ANNEXURE A: CO_2 SOURCE SINK MAPPING AND CLUSTER ANALYSIS

THE TABLE REPRESENTS A LIST OF A FEW COMMERCIAL OPERATIONAL PROJECTS GLOBALLY.

Project name	Industrial Sector	Country	Operation start year	Announced CO_2 capture capacity (MTPA)	Fate of CO_2
Labarge Shute Creek Gas Processing Plant	Natural gas processing/LNG	Wyoming, USA	2010	3.5	EOR
Great Plains Synfuel Plant	Other fuel transformation	North Dakota, USA	2000	3	EOR
Petra Nova Carbon Capture	Power	Texas, USA	2016	1.4	EOR
NWR Sturgeon Refinery	Other fuel transformation	Alberta, Canada	2020	1.3	EOR
Boundary Dam CCS	Power and heat	Saskatche wan, Canada	2014	1	EOR
Sleipner	Natural gas processing/LNG	Norway	1996	1	Dedicated storage
Emirates Steel Industries - Abu Dhabi CCS Phase 1	Iron and steel	UAE	2016	0.8	EOR
Uthmaniyah CO_2-EOR demonstration	Natural gas processing/LNG	Saudi Arabia	2015	0.8	Mixed
Snohvit CO_2 capture and storage	Natural gas processing/LNG	Norway	2008	0.7	Dedicated storage
Enid Fertiliser	Chemicals	Oklahoma, USA	1982	0.68	EOR

Source: *IEA CCUS Database, 2024*

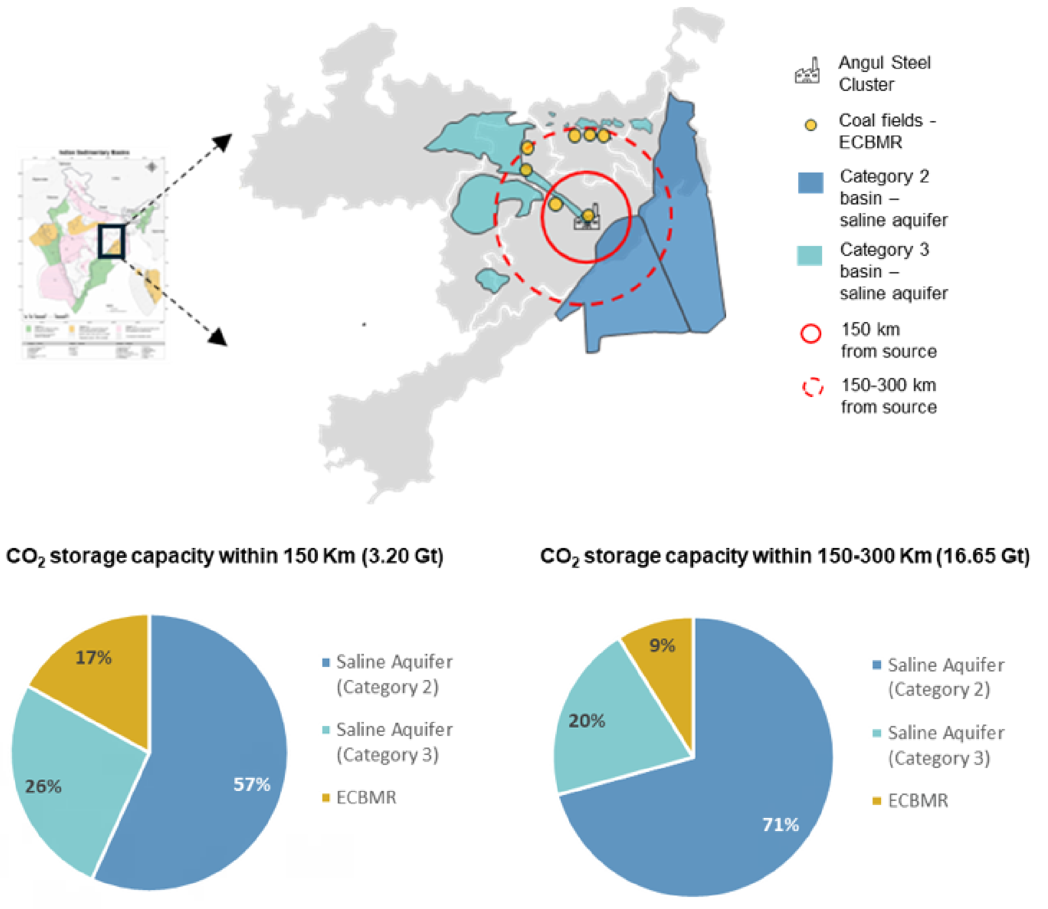
KEY IDENTIFIED CLUSTERS IN INDIA

ANGUL

MAJOR ISPS IN ANGUL AND THEIR ESTIMATED CO_2 EMISSIONS

Players	Crude Steel Capacity (MTPA)	Estimated CO_2 Emissions (MTPA)	CO_2 Emissions Amenable for Capture (MTPA)	30-year Storage Capacity (Gt)
JSPL	35	77.9	46.8	1.4
Tata Steel - BSL				
Tata Steel - KPO				
Tata Steel - NINL				

Figure 5.1: Source-Sink Mapping for Angul Cluster



Source: *Dastur Analysis*

STORAGE OPPORTUNITIES FOR ANGUL CLUSTER

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 2)	Mahanadi basin	-	1.82
Saline Aquifer (Category 3)	Satpura basin	-	0.84
ECBMR	Odisha coal field 2	Talcher, Lakhanpur	0.365
	Odisha coal field 1	IB Valley	0.18
Total			**3.20**
Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 2)	Mahanadi basin	-	7.3
	Bengal basin	-	4.48
Saline Aquifer (Category 3)	Chhattisgarh basin	-	2.35
	Satpura basin	-	1.05
ECBMR	East Jharkhand coal fields	Bokaro & Jharia	0.73
	North Chhattisgarh coal field 3	Mand-Raigarh, Korba	0.36
	Central Jharkhand coal fields	N & S Karanpura, Ramgarh	0.35
	West Jharkhand coal fields	Auranga Hutar	0.025
	North Chhattisgarh coal field 2	Hasdo-Arand, Sendurgarh	0.0125
Total			**16.66**

Source: *Dastur Analysis*

Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

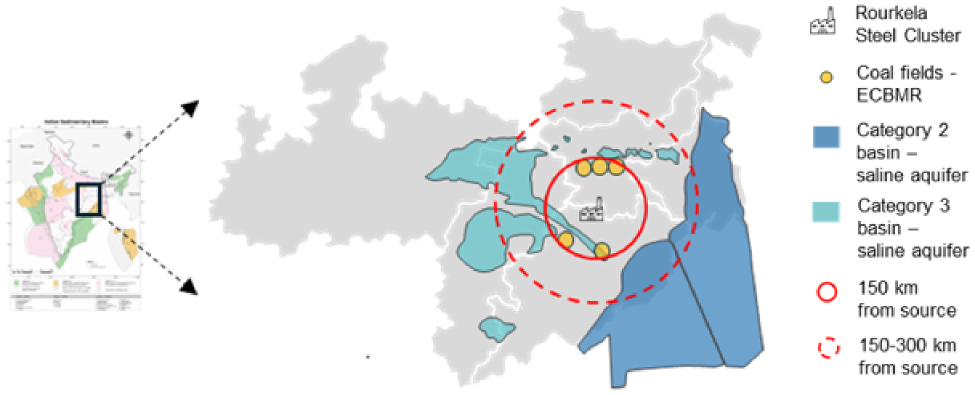
ROURKELA

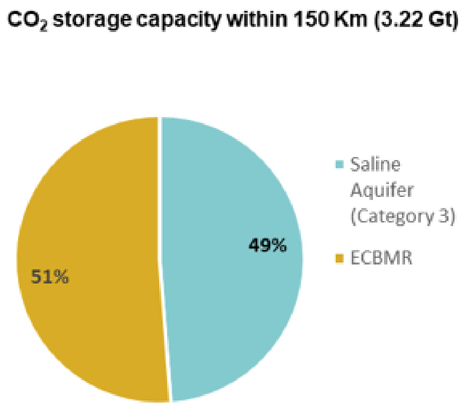
MAJOR ISPS IN ROURKELA AND THEIR ESTIMATED CO_2 EMISSIONS

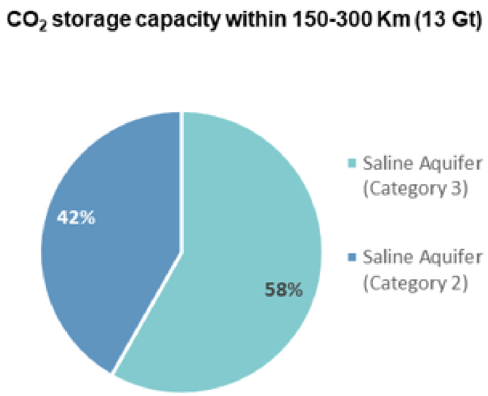
Players	Total CS capacity (MTPA)	Total CO_2 Emissions (MTPA)	CO_2 Emissions amenable for capture (MTPA)	Storage capacity for 30 years (Gt)
SAIL RSP	24.7	50.3	30.2	0.9
JSW - BPSL				

Source: *Dastur Analysis*

Figure 5.2: Source-Sink Mapping for Rourkela Steel Cluster







Source: *Dastur Analysis*

STORAGE OPPORTUNITIES FOR ROURKELA STEEL CLUSTER

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 3)	Satpura basin	-	1.57
ECBMR	East Jharkhand coal fields	Bakaro & Jharia	0.73
	Odisha coal field 2	Talcher, Lakhanpur	0.37
	Central Jharkhand coal fields	N & S Karanpura, Ramgarh	0.35
	Odisha coal field 1	IB Valley	0.18
	West Jharkhand coal fields	Auranga Hutar	0.03
Total			**3.22**

Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 2)	Mahanadi basin	-	3.65
	Bengal basin	-	1.8
Saline Aquifer (Category 3)	Chhattisgarh basin	-	2.35
	Satpura basin	-	5.25
Total			**13.05**

Source: *Dastur Analysis*

Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

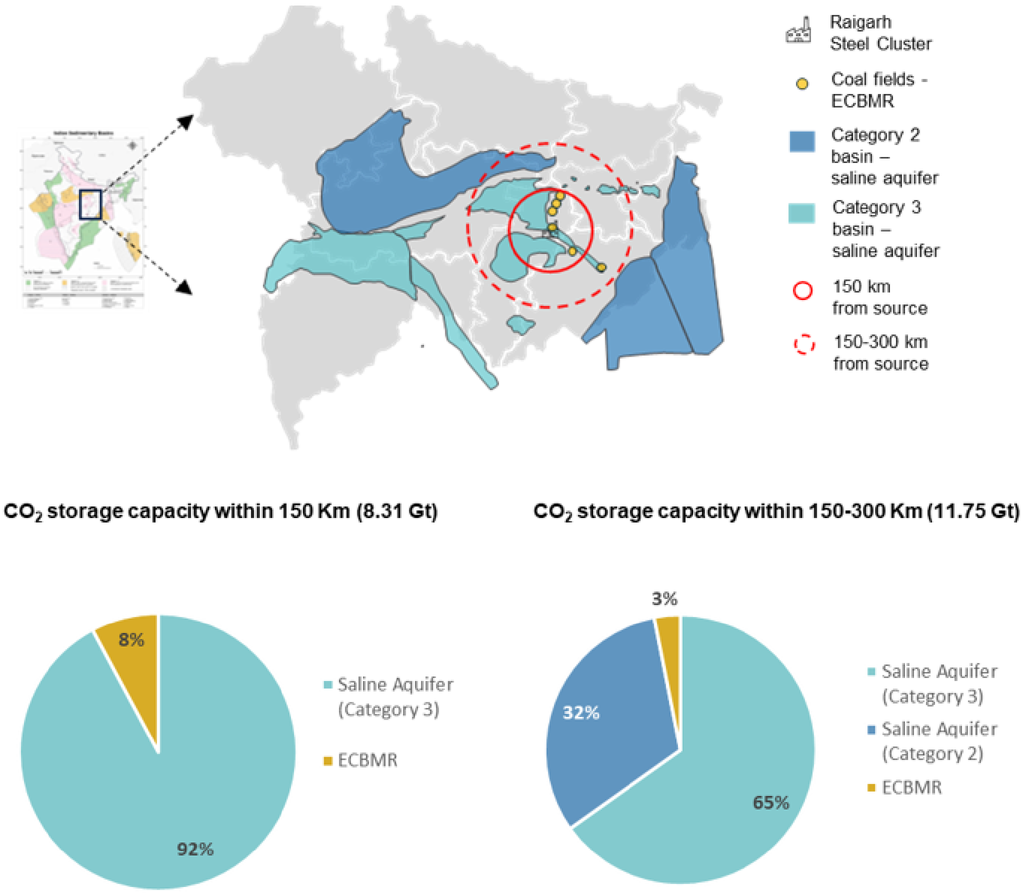
RAIGARH

MAJOR ISPS IN RAIGARH CLUSTER AND ESTIMATED CO_2 EMISSIONS

Players	Total CS capacity (mtpa)	Total CO_2 Emissions (mtpa)	CO_2 Emissions amenable for capture (mtpa)	Storage capacity for 30 years (Gt)
JSPL	11.6	26.6	16	0.48
JSW-Monnet				

Source: *Dastur Analysis*

Figure 5.3: Source-sink mapping for Raigarh steel cluster with potential storage opportunities



STORAGE OPPORTUNITIES FOR RAIGARH STEEL CLUSTER

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 3)	Satpura basin	-	4.72
	Chhattisgarh basin	-	2.94
ECBMR	North Chhattisgarh coal field 3	Mand-Raigarh, Korba	0.36
	Odisha coal field 1	IB Valley	0.18
	Northeast Chhattisgarh coal field	Tatapani-Ramkola	0.05
	North Chhattisgarh coal field 1	Bisrampur, Jhilimili, sonhat	0.035
	North Chhattisgarh coal field 2	Hasdo-Arand, Sendurgarh	0.025
Total			**8.31**
Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 2)	Vindhyan basin	-	3.73
Saline Aquifer (Category 3)	Chhattisgarh basin	-	2.94
	Satpura basin	-	4.72
ECBMR	Odisha coal field 2	Talcher, Lakhanpur	0.365
Total			**11.75**

Source: *Dastur Analysis*

Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

RAIPUR

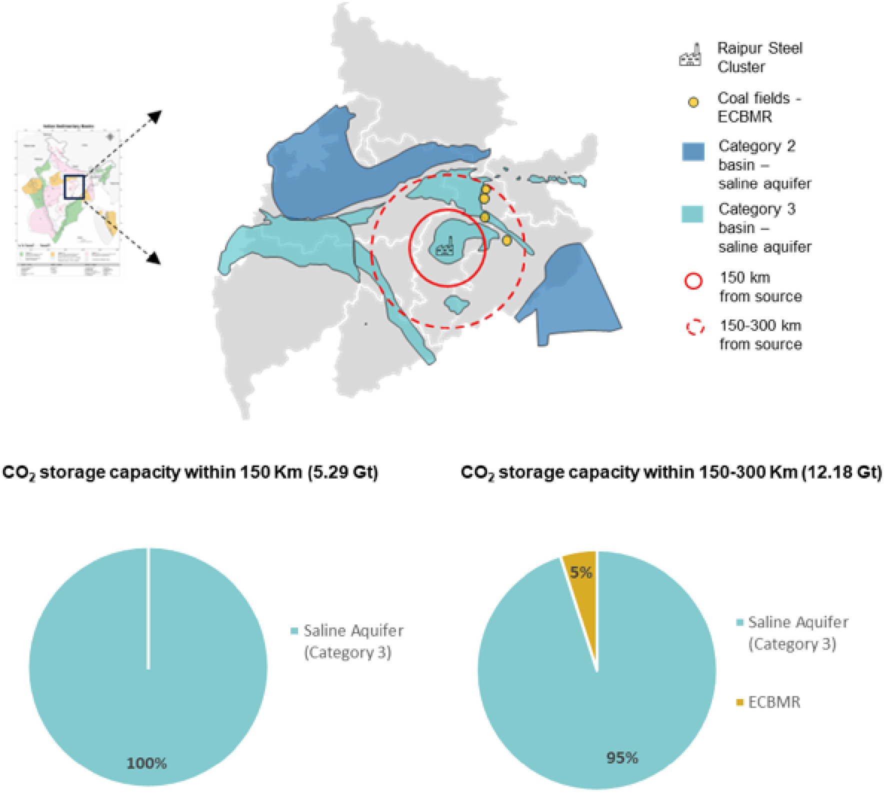
CO_2 Source: In the Raipur steel cluster, 2 major ISPs have been identified with a total crude steel production capacity of 7.75 mtpa resulting in CO_2 emissions of nearly 16.4 mtpa. The emissions amenable for CO_2 capture are ~9.8 mtpa. Hence the required CO_2 storage capacity to store the emissions for 30 years is 0.3 Gt.

MAJOR ISPS IN RAIPUR CLUSTER AND ESTIMATED CO_2 EMISSIONS

Players	Total CS capacity (mtpa)	Total CO_2 Emissions (mtpa)	CO_2 Emissions amenable for capture (mtpa)	Storage capacity for 30 years (Gt)
SAIL BSP	7.75	16.4	9.8	0.3
JSW Monnet				

Source: *Dastur Analysis*

Figure 5.4: Source-sink mapping for Raipur steel cluster with potential storage opportunities



Source: *Dastur Analysis*

STORAGE OPPORTUNITIES FOR RAIPUR CLUSTER

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 3)	Chhattisgarh basin	-	5.29
Total			**5.29**
Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Fields**	**Capacity (Gt)**
Saline Aquifer (Category 3)	Satpura basin	-	8.92
	Pranhita-Godavari basin	-	1.1
	Bastar basin	-	0.98
	Chhattisgarh basin	-	0.58
ECBMR	North Chhattisgarh coal field 3	Mand-Raigarh, Korba	0.36
	Odisha coal field 1	IB Valley	0.18
	North Chhattisgarh coal field 1	Bisrampur, Jhilimili, sonhat	0.035
	North Chhattisgarh coal field 2	Hasdo-Arand, Sendurgarh	0.025
Total			**12.18**

Source: *Dastur Analysis*

Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

JAMSHEDPUR

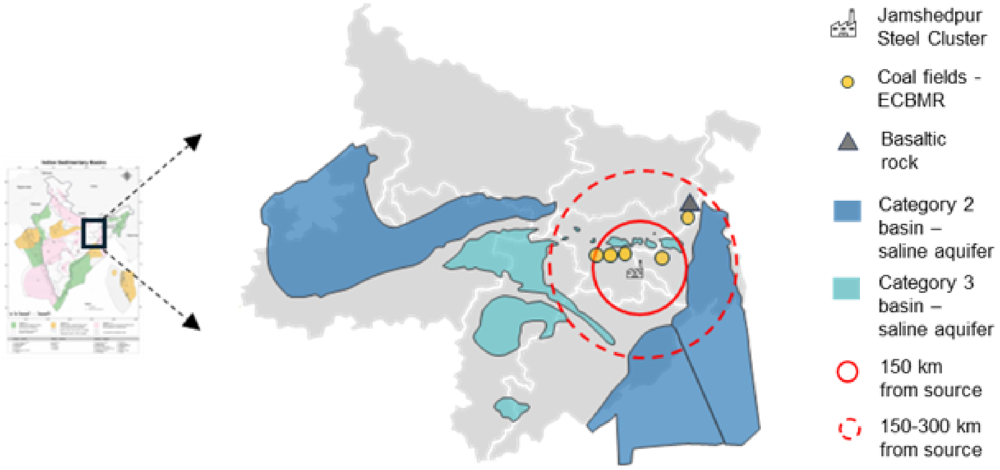
CO_2 Source: There are 4 major ISPs, with a total crude steel production capacity of 21 mtpa resulting in CO_2 emissions of nearly 48 mtpa. The emissions amenable for CO_2 capture are ~28.8 mtpa. Hence the required CO_2 storage capacity to store the emissions for 30 years is 0.86 Gt.

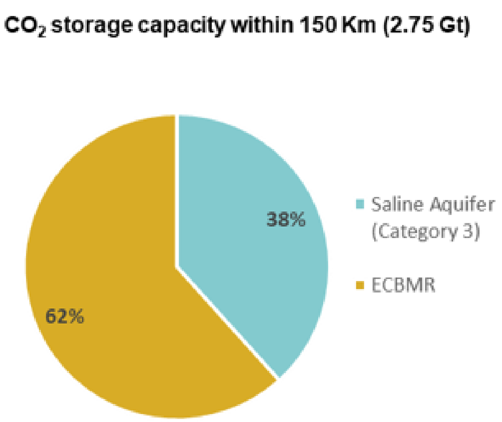
MAJOR ISPS IN JAMSHEDPUR CLUSTER AND ESTIMATED CO_2 EMISSIONS

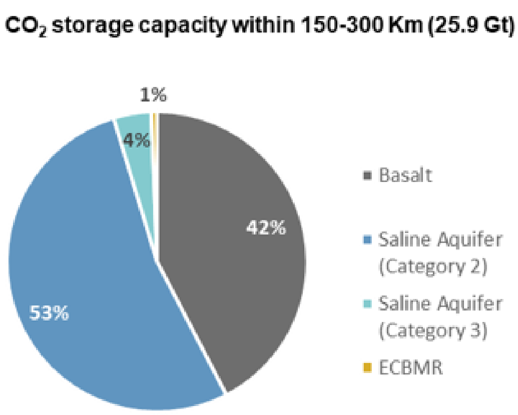
Players	Total CS capacity (mtpa)	Total CO_2 Emissions (mtpa)	CO_2 Emissions amenable for capture (mtpa)	Storage capacity for 30 years (Gt)
Tata Steel	21	48	28.8	0.86
Tata Steel Long Product				
SAIL BSL				
ESL Steel				

Source: *Dastur Analysis*

Figure 5.5: Source-sink mapping for Jamshedpur cluster







Source: *Dastur Analysis*

STORAGE OPPORTUNITIES FOR JAMSHEDPUR STEEL CLUSTER

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Coal Fields**	**Capacity (Gt)**
Saline Aquifer (Category 3)	Satpura basin	-	1.05
ECBMR	East Jharkhand coal fields	Bakaro & Jharia	0.73
	West Bengal coal fields	Raniganj, Birbhum	0.6
	Central Jharkhand coal fields	N & S Karanpura, Ramgarh	0.35
	West Jharkhand coal fields	Auranga Hutar	0.0125
Total			**2.75**
Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Coal Fields**	**Capacity (Gt)**
Basalt	Rajmahal basalt	-	10.98
Saline Aquifer (Category 2)	Bengal basin	-	10.07
	Mahanadi basin	-	3.65
Saline Aquifer (Category 3)	Satpura basin	-	1.05
ECBMR	Rajmahal coal field	Rajmahal	0.36
	West Jharkhand coal fields	Auranga Hutar	0.0125
Total			**25.9**

Source: *Dastur Analysis*
Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

DURGAPUR STEEL CLUSTER

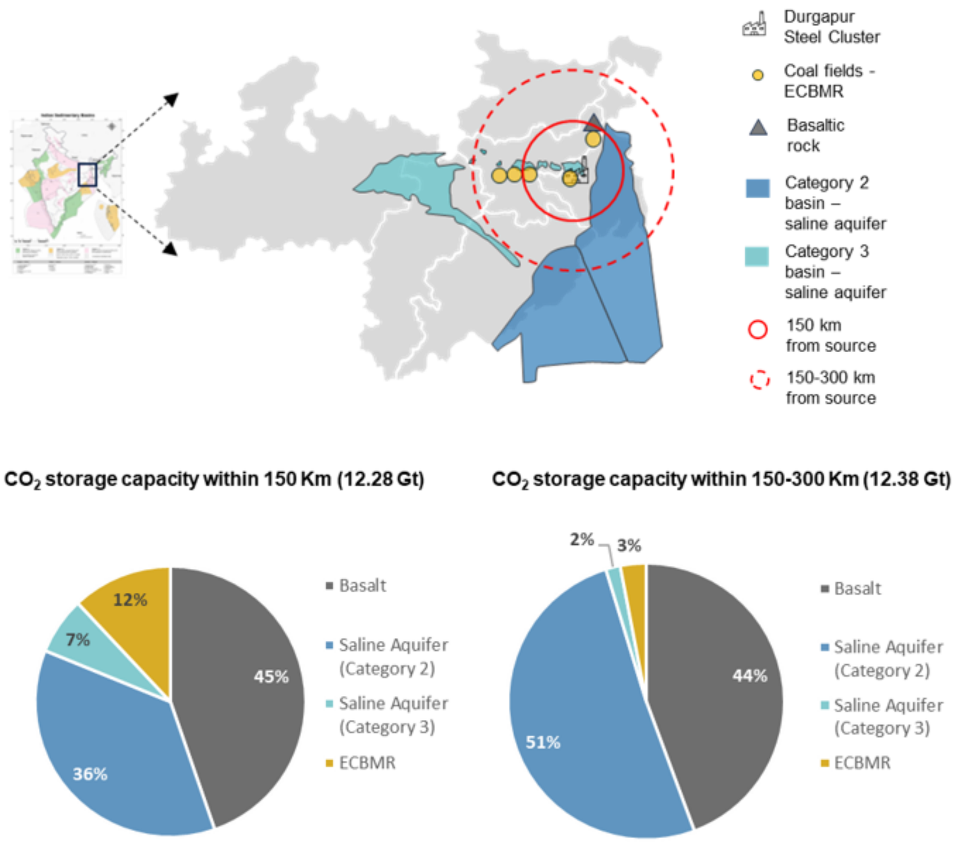
CO_2 Source: Durgapur has 2 major ISPs with a total crude steel production capacity of 11.7 mtpa and estimated CO_2 emissions of nearly 24.5 mtpa. The emissions amenable for CO_2 capture are ~14.3 mtpa. Hence, the required CO_2 storage capacity to store the emissions for 30 years is 0.43 Gt.

MAJOR ISPS IN DURGAPUR CLUSTER AND ESTIMATED CO_2 EMISSIONS

Players	Total CS capacity (mtpa)	Total CO_2 Emissions (mtpa)	CO_2 Emissions amenable for capture (mtpa)	Storage capacity for 30 years (Gt)
SAIL ISP	11.7	24.5	14.3	0.43
SAIL DSP				

Source: *Dastur Analysis*

Figure 5.6: Source-sink mapping for Durgapur cluster



Source: *Dastur Analysis*

STORAGE OPPORTUNITIES FOR DURGAPUR CLUSTER

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Coal Fields**	**Capacity (Gt)**
Basalt	Rajmahal basalt	-	5.49
Saline Aquifer (Category 2)	Bengal basin	-	4.48
Saline Aquifer (Category 3)	Satpura basin	-	0.84
ECBMR	East Jharkhand coal fields	Bakaro & Jharia	0.73
	West Bengal coal fields	Raniganj, Birbhum	0.6
	Rajmahal coal field	Rajmahal	0.145
Total			**12.28**
Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Coal Fields**	**Capacity (Gt)**
Basalt	Rajmahal basalt	-	5.49
Saline Aquifer (Category 2)	Bengal basin	-	4.48
	Mahanadi basin	-	1.83

Saline Aquifer (Category 3)	Satpura basin	-	0.21
ECBMR	Central Jharkhand coal fields	N & S Karanpura, Ramgarh	0.35
	West Jharkhand coal field	Auranga Hutar	0.025
Total			**12.38**

Source: *Dastur Analysis*

Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

VIZAG STEEL PLANT

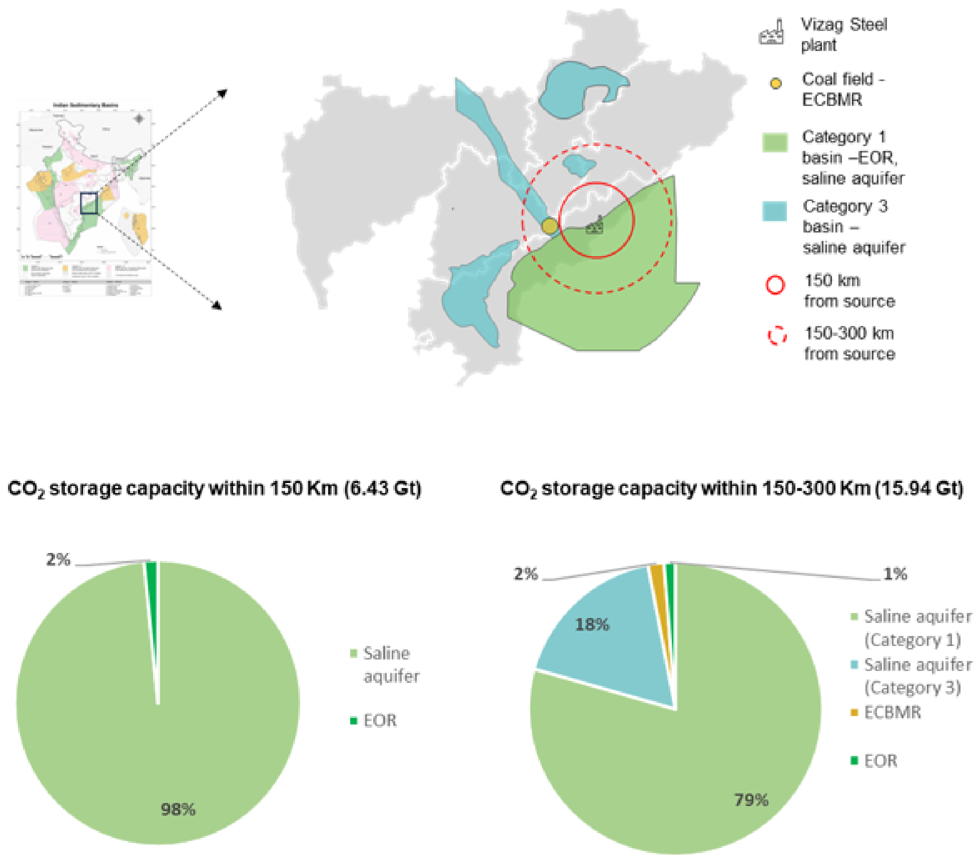
CO_2 Source: The crude steel production capacity of the Vizag Steel plant is ~7.3 mtpa, resulting in CO_2 emissions of nearly 15.5 mtpa. The emissions amenable to CO_2 capture is 9.3 mtpa. Hence, the required CO_2 storage capacity to store the emissions for 30 years is ~0.3 Gt.

CRUDE STEEL PRODUCTION AND ESTIMATED CO_2 EMISSIONS OF VIZAG STEEL

Players	Total CS capacity (mtpa)	Total CO_2 Emissions (mtpa)	CO_2 Emissions amenable for capture (mtpa)	Storage capacity for 30 years (Gt)
RINL	7.3	15.5	9.3	0.28

Source: *Dastur Analysis*

Figure 5.7: Source-sink mapping for Vizag steel plant with potential storage opportunities



Source: *Dastur Analysis*

STORAGE OPPORTUNITIES FOR VIZAG STEEL PLANT

Within 150 km from the cluster			
Type	**Storage**	**Formations/ Coal Fields**	**Capacity (Gt)**
Saline Aquifer (Category 1)	Krishna-Godavari basin	-	6.33
EOR (Category 1)	Krishna-Godavari basin	-	0.1
Total			**6.43**
Within 150-300 km from the cluster			
Type	**Storage**	**Formations/ Coal Fields**	**Capacity (Gt)**
Saline Aquifer (Category 1)	Krishna-Godavari basin	-	12.66
EOR (Category 1)	Krishna-Godavari basin	-	0.2
Saline Aquifer (Category 3)	Pranhita-Godavari basin	-	1.82
	Bastar basin	-	0.98
ECBMR	Godavari coal field	Godavari coal field	0.28
Total			**15.94**

Source: *Dastur Analysis*
Note: *The storage capacity has been calculated based on the fraction of distribution of the basins across the states*

MAJOR CO_2 STORAGE CLUSTERS IN THE EASTERN REGION[1]

Source: CPI, Dastur's DatabaseSteel Cluster (Eastern Region)	Estimated CO_2 emissions for 30 years (Gt)	Required Storage Capacity for 30 years (Gt)	CO_2 Storage in 150 km (Gt)				CO_2 Storage in 150 - 300 km (Gt)			
			Available Storage Capacity	Location with Storage Capacity	High Readiness	Low Readiness	Available Storage Capacity	Location	High Readiness	Low Readiness
Angul, Orissa	2.34	1.40	3.20	Saline Aquifer (Category 2) - 1.82 Saline Aquifer (Category 3) - 0.84 ECMBR - 0.545	1.80	1.40	16.66	Saline Aquifer (Category 2) – 11.78 Saline Aquifer (Category 3)– 3.4 ECMBR – 1.48	11.80	4.90
Rourkela, Orissa	1.51	0.9	3.23	Saline Aquifer (Category 3) – 1.57 ECMBR - 1.66		3.2	13.05	Saline Aquifer (Category 2) – 5.45 Saline Aquifer (Category 3) – 7.6	5.50	7.60
Raigarh, Chhattisgarh	0.79	0.5	8.31	Saline Aquifer (Category 3) – 7.66 ECBMR – 0.65	-	8.3	11.76	Saline Aquifer (Category 2) – 3.73 Saline Aquifer (Category 3) – 7.66 ECBMR – 0.37	3.7	8
Raipur, Chhattisgarh	0.49	0.3	5.29	Saline Aquifer (Category 3) – 5.29	-	5.3	12.18	Saline Aquifer (Category 3) ECBMR – 12.18-	-	12.2

1 Note: Several Steel plants have common disposition clusters. Low Readiness storage sites are category 3 sites; High Readiness storage sites are category 1 and 2 sites.

<table>
<tr><th rowspan="2">Source: CPI, Dastur's DatabaseSteel Cluster (Eastern Region)</th><th rowspan="2">Estimated CO_2 emissions for 30 years (Gt)</th><th rowspan="2">Required Storage Capacity for 30 years (Gt)</th><th colspan="4">CO_2 Storage in 150 km (Gt)</th><th colspan="4">CO_2 Storage in 150 - 300 km (Gt)</th></tr>
<tr><th>Available Storage Capacity</th><th>Location with Storage Capacity</th><th>High Readiness</th><th>Low Readiness</th><th>Available Storage Capacity</th><th>Location</th><th>High Readiness</th><th>Low Readiness</th></tr>
<tr><td rowspan="4">Jamshedpur, Jharkhand</td><td rowspan="4">1.44</td><td rowspan="4">0.9</td><td rowspan="4">2.74</td><td>Saline Aquifer (Category 3) - 1.05</td><td rowspan="4">-</td><td rowspan="4">2.8</td><td rowspan="4">26.12</td><td>Basalt - 10.98</td><td rowspan="4">13.7</td><td rowspan="4">12.2</td></tr>
<tr><td rowspan="3">ECBMR - 1.69</td><td>Saline Aquifer (Category 2) - 13.72</td></tr>
<tr><td>Saline Aquifer (Category 3) - 1.05</td></tr>
<tr><td>ECBMR - 0.3725</td></tr>
<tr><td rowspan="4">Durgapur, West Bengal</td><td rowspan="4">0.74</td><td rowspan="4">0.4</td><td rowspan="4">12.29</td><td>Basalt - 5.49</td><td rowspan="4">4.5</td><td rowspan="4">7.8</td><td rowspan="4">12.39</td><td>Basaltl - 5.49</td><td rowspan="4">6.3</td><td rowspan="4">6</td></tr>
<tr><td>Saline aquifer (Category 2)- 4.48</td><td>Saline aquifer (Category 2) - 6.31</td></tr>
<tr><td>Saline aquifer (Category 3) - 0.84</td><td>Saline aquifer (Category 3) - 0.21</td></tr>
<tr><td>ECBMR - 1.475</td><td>ECBMR - 0.375</td></tr>
<tr><td rowspan="4">Vizag, Tamil Nadu</td><td rowspan="4">0.47</td><td rowspan="4">0.28</td><td rowspan="4">6.43</td><td>Saline Aquifer (Category 1) - 6.33</td><td rowspan="4">6.4</td><td rowspan="4">-</td><td rowspan="4">15.94</td><td>Saline Aquifer (Category 1) - 12.66</td><td rowspan="4">12.9</td><td rowspan="4">3</td></tr>
<tr><td rowspan="3">EOR (Category 1) - 0.1</td><td>EOR (Category 1) - 0.2</td></tr>
<tr><td>Saline Aquifer (Category 3) - 2.8</td></tr>
<tr><td>ECBMR - 0.28</td></tr>
</table>

ANNEXURE B: CO_2 TRANSPORTATION COSTS

ASSUMPTIONS FOR CO_2 STORAGE COST ANALYSIS

Parameters	Details	Unit	Value
Lithology	-		Clastic
Depth	Depth to top of injection formation	m	1676
Depth	Depth to midpoint of injection formation	m	1760
	Depth to bottom of injection formation	m	1844
Thickness of injection formation		m	168
Temperature	Temperature of injection formation at the top of formation	°F	134
Pressure	Lithostatic pressure at the top of injection formation	bar	379
	Fracture pressure at the top of injection formation	bar	227
	Ambient hydrostatic pressure at the top of injection formation	bar	176
Density of CO2		Kg/m3	670
Porosity		%	20
Permeability	Horizontal permeability	mD	500
	Vertical Permeability	mD	150
Salinity		mg/L	50000
Project schedule	Base year	-	2024
	Project start year	-	2025
	Injection start year	-	2031
Duration	Site screening	Year	1
	Site selection and site characterization	Years	3
	Permitting and construction	Years	2
	Operations	Years	30
	PISC and site closure	Years	50
Financial parameters	Base year		2024
	Debt: Equity		7:3
	Cost of debt	%	11
	Cost of equity	%	16
	Annual escalation rate	%	3

Source: *USDOE-NETL CO_2 saline storage cost model, 2017, Dastur Analysis*

ASSUMPTIONS FOR CO_2- EOR COST ANALYSIS

Parameters	Unit	Value
Reserves in the KG basin	Million tonnes	698
Oil reserve in KG basin	Million bbl	~5060
Recoverable oil	Million bbl	~500
Annual CO_2 injection	mtpa	9
Daily CO_2 injection	t/d	~24658
CO_2 effectiveness	t/bbl	0.50
Enhanced oil recovery	bbl/d	~50000
Enhanced oil production/well	bbl/d	40
Production well/Injection well per modules	-	10/11
No of modules	-	123

ANNEXURE C: POLICIES

UNITED STATES OF AMERICA

The United States is perhaps the most advanced in terms of supporting policies and regulatory frameworks for carbon capture and storage (CCS), and lately, the utilization of CO_2 for producing low-carbon, value-added products.

Policy: Incentives and funding from the Bipartisan Infrastructure Law and the Inflation Reduction Act seek to fund and support CCS projects throughout their lifecycle, cumulatively totalling billions of dollars.

Technology development: Funding research and development in newer and better technologies, both in carbon capture and utilization.

Project development: Funding early-stage Pre-FEED and FEED engineering studies.

Project construction: Providing capital grants for select commercial-scale demonstration projects.

Operations: Section 45Q and 45V credits under the Inflation Reduction Act subsidize project operating costs.

Supporting infrastructure: The federal government has funded CO_2 storage mapping and characterization exercises over the last two decades.

Legal framework for CO_2 storage: The United States provides state jurisdiction for underground storage of CO_2, and in a few states, liability is transferred to the state government after sites are closed. The US Environmental Protection Agency (EPA) has jurisdiction to grant Class VI underground injection permits, though some states also hold primacy in this area.

Specific financial incentives: The Infrastructure Investment and Jobs Act (IIJA) provides funding for meeting part of the capital costs of constructing select commercial-scale CCUS projects. Pipelines, storage facilities linked to cross-border transport of CO_2, and fixed facilities for liquefaction and buffer storage are eligible for funding. Early CEF funding for CCUS projects focused on feasibility studies, with more recent funding allocated to FEED studies and infrastructure development. In total, nearly USD 330 million has been allocated to CCUS projects since 2020, with the largest amounts granted to the Antwerp@C CO_2 Export Hub project (USD 150 million) and the Porthos project (USD 117 million).

EUROPEAN UNION

The European Union's stimulus package for the COVID-19 pandemic provided over USD 828 billion to member states as grants and loan support, with CCUS projects eligible for funding.

Regulation of industrial activities: The EU Emissions Trading System (EU ETS) applies to the EU, as well as Iceland, Liechtenstein, and Norway, covering about 38% of EU greenhouse gas emissions from the power sector, manufacturing, and intra-EU aviation. Since 2023, the EU has started implementing the Carbon Border Adjustment Mechanism (CBAM), which will phase out free allocations in different sectors and target an overall emissions reduction of 62%.

Strategic signalling: The Net Zero Industry Act proposes setting an EU-wide goal to achieve a CO_2 injection capacity of at least 50 million tonnes by 2030, with oil and gas producers contributing prominently based on their production levels.

Recovery and Resilience Facility: As part of its broader COVID-19 response, the EU provided substantial financial support to member states, with CCUS projects included among eligible initiatives.

UNITED KINGDOM

The United Kingdom is leading in the creation of government-funded, common CO_2 transport and storage infrastructure, as well as preferential procurement for low-carbon products.

Legal framework for storage: The UK's legal framework follows the European Union's CCS Directive, including the transfer of responsibility to the government after a 20-year monitoring period following the closure of a CO_2 storage site.

Financial support: The UK government is supporting the development of three large CCUS clusters across the country, amounting to USD 25 billion. These aim to capture and sequester 20–30 million tonnes of CO_2 per year by 2030, rising to over 50 million tonnes by 2035. The government is also funding up to five additional CCUS cluster projects in the near future and has supported feasibility and FEED studies for CCUS and hydrogen industrial clusters through multiple funding rounds.

Strategic signalling: Following Brexit, the UK Emissions Trading Scheme (UK ETS) incorporates several elements of the EU ETS and currently covers 28% of the UK's emissions, applying to CO_2, NO_2, and PFCs in energy-intensive industries, the power sector, and aviation within the UK and EU economic area. Allowances are allocated for free to industrial participants at risk of carbon leakage. The UK ETS will be extended to cover more sectors, such as domestic maritime transport from 2026 and waste from 2028, while rolling out a phased removal of free carbon allowances for the aviation industry in 2026.

Preferential procurement: The UK has been one of the global leaders in deploying Contracts for Difference (CfD) for renewables in the power sector and is extending the Carbon Contracts for Difference (CCfD) mechanism for industrial carbon capture and low-emission hydrogen.

CHINA

As the largest steel producer in the world, China has taken initial steps toward adopting policies that promote CCUS projects.

Legal framework: The Chinese government has launched the Advanced Green and Low-Carbon Program and the Carbon Emission Reduction Facility, which include support for CCS projects through investments and incentives. In April 2024, the National Development and Reform Commission (NDRC) announced the first group of selected projects, including six CCUS-related initiatives such as Huaneng's 1.5 mtpa coal-fired power plant CCUS project, Baotou Steel's CCUS project in Inner Mongolia, a geological storage project in Shaanxi, and a carbon mineralization project in Ningxia.

Strategic signalling: In July 2024, China announced a new action plan for decarbonizing its coal-fired power plant fleet, with a goal of reducing emissions to levels comparable with those of gas-fired plants by 2027. The plan is based on three key strategies: co-firing with green ammonia, co-firing with biomass, and deploying CCUS.

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