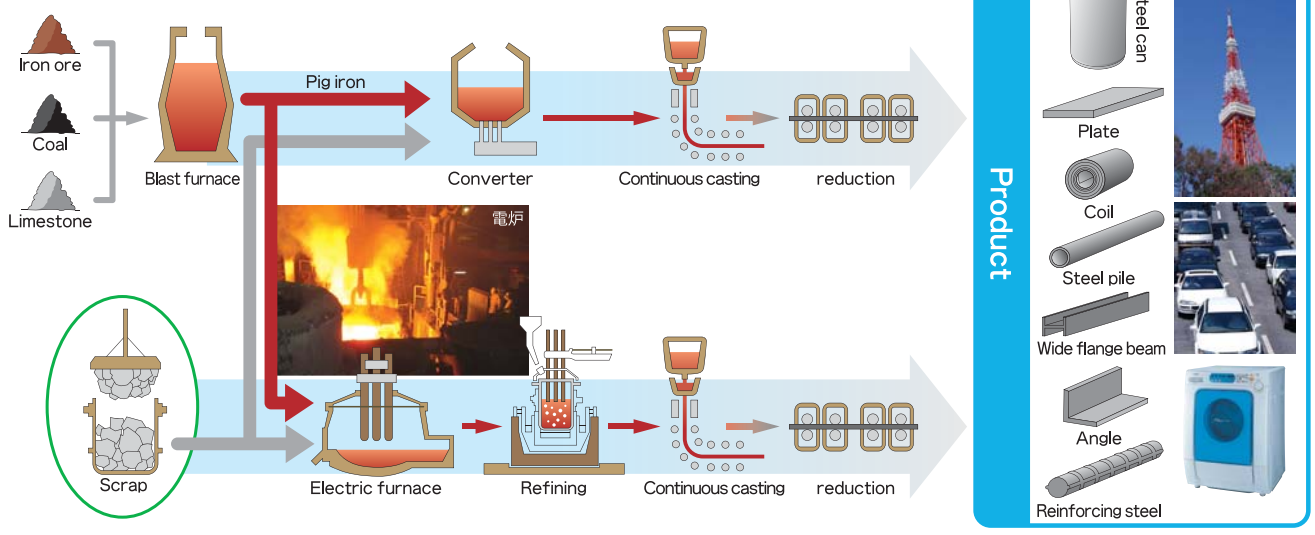


## 2. How is Scrap Iron Recycled?

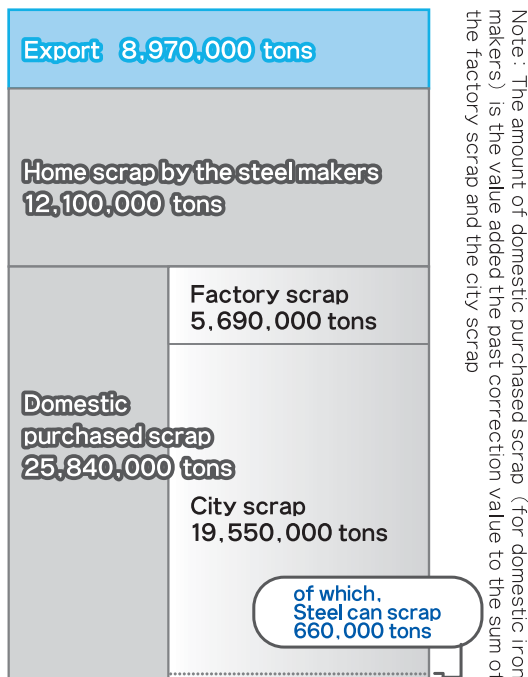
- The annual production of iron in Japan is approximately 96,450,000 tons. Blast furnace and electric furnace methods are available to manufacture iron and steel. In Japan, 78.5% of iron and steel is manufactured by blast furnaces and 21.5% by electric furnaces.
- Iron that remains from use in construction, automobiles, machines, can containers, etc. are recycled at iron and steel manufacturers (blast furnaces, electric furnaces, casting makers, etc.) as iron scrap.
- Iron scrap that is traded in the Japanese market (commercial scrap) amounts to 25,840,000 tons (decreasing 7,230,000t from the previous year). And 8,970,000 tons were exported in FY2009 (increasing 2,710,000t from the previous year).

	Production method	Number of makers and plants
<b>Electric furnace maker</b>	Iron scrap is melted in electric furnaces (by discharge heat from electrodes) to manufacture steel.	43 makers with 70 plants
<b>Blast furnace maker</b>	Iron scrap is inserted when pig iron reduced from iron ore in a blast furnace is supplied to a converter to manufacture steel.	5 makers with 15 plants

### A Production Process of Steel and Scrap Recycle



### Domestic Iron Scrap Supply and Demand (FY 2009)



(Unit: 10,000 tons) Source: The Japan Ferrous Raw Materials Association

### Technical Terms

- Electric furnace**  
A heating chamber with a discharge heat to melt scrap iron
- Blast furnace**  
A furnace used to produce pig iron from iron ore, coal and limestone
- Converter**  
A furnace used to produce steel from melting pig iron and blowing oxygen into it. It is able to rotate 360 degree.
- Steel**  
An iron contains less than 2% of carbon
- Pig iron**  
An iron contains more than 2% of carbon
- General steel**  
Steel used for general use (e.g. reinforcing steel for construction)
- Special steel**  
An element added to steel for charging special dispositions (e.g. stainless and a spring for cars)
- Home scrap (Return scrap)**  
Scrap generated in rolling process, and consumed inside of factories
- Purchased scrap**  
Scrap transacted in the scrap market
- Factory scrap**  
Scrap generated in processes using steel as a material (e.g. cars, machines and shipbuilding)
- City scrap**  
Scrap from dismantled buildings, disused cars, disused domestic electric equipments, and steel can scrap.