

## Cold-Rolled Grain-Oriented (CRGO) Electrical Steel

*Prelims - General economics*

### Why in news?

Recently, the Directorate General of Trade Remedies (DGTR), has initiated an anti-dumping probe against imports of CRGO.

- **CRGO steel** - It is a special type of high-tech iron and steel blend made specifically to build the inside (the "core") of electrical transformers.

### Functions

- **One-Way Path** - The metal crystals are lined up in a single direction.
- **Easy Flow** - This alignment lets electricity and magnetism flow smoothly with very little resistance.

### Features

- **Saves Energy** - It stops power from leaking or turning into wasted heat.
- **Lowers Bills** - It keeps our power grid highly efficient, saving money and energy.
- **Prevents Overheating** - It keeps giant transformers cool and safe while they step voltage up or down. Produces less heat and higher efficiency resulting into low core loss
- **High Magnetic Permeability** - Enables easy flux conduction.
- **Thickness Range** - 0.23-0.35 mm (modern grades as thin as 0.18 mm).
- **Reliance on Imports** - India consumes 400,000-450,000 tonnes of CRGO steel annually, but domestic output is only 40,000-50,000 tonnes.
- Imports from *China, Japan, South Korea, and Russia* meet about 90% of demand.

*"Anti-dumping duties are tariffs designed to shield domestic industries from foreign products priced below fair market value."*

### Risks of Anti-Dumping Duty

Imposing duties may increase transformer prices.

- **Slower Expansion** - Higher costs could delay investments in transmission infrastructure, renewable integration, and electricity distribution.
- **Limited Impact on Imports** - Since domestic production meets less than one-tenth

of demand, duties are unlikely to significantly reduce import dependence.

### **Implications for India**

- In the power sector, increasing transformer costs may adversely *affect grid expansion timelines*.
- The integration of *solar and wind projects may experience delays* as a result of higher equipment costs.
- Manufacturers may encounter challenges due to *increased input costs*, which could negatively impact their competitiveness.

### **Reference**

[Business Standard | Anti-Dumping Duty on Electrical Steel](#)

