

GOVERNMENT OF INDIA  
DEPARTMENT OF ATOMIC ENERGY  
LOK SABHA  
UNSTARRED QUESTION NO.2762  
TO BE ANSWERED ON 11.03.2020

**AVAILABILITY OF RARE EARTH METALS**

**2762. SHRIMATI PRATIMA MONDAL:**

Will the Prime Minister be pleased to state:

- (a) whether the Government has data on availability of rare earth metals in the country;
- (b) the production of rare earth metals in the past three years in the country;
- (c) the quantum of metals imported and the names of the countries from which it has been imported; and
- (d) the details of ongoing and future initiatives that the Government intends to take in this regard?

**ANSWER**

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND  
PMO (DR. JITENDRA SINGH)

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- (a) Yes, Sir. Data on availability of rare earth metals deposit in the country is available. Atomic Minerals Directorate for Exploration and Research (AMD), a constituent unit of Department of Atomic Energy (DAE) is carrying out exploration to augment resources of Rare Earth Elements (REE) in several potential geological domains of the country. In addition, AMD carries out exploration along the coastal / inland / riverine placer sands of the country for augmentation of Heavy Minerals which includes monazite (REE and Th mineral) and xenotime (REE + yttrium mineral).

As on January, 2020, AMD has established the following:

12.47 Million tonnes (Mt) of Monazite (containing ~ 55 - 60% total Rare Earth Elements oxide) occurring in the coastal and inland placer sands of the country.

About 2,000t of xenotime bearing heavy mineral concentrate (containing ~2% xenotime) in the riverine placer deposits of Chhattisgarh and Jharkhand. Presently AMD is carrying out recovery of xenotime bearing heavy mineral concentrate in the plant established in Chhattisgarh and has a stockpile of 75.583 tonnes.

3,46,462 tonnes of REE Oxide (inferred category – at 0.5% cut-off) has been estimated in Ambadongar area, Chhota Udepur district, Gujarat.

- (b) In India, basic ore for Rare Earths (Neodymium, Praseodymium, Samarium, Cerium, Lanthanum, etc) is Monazite, found along with six other minerals as suite. Monazite is a prescribed substance as per the Atomic Energy Act 1962. IREL (India) Limited (IREL), a Public Sector Undertaking of this Department, is the only entity processing Monazite to produce Rare Earth (RE) compounds. The RE values produced by IREL is in the form of mixed RE chloride and separated high pure RE.

The production of mixed RE chloride by IREL in the last 3 years are given below:

2016-17: 2265 tons

2017-18: 2724 tons

2018-19: 4215 tons

These high Pure RE compounds in oxide form are used to produce RE metal. However, industry for production of such metals is yet to be established.

- (c) The data in respect of the import of rare earth metals in the country is maintained by Department of Commerce in the Ministry of Commerce & Industry. As per the data supplied by the Directorate General of Commercial Intelligence & Statistics (DGCIS), the rare earth metal (ITC-HS Code 28053000) imported in the country during the last four years, year-wise and country-wise is given in the Annexure.

- (d) Details of the ongoing and future initiatives are enumerated below:

**Ongoing initiatives:**

IREL have an operating Processing Plant in Ganjam district of Odisha, which has the installed capacity for producing about 11,000 tpa mixed RE chloride, containing about 5,000 tpa of RE Oxide (REO).

IREL has also facilities in Aluva, Kerala for processing of about 5,000 tpa of mixed RE chloride for production of about 2,000 tpa equivalent separated high pure rare earths in the form of individual oxides/compounds (Neodymium, Praseodymium, Samarium, Cerium, Lanthanum, etc)

**Future initiatives:**

Setting up of a Rare Earth Permanent Magnet (REPM) plant for production of samarium cobalt magnets for use by DAE, Defence and Space sectors. The plant, based on technology developed by BARC and Defence Metallurgical Research Laboratory (DMRL), Hyderabad will be set up in BARC campus, Vizag.

Setting up of a RE & Titanium theme park for the technologies being developed by BARC in the RE value chain. Pilot scale plants shall be installed in this facility by IREL to attract entrepreneurs to upscale the technologies to commercial scale.

A carbonatite deposit containing REO has been identified in Gujarat. Action has been initiated to ascertain the techno economic feasibility and financial viability for harnessing the deposit.

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## Import of Rare Earth Metal under ITCHS:28053000 for last three FY and current FY:2019-20 (Up to Dec,19)

ITCHS	DESCRIPTION	COUNTRY	2016-17		2017-18		2018-19		2019-20 (Up to Dec,19)	
			QTY-TON	VAL (US Mill \$)	QTY-TON	VAL (US Mill \$)	QTY-TON	VAL (US Mill \$)	QTY-TON	VAL (US Mill \$)
28053000	RARE-EARTH METALS SCANDIUM AND YTTRIUM W/N INTERMIXED/INTERALLOYED	AUSTRIA			0.00	0.00				
		BELGIUM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		CHINA P RP	503.31	1.89	487.01	2.47	623.10	3.66	350.00	1.67
		CZECH REPUBLIC					0.00	0.00		
		FRANCE			0.00	0.00				
		GERMANY	0.00	0.00	0.01	0.00	0.08	0.01	0.00	0.00
		HONG KONG					10.00	0.06	32.00	0.14
		ITALY	0.02	0.00						
		JAPAN							1.00	0.01
		TAIWAN			0.50	0.01				
		U K	0.28	0.02	0.15	0.02	0.03	0.01	0.04	0.01
		U S A	16.00	0.43	4.74	0.14	10.20	0.26	0.01	0.03
<b>Total</b>			<b>519.62</b>	<b>2.34</b>	<b>492.41</b>	<b>2.64</b>	<b>643.41</b>	<b>4.00</b>	<b>383.05</b>	<b>1.85</b>

Note: Figure pertaining to FY:2019-20, are provisional and subject to change