



Rail-Sea-Rail Transportation

For Prelims: Rail-Sea-Rail (RSR) transportation, [coal](#), [SHAKTI](#)

For Mains: Challenges in Enhancing Coal Evacuation in India, Initiatives Related to Coal

[Source: PIB](#)

Why in News?

The Ministry of Coal is promoting the **Rail-Sea-Rail (RSR) transportation strategy**, aimed at **streamlining the movement of domestic [coal](#)**.

What is Rail-Sea-Rail (RSR) Transportation?

▪ About:

- It is an innovative **multimodal transportation strategy**.
 - Integrates **rail and sea routes** for seamless coal transportation from **mines to ports and end-users**.
 - Aims to enhance **logistical efficiency and reduce transportation costs**.

▪ Addressing Coal Movement Challenges:

- RSR is designed to address challenges related to efficient coal movement from **production centers to consumption regions**.
 - A significant portion of **domestic raw coal dispatch, around 75%, is attributed to major coal-producing states like Odisha, Chhattisgarh, and Jharkhand**.
 - The Ministry of Coal recognizes the need to augment coal production to meet the growing demand for energy. In light of this, the ministry has projected a **substantial increase in coal production, targeting a Compound Annual Growth Rate (CAGR) of approximately 7.7% by FY'30**.

▪ Leveraging Coastal Shipping:

- Coastal shipping has emerged as an economical and environmentally friendly mode of transporting goods, including coal.
 - As part of the RSR initiative, efforts are being made to fully utilize the **potential of ports along India's Southern and Western coasts**.
 - This optimisation enables the efficient movement of coal to powerhouses located in states like **Gujarat, Maharashtra, Karnataka, Goa, Tamil Nadu, Kerala, and Andhra Pradesh**.

▪ Cost Optimization and Competitive Pricing:

- Opting for RSR could result in significant cost savings.
 - Potential savings of around **Rs. 760-1300 per ton for end-users in Southern India**.
 - These cost savings can make **domestically produced coal more competitive against the total landed cost of imported coal**.

▪ Reducing Congestion and Enhancing Logistics:

- Presently, railways handle about **55% of coal evacuation**. The Ministry of Coal envisions

raising the **railways' share in coal evacuation to 75% by FY'30.**

- One of the primary goals of this initiative is to **reduce congestion on traditional rail routes, which often face bottlenecks due to high traffic.** The focus on alternative routes, including Rail-Sea-Rail (RSR), is expected to alleviate this congestion and streamline logistics.

▪ **Growth and Future Prospects:**

- Rail-sea-rail transportation of coal has witnessed remarkable growth, experiencing an **increase of approximately 125% over the past four years.**
- This growth trajectory indicates the effectiveness and viability of RSR as an alternative mode of transportation. With India's coal production expected to nearly double within the next seven years, the **success of RSR becomes even more crucial in ensuring an uninterrupted supply of coal** to consumption centres across the country.

▪ **Challenges in Rail-Sea-Rail Coal Evacuation:**

- Robust **rail and port infrastructure** is required for efficient Rail-Sea-Rail coal transport and **handle increased capacity.**
- There is a need to **develop risk mitigation strategies** to address potential challenges such as **adverse weather conditions, technical glitches, and disruptions in the transportation chain.**
- Ensuring seamless collaboration between **various Ministries involved in Rail-Sea-Rail strategy implementation for smooth execution.**

What are the Initiatives Related to the Coal Sector in India?

- [UTTAM \(Unlocking Transparency by Third Party Assessment of Mined Coal\).](#)
- [Scheme for Harnessing and Allocating Koyala \(Coal\) Transparently in India \(SHAKTI\).](#)
- **Online Coal Clearances System:** Provides a single window access to its investors to submit online applications for all the permissions / clearances and approvals granted by the Ministry of Coal.
- **Coal Allocation Monitoring System (CAMS):** Monitor the allocation of coal by Coal India Limited to States, States to Single Nodal Agency(SNA) and SNA to such consumers in a transparent manner.
- **Commercial coal mining:** The government has introduced commercial coal mining for private companies, allowing them to bid for coal blocks and sell coal in the open market.

Coal

- It is a type of **fossil fuel** found in the form of **sedimentary rocks and is often known as 'Black Gold'.**
- It is a conventional source of energy and is widely available. It is used as a domestic fuel, in industries such as **iron and steel, steam engines and to generate electricity. Electricity from coal is called thermal power.**
- The leading coal producers of the world include **China, US, Australia, Indonesia, India.**
- Indian coal has high ash content, which varies from 35 to 45%, compared with that of coal in other parts of the world, which is around 15% while it has low sulphur content, about 0.5%.
- **Different Types of Coal in India:**
 - **Anthracite** (80-95% carbon content, J&K), **Bituminous** (60-80% carbon content, Jharkhand, West Bengal, Odisha, Chhattisgarh, MP), **Lignite** (40-55% carbon content, Rajasthan, Assam, Tamil Nadu), **Peat** (less than 40% carbon content, early wood-to-coal stage).
- **Major Coal Producing States:**
 - Jharkhand, Odisha, Chhattisgarh, West Bengal, Madhya Pradesh, and Telangana.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q1. Consider the following statements: (2019)

1. Coal sector was nationalized by the Government of India under Indira Gandhi.
2. Now, coal blocks are allocated on lottery basis.
3. Till recently, India imported coal to meet the shortages of domestic supply, but now India is self-sufficient in coal production.

Which of the statements given above is/are correct?

- (a) 1 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

Ans: (a)

Exp:

- Coal sector was nationalised in two phases under Indira Gandhi Government in 1972. **Hence, statement 1 is correct.**
- The coal blocks are allocated through auctions and not on a lottery basis. **Hence, statement 2 is not correct.**
- The coal sector is the monopolistic sector in India. India holds 5th biggest coal reserves in the world, but due to the incapacity of coal production by monopolistic firms, it imports coal to meet the shortages of domestic supply. **Hence, statement 3 is not correct.**
- **Therefore, option (a) is the correct answer.**

Q2. Which of the following is/are the characteristic/characteristics of Indian coal? (2013)

1. High ash content
2. Low sulphur content
3. Low ash fusion temperature

Select the correct answer using the codes given below:

- (a) 1 and 2 only
(b) 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

Ans: (a)