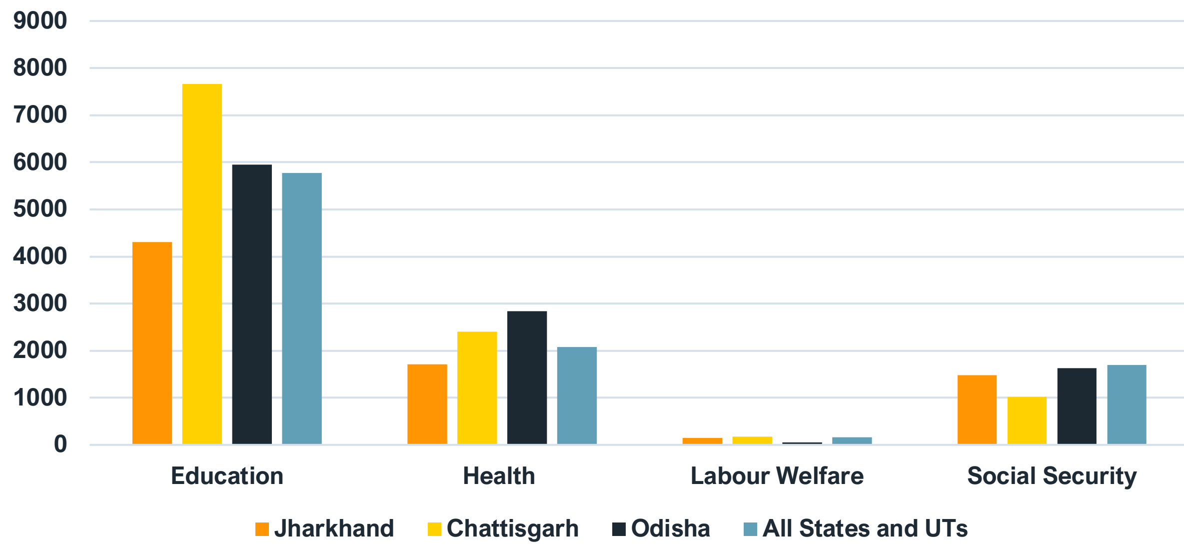
### Figure 7: Jharkhand's Sectoral Expenditure (in Rs Crore)




*Source: IEEFA Analysis*

While enabling and primary sectors received a significant proportion of the budget, data shown in Figure 8 indicates that per capita expenditure on education and health remains low compared to other major coal-producing states.

**Figure 8: Jharkhand, Odisha and Chhattisgarh's Per Capita Expenditure on Key Social Services (Rs per person per annum)**




*Source: IEEFA Analysis*

Jharkhand's expenditure patterns highlight the need for more efficient allocation of public finances to increase expenditure in transition sectors, which have the highest potential to provide employment and alternative revenue streams for the state government. These sectors are green, thus minimising transition risk and stranded asset risk due to policy changes. Additionally, the state should increase funding to enable sectors like skills development and technical education to fully leverage the potential of the transition sectors. However, this increase in expenditure should not come at the expense of the primary sector. Achieving this balance requires careful planning to better utilise existing public finances.

# 4. Long-Term Challenges for Jharkhand

There has been a modest increase in Jharkhand's coal production over the past decade, from 113 million tonnes in FY2013-14 to 130 million tonnes in FY2021-22. This trend reversed in FY2022-23, with coal output increasing by 20% year-on-year due to the central government's renewed emphasis on thermal energy to meet India's rapidly growing energy demand.

> **There has been a modest increase in Jharkhand's coal production over the past decade. Despite renewed focus on thermal energy, the long-term outlook for coal is negative.**

In alignment with this strategic direction, India has signalled an intent to accelerate coal production. According to the Ministry of Coal, there are plans to more than double domestic coal production from 691 million tonnes in FY2021-22 to an ambitious 1,511 million tonnes in FY2029-30.[4] While this robust push will likely propel coal production in the short term, a nuanced perspective reveals a long-term outlook characterised by a potential decline.

**Figure 9: Jharkhand's Coal Production Timeline**


*Source: IEEFA Analysis*

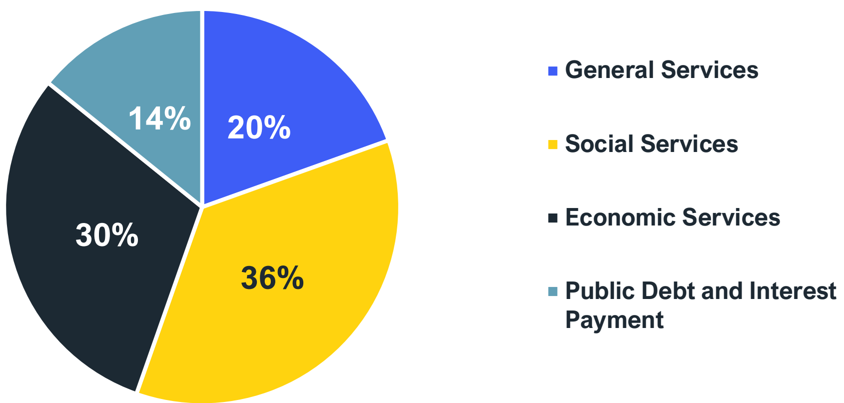
Any potential reduction in coal, petroleum, or industries dependent on them will significantly impact social sector spending. In order to understand why, we analyse Jharkhand's expenditure.

Government spending consists of four parts – General Services, Economic Services, Social Services and, Public Debt and Interest Payment. Administrative expenses fall under General Services, while Public Debt and Interest Payment cover loan repayments and interest. Economic Services focuses

[4] Ministry of Coal. Demand of coal forecasting. File No. 17014/2/2021 – E., 20 May 2022.

on fostering growth and infrastructure. Social Services fund welfare, healthcare and education initiatives.

**Figure 10: Jharkhand's Expenditure (FY2022-23)**




*Source: IEEFA Analysis*

The government has to incur the largely inflexible costs of General Services and Public Debt and Interest Payment under any circumstances. While the government plays a significant role in the economic domain, the private sector makes the most of the investments. Conversely, in the social sector, the government spends the majority.

Therefore, any revenue reduction due to the energy transition will negatively impact social sector spending. This situation underscores the state's need to diversify its economy and identify alternative revenue streams to ensure the transition does not adversely affect social sector spending.

# 5. Just Transition Financing Pathway

Early action is essential for Jharkhand to advance towards a just transition by minimising any adverse socio-economic impact. This requires a three-pronged strategy, which we depict in Figure 11.

**Figure 11: Just Transition Financing Strategy**


*Source: IEEFA Analysis*

1. **Prioritising public expenditure through a green budgeting framework**

   Effective allocation of public expenditure is vital during this transition. Jharkhand needs to channel its scarce public investment into emerging sectors that promise growth and sustainability. Developing a systematic classification for state sectors will help prioritise investments by ensuring the flow of funds for initiatives with the highest potential impact. This approach not only supports economic diversification but also safeguards social sector spending, which is critical for maintaining public welfare during the transition period.

2. **Mobilising additional finance through a sustainable finance framework**

   Jharkhand can utilise various private, public and blended sources to mobilise additional finance through a sustainable finance framework. It can channel additional capital through several mechanisms and instruments, such as thematic debt issuances, blended finance mechanisms and a dedicated just transition fund. Thematic debt issuances, including green, social and sustainability-linked bonds, can attract investment by addressing specific environmental, social, and governance (ESG) goals. Blended finance mechanisms, which combine public and private investments, can mitigate risks and enhance the attractiveness of projects for private investors. Additionally, establishing a dedicated just transition fund can support sectors and communities in transitioning to a low-carbon economy, ensuring the economic shift is inclusive and equitable.

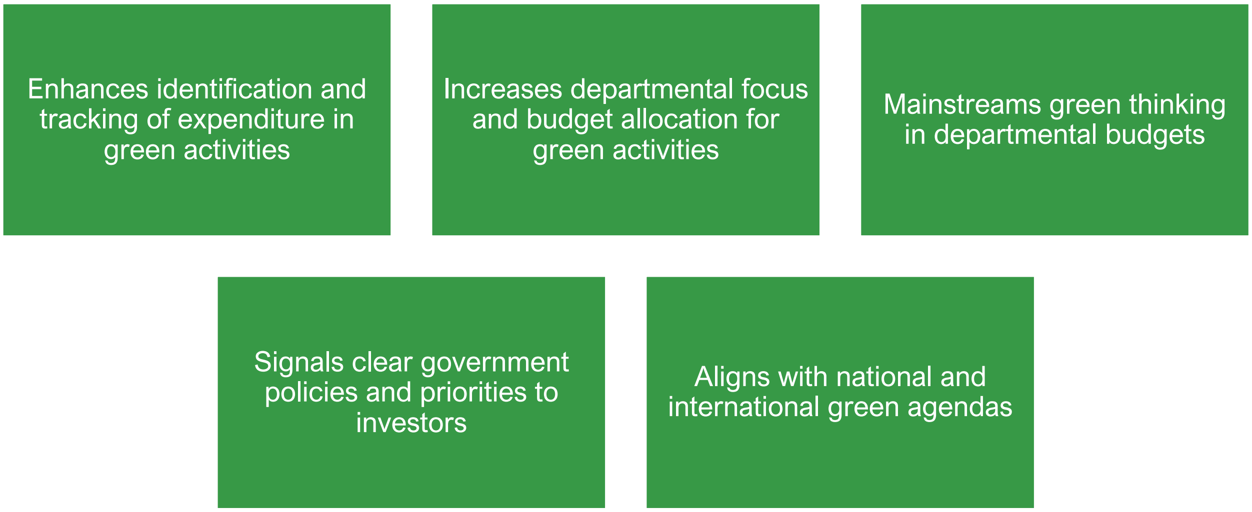
3. **Building state capacity**

   The capacity building of state actors is crucial for implementing these initiatives. State actors need training to identify and evaluate projects with positive environmental impact, and to monitor and report the impact. Additionally, mobilising additional finance through a sustainable finance framework requires state actors to proficiently utilise various financial instruments and mechanisms. Enhancing their understanding and capabilities in these areas is imperative for effectively attracting and managing public and private investments for sustainable development.

# 6. Green Budgeting

Green budgeting integrates environmental factors into financial decision-making, ensuring public funds promote sustainability and climate resilience. It evaluates the environmental impact of policies, projects and programmes, prioritising investments that align with sustainability goals. This approach uses budgetary tools to assess environmental effects, supporting national and international commitments. Green budgeting fosters evidence-based discussions on sustainable growth, leveraging existing financial management frameworks. Overall, green budgeting encourages integrated policymaking and proactive approaches to environmental sustainability, facilitating innovation within existing programmes and schemes by tracking expenditure contributing to sustainable development goals.

**Figure 12: Benefits of Green Budgeting**




*Source: IEEFA Analysis*

Green budgeting in Jharkhand presents numerous opportunities not only to foster environmental sustainability but also to increase employment opportunities and create alternative revenue streams for Jharkhand by prioritising investments in transition sectors. It encourages departmental participation, sets accountability, informs revenue and utilises climate financing. By linking sustainable development goals (SDGs) and other inclusiveness indicators, such as gender and child-related climate vulnerability, with climate programmes and schemes, the green budget can enhance sectoral participation and transparency. The advantages include:

1. **Enhances identification and tracking of expenditure on green activities**

   Green budgeting enhances the identification and tracking of expenditure on green activities. This improved transparency allows the government to better monitor the use of funds in supporting environmental sustainability, ensuring effective channelisation of financial resources towards green initiatives.

2. **Increases departmental focus and budget allocation for green activities**

   It increases departmental focus and budget allocation for green activities. By prioritising green expenditure within departmental budgets, the state can ensure that all sectors contribute to the transition towards a greener economy. This targeted approach can drive the effective implementation of green policies and programmes.

3. **Brings the focus on green thinking in departmental budgets**

   Green budgeting brings the focus on green thinking in departmental budgets. Integrating environmental considerations into the budgeting process encourages departments to consider their activities' environmental impact and develop sustainable practices. This holistic approach can lead to comprehensive and cohesive efforts towards environmental sustainability across all government functions.

4. **Signals clear government policies and priorities to investors**

   It signals clear government policies and priorities to investors. By demonstrating a commitment to green initiatives, the government can attract investment from environmentally conscious investors, thereby boosting the state's economic growth while promoting sustainability. This clarity can also enhance investor confidence and encourage private sector participation in green projects.

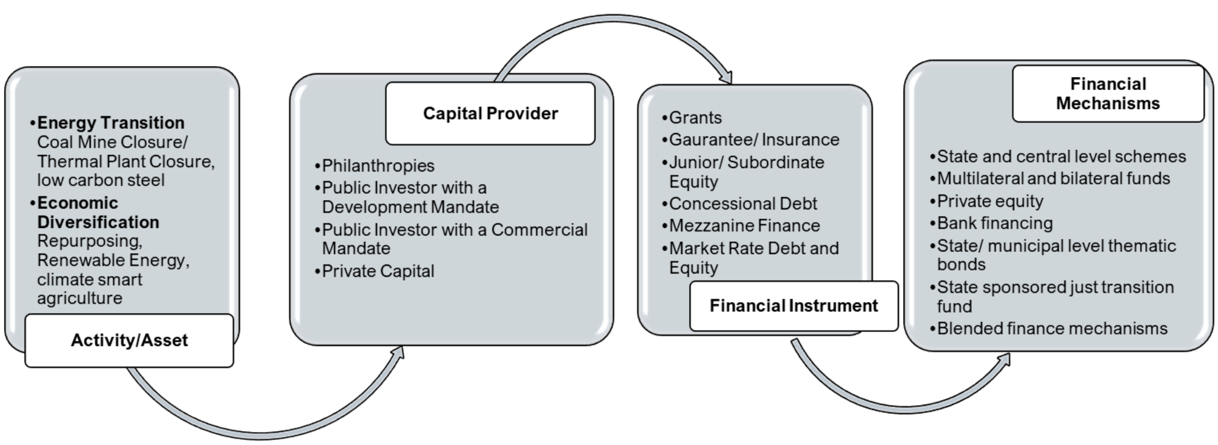
5. **Aligns with national and international green agendas**

   Green budgeting also aligns with national and international green agendas. By adopting green budgeting practices, Jharkhand can ensure its financial strategies are consistent with broader environmental goals and commitments, such as those outlined in national policies and international agreements. This alignment can enhance the state's reputation and foster collaboration with other regions and countries working towards similar objectives.

# 7. Sustainable Finance Framework

The sustainable finance framework connects specific green activities and assets with suitable investors and financial instruments and mechanisms. Thereby, it facilitates the flow of funds necessary for promoting sustainability. By effectively mapping out these relationships, the framework aims to support the transition towards a green economy, leveraging various sources of capital and financial tools to achieve environmental and economic goals. Figure 13 illustrates the framework, focusing on aligning specific green initiatives with appropriate funding sources and financial tools to facilitate this transition.

**Figure 13: Details of the Sustainable Finance Framework**




*Source: IEEFA Analysis*

The figure presents a structured approach to financing Jharkhand’s transition towards a sustainable and diversified economy, emphasising the need for various financial instruments and mechanisms tailored to specific activities and assets. This variety is necessary because different economic activities and assets, depending on their technological and commercial viability as well as developmental priorities, require financing from specific sources of capital through appropriate mechanisms.

The figure provides an example of a sustainable finance framework focusing on key green investment areas, including energy transition activities, such as coal mine and thermal plant closures and the development of low-carbon steel. These activities are crucial for reducing carbon emissions and transitioning from fossil fuels. It also highlights economic diversification efforts, which involve repurposing existing industrial sites, investing in renewable energy and adopting climate-smart agricultural practices. Diversification is essential for Jharkhand to reduce its economic dependence on coal and create sustainable growth opportunities.

To support these activities, we map various capital providers. Philanthropies offer grants and donations for developmental projects focusing on environmental sustainability and social impact. Grants are non-repayable funds provided primarily by philanthropies and government bodies to support developmental projects. Public investors with a development mandate, such as government agencies and bodies, invest in projects to achieve developmental goals rather than financial returns. Public investors with a commercial mandate, including state and municipal bodies, invest in commercially viable projects for financial returns. Additionally, private capital comes from private investors and financial institutions looking for profitable investment opportunities in emerging sectors.

The figure also describes the financial instruments that Jharkhand can utilise. Grants can be used for essential activities that are not profitable, like skilling. Guarantees and insurance are financial products that reduce risk for investors, encouraging private investment in high-risk projects or emerging areas like battery storage. Junior or subordinate equity refers to equity investments that are lower in repayment priority but can attract additional financing by mitigating risk. Concessional debt includes loans offered at below-market interest rates to support projects with high developmental impact. Mezzanine finance, a hybrid of debt and equity financing, provides flexible capital with higher returns for investors. Market rate debt and equity represent traditional forms of financing provided at market rates based on the risk and return profile of the project.

Finally, it outlines the financial mechanisms to channel these instruments. State- and central-level schemes provide financial support and incentives for sustainable projects. Multilateral and bilateral funds from international sources support large-scale developmental projects. Private equity investment funds offer capital to high-growth potential companies in exchange for ownership stakes. Bank financing is a traditional method of providing loans for development projects. State- and municipal-level thematic bonds raise capital for specific projects, while state-sponsored just transition funds support sectors and communities transitioning to a low-carbon economy. Blended finance mechanisms combine public and private investments to mitigate risks and enhance the attractiveness of projects for private investors. For instance, bank loans can finance renewable energy projects, but just transition activities might need a dedicated just transition fund.

The framework offers significant benefits for Jharkhand by providing a structured approach to funding green initiatives, attracting diverse sources of capital and leveraging financial tools to maximise investment impact while minimising risks. This approach enhances Jharkhand's ability to achieve environmental goals, stimulates economic growth, creates jobs and positions the state as a leader in sustainable development.

# 8. The Way Forward

Jharkhand's heavy reliance on fossil fuel revenue presents a significant challenge as the state transitions to a low-carbon economy, which aligns with India's net-zero carbon emissions goal by 2070. With most of its own revenue at risk, the state faces a potential fiscal gap that requires a strategic and comprehensive approach. To address this, Jharkhand must embark on a transformative journey of economic diversification towards low-carbon pathways. This shift is essential to ensure a sustainable future and minimise socio-economic impact, necessitating early and proactive measures.

The first step in this transition involves prioritising public expenditure through a green budgeting framework. By systematically classifying and channelling scarce public investments into emerging low-carbon sectors, Jharkhand can maximise the impact of its spending. This approach requires developing a detailed and systematic classification system for sectors, focusing on those with the highest potential for sustainable growth. Investing in renewable energy, sustainable agriculture and green infrastructure will not only help reduce carbon emissions but also create new job opportunities and stimulate economic growth. This green budgeting framework will serve as a guiding principle for all state expenditure, ensuring that every rupee spent contributes to the broader goal of a low-carbon economy.

In parallel, Jharkhand must mobilise additional finance through a sustainable finance framework. Given the scale of the transition, relying solely on public funds will be insufficient. The state needs to explore various private, public and blended capital sources. Mechanisms like thematic debt issuances, blended finance arrangements and establishing a dedicated just transition fund can play crucial roles. These instruments will help attract investment from diverse stakeholders, including domestic and international investors, ensuring a steady flow of resources to support the transition. A well-structured sustainable finance framework will provide the necessary financial backbone for Jharkhand's ambitious plans, enabling the state to leverage additional capital effectively.

Furthermore, Jharkhand should focus on creating an enabling environment for private sector participation. This involves establishing clear policies and regulatory frameworks encouraging investments in low-carbon technologies and sectors. Public-private partnerships can be instrumental in driving innovation and scaling up sustainable practices. Jharkhand can build a robust ecosystem that supports the transition by fostering collaboration between the government, private sector and civil society. This collaborative approach will ensure a wide distribution of the benefits of the transition, contributing to a just and equitable shift away from fossil fuel dependence.

Finally, Jharkhand's transition strategy must include comprehensive stakeholder engagement and capacity-building initiatives. Engaging with local communities, industry players and other stakeholders is crucial for gaining buy-in and support for the transition. Additionally, building the capacity of local institutions and workforce to adapt to new low-carbon sectors will be essential.

Training programmes, educational initiatives and awareness campaigns can help equip the population with the necessary skills and knowledge to thrive in a low-carbon economy. By taking a holistic approach that addresses economic, social and environmental dimensions, Jharkhand can navigate the challenges of the transition and pave the way for a sustainable and resilient future.

# About the Task Force

The Government of Jharkhand has established a Task Force on Sustainable Just Transition to support national climate goals of achieving net-zero emissions by 2070, along with addressing associated socio-economic issues. The Task Force aims to provide key recommendations to the Government of Jharkhand on the sustainable transition for a future-ready Jharkhand by identifying innovative pathways for transitioning to a non-fossil fuel-based ecosystem, assessing the impact on the economy, workers and communities, identifying opportunities in green sectors, and recommending policy interventions.

# About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends, and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable, and profitable energy economy. www.ieefa.org

# About CEED

Centre for Environment and Energy Development (CEED), an environment and energy expert group, is involved in creating sustainable solutions to maintain a healthy, rich and diverse environment. CEED primarily works towards Energy Transition, Air Quality Management, Decarbonisation and Circular Economy by creating an enabling ecosystem to scale up investments in low-carbon development pathways, climate mitigation and adaptation. CEED engages with govt. agencies, industries, think tanks, stakeholders and the public to create environmentally responsible and socially just solutions. CEED is the technical partner of the Task Force on Sustainable Just Transition, Jharkhand. Email: info@ceedindia.org

Institute for Energy Economics and Financial Analysis

झारखण्ड सरकार GOVERNMENT OF JHARKHAND

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