

Outlook on Stainless Steel



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Outlook on Stainless Steel

↑ **Optimistic**

Optimistic Outlook on Stainless Steel

Outlook for Stainless Steel Scrap driven by growing demand and production levels

Demand

- Properties of Stainless Steel driving increasing applications
- 100% recyclability of Stainless Steel makes scrap ideal

Production

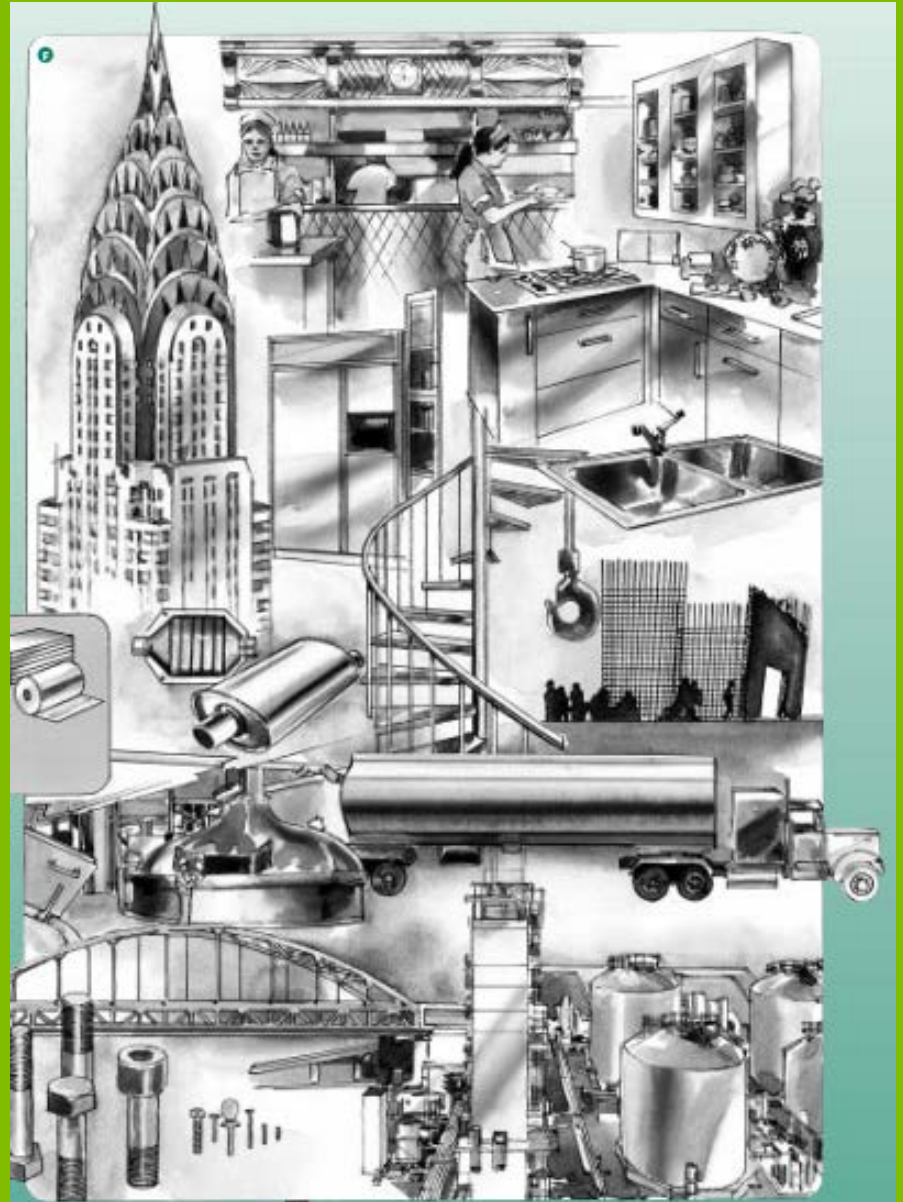
- Production and capacity growing world-wide
- China's impact on supply



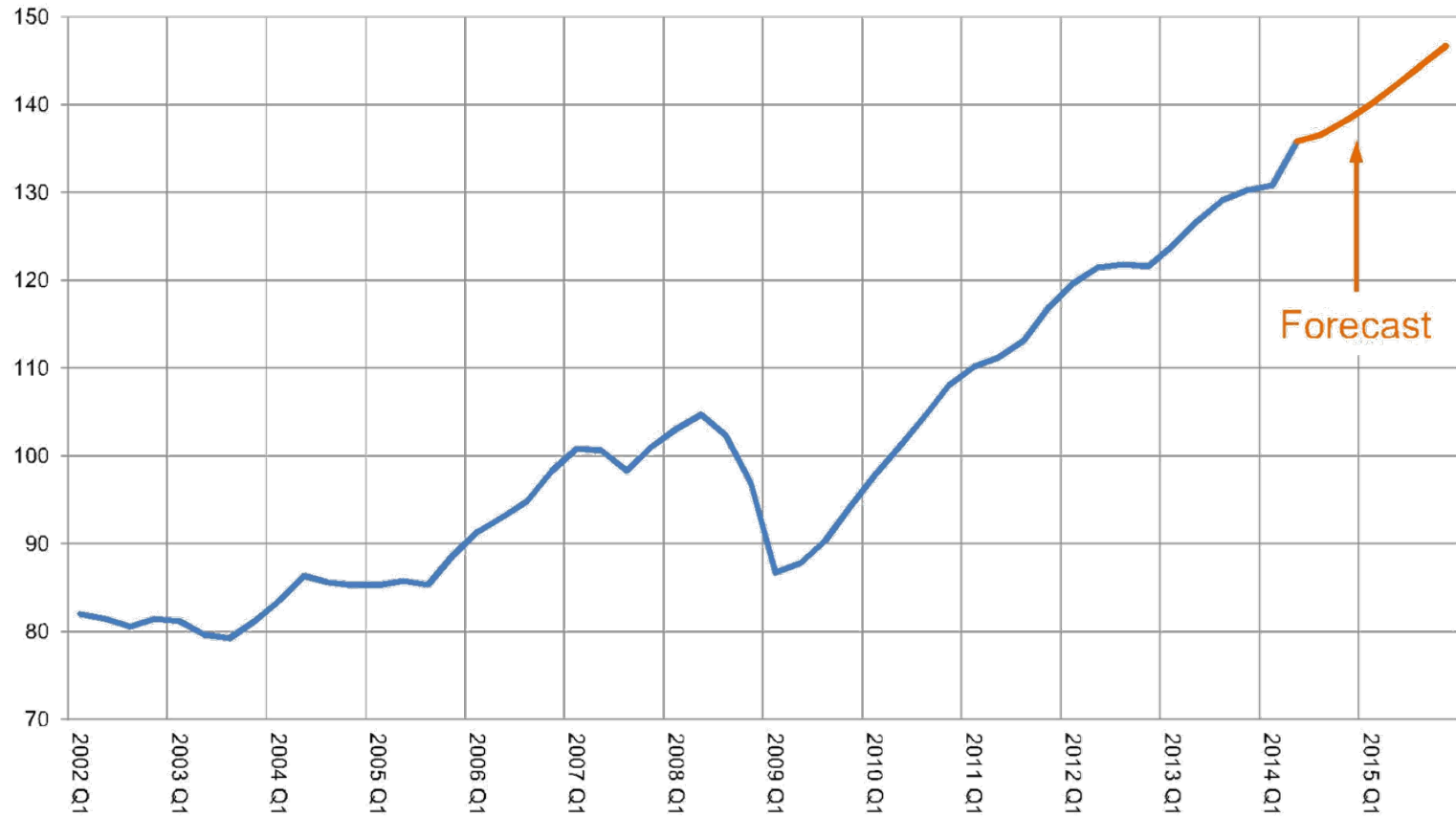
Future of Stainless Steel Recycling

Demand

Outlook on Stainless Steel



Significant growth in Stainless Steel demand



Source: ISSF

Properties of Stainless Steel Driving Demand

Durable



Resists corrosion, rust, & stains



Maintains shine and luster



Withstands high temperatures and corrosive chemicals

Conducive to Fabrication



Ductile and strong



100% Recyclable



Cheaper cost over lifespan of product

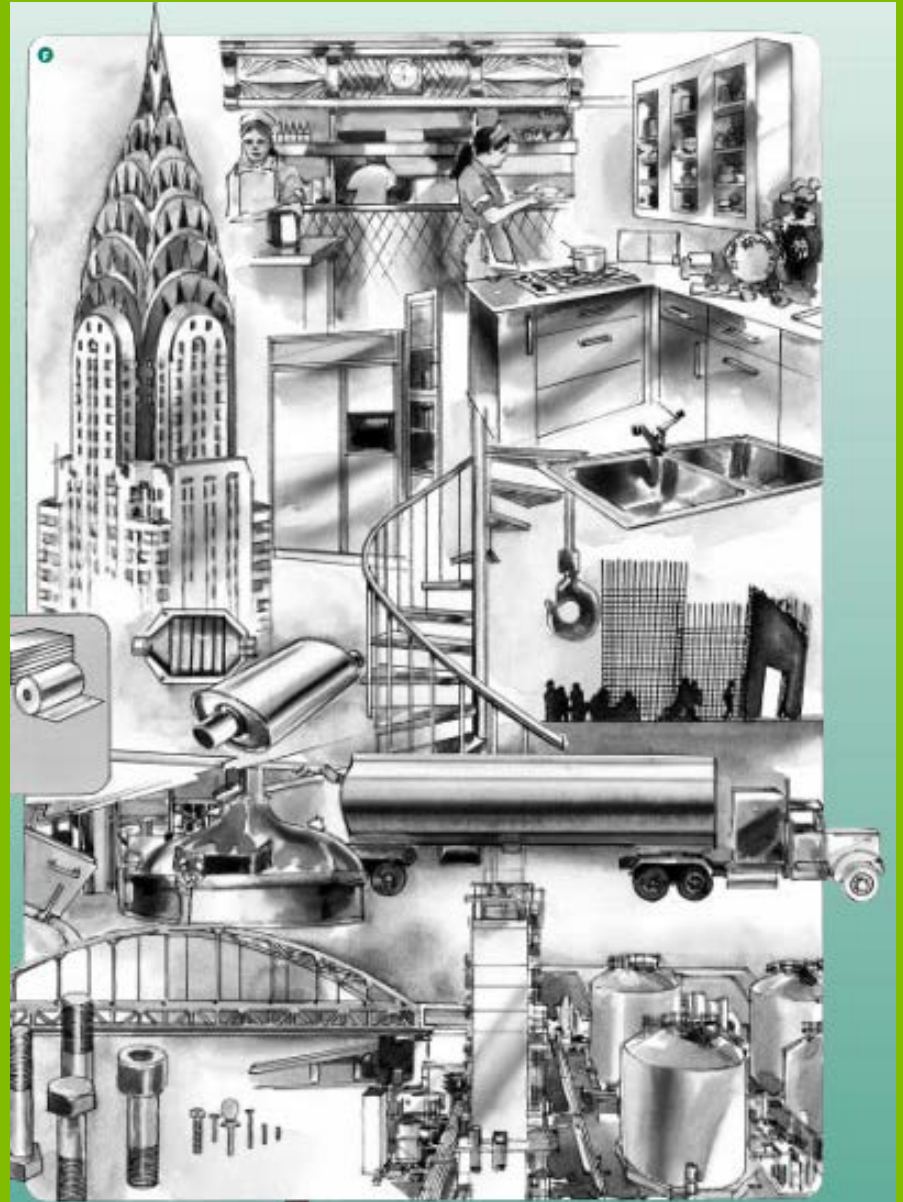
Utility of SS has increased across various industries

Main application sectors	Use of finished SS in manufacturing
Building	16%
Transportation	21%
Industrial machinery	31%
Household appliances	6%
Electronics	6%
Metal goods	20%
Total	100%

Source: Yale University Study
ISSF – Team stainless

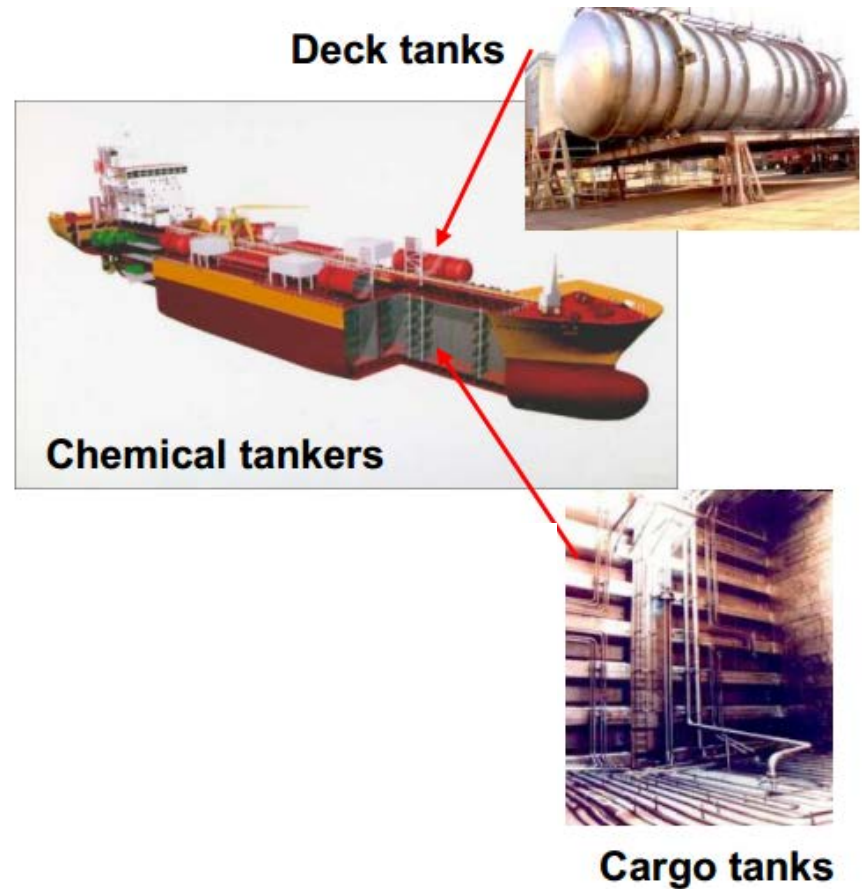
Stainless Steel Applications

Outlook on Stainless Steel



Chemical/Petrochemical

Pressure vessels, heat exchangers, crackling furnaces, tanks, chemical tankers, process pipes, etc.



Oil / Gas

Oil exploration (OCTG, umbilicals), sub-sea systems, offshore platforms, LNG tankers, etc.

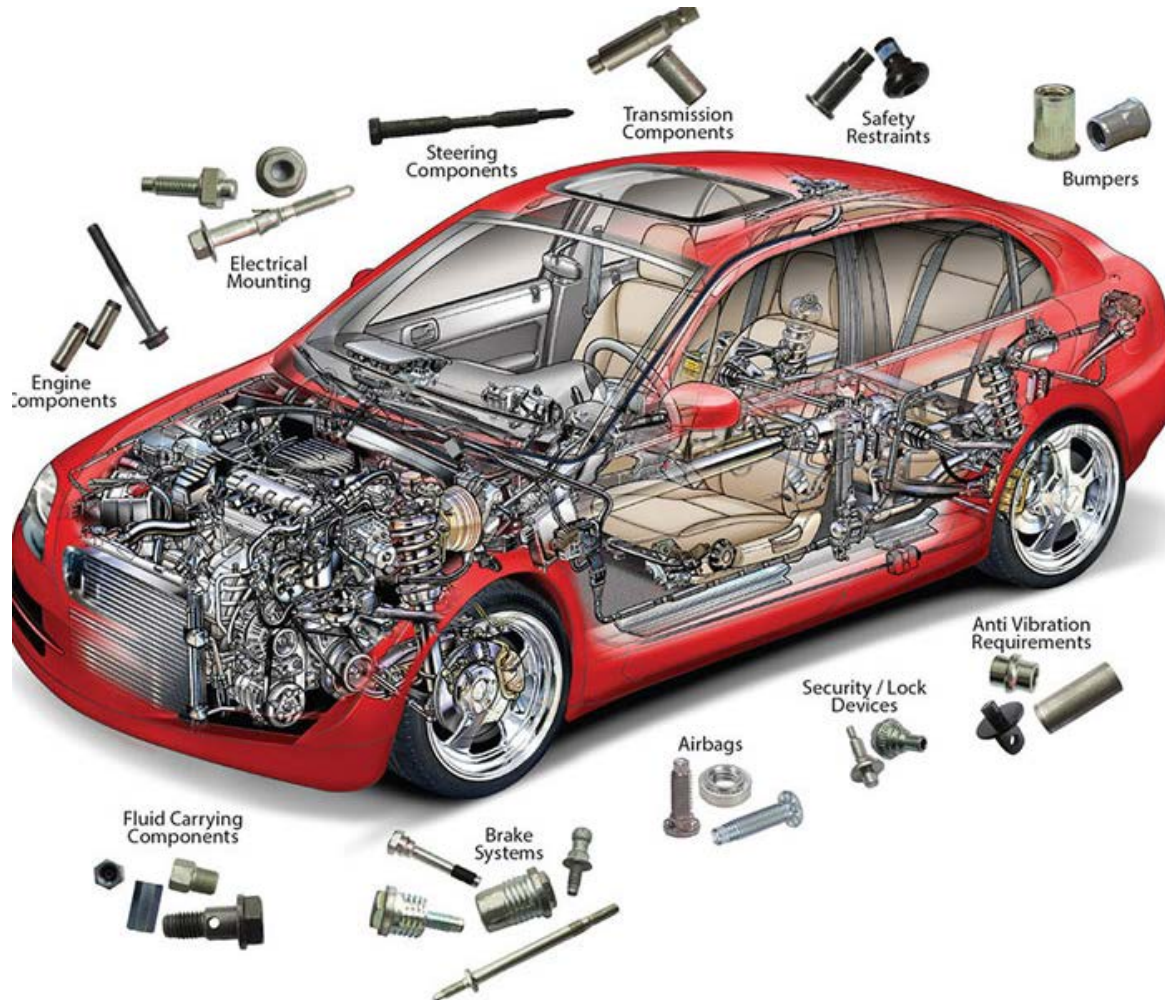


Gas and Oil systems on offshore platforms



Automotive

Exhaust systems, engine valves, fuel injection components, structural parts, catalytic converters, automotive trim, etc.



Building & Construction, Architecture, Furniture

Elevators, escalators, roofing systems, facades, bridges, ornamental Tubes (e.g. handrails), light poles, furniture, sewage systems, potable water pipes, etc.



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Pittsburgh Convention Centre

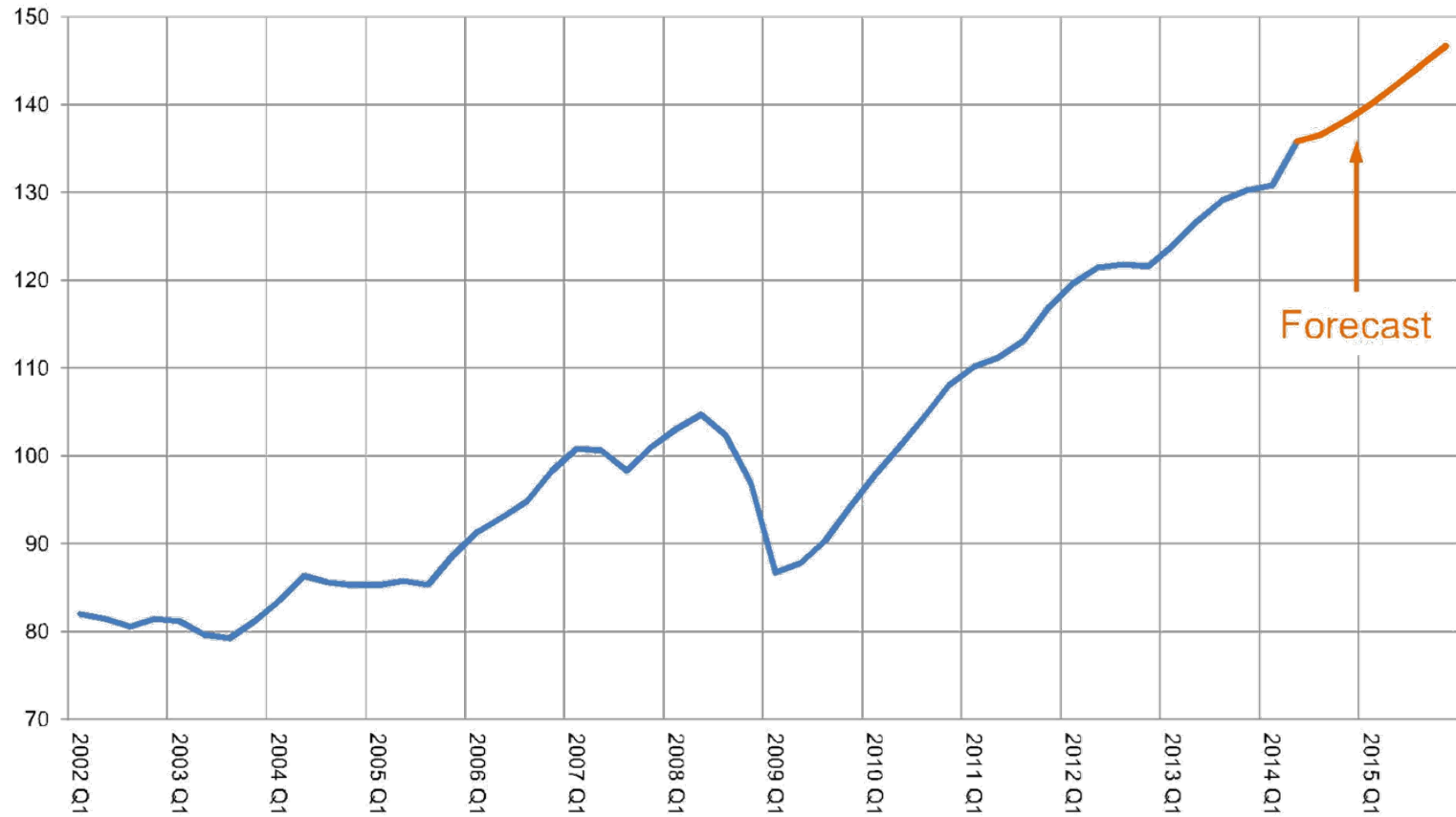
- The only meeting venue with Gold LEED® Certification
- Stainless steel 304 roof

Home Appliances / Utensils

Washing machines, dishwashers, microwaves, refrigerators, sinks, cutlery, kitchen utensils, etc.



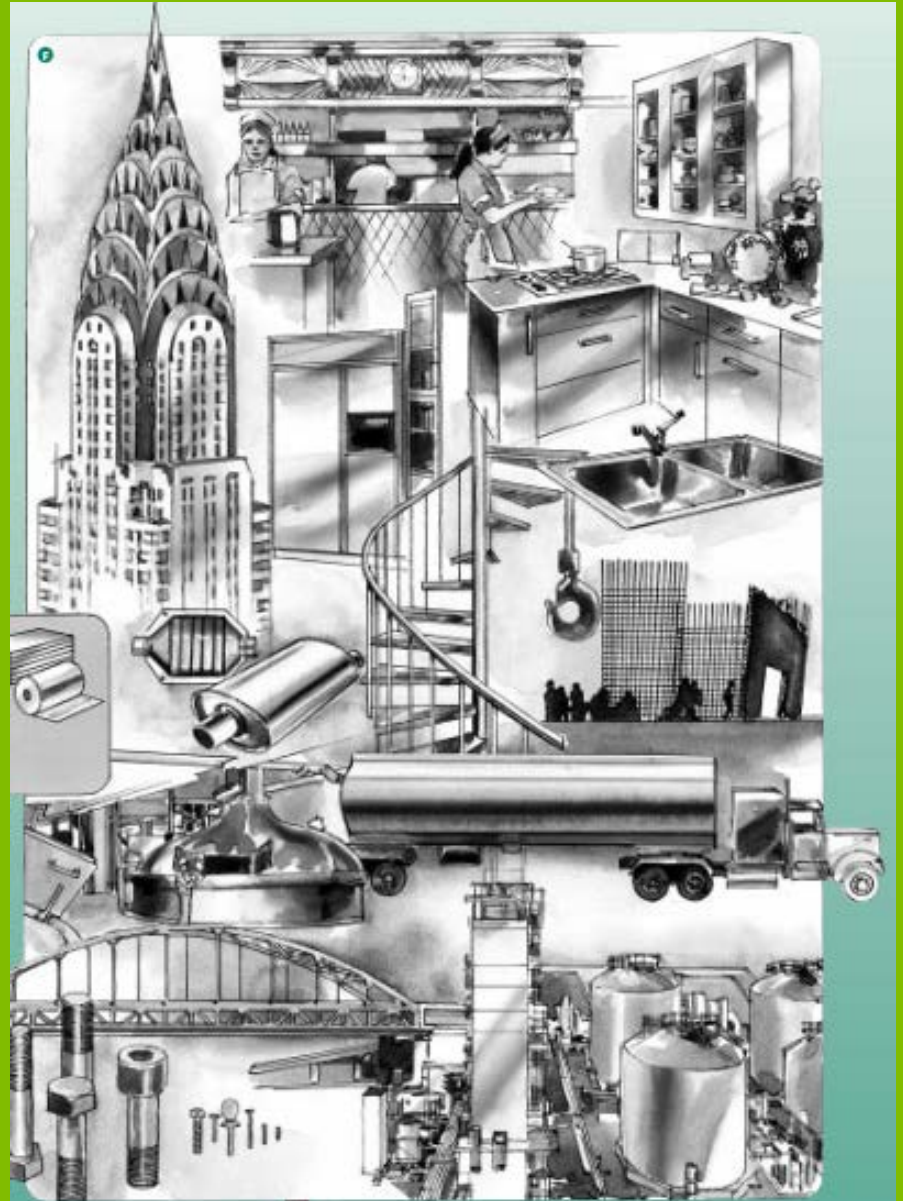
Significant growth in Stainless Steel demand



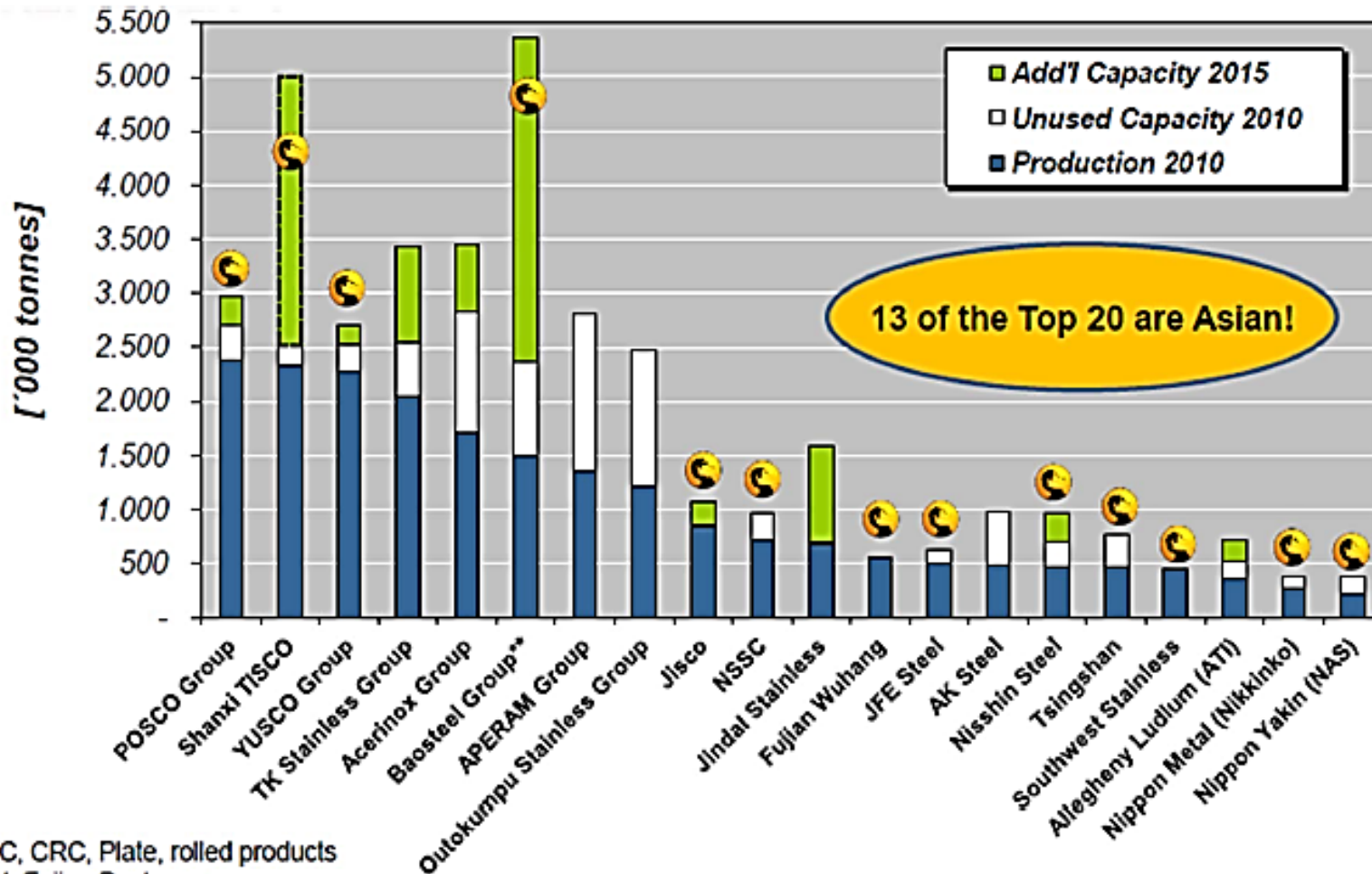
Source: ISSF

Production

Outlook on Stainless Steel



Production by Major Mills Globally



* HRC, CRC, Plate, rolled products
 ** incl. Fujian Deshang

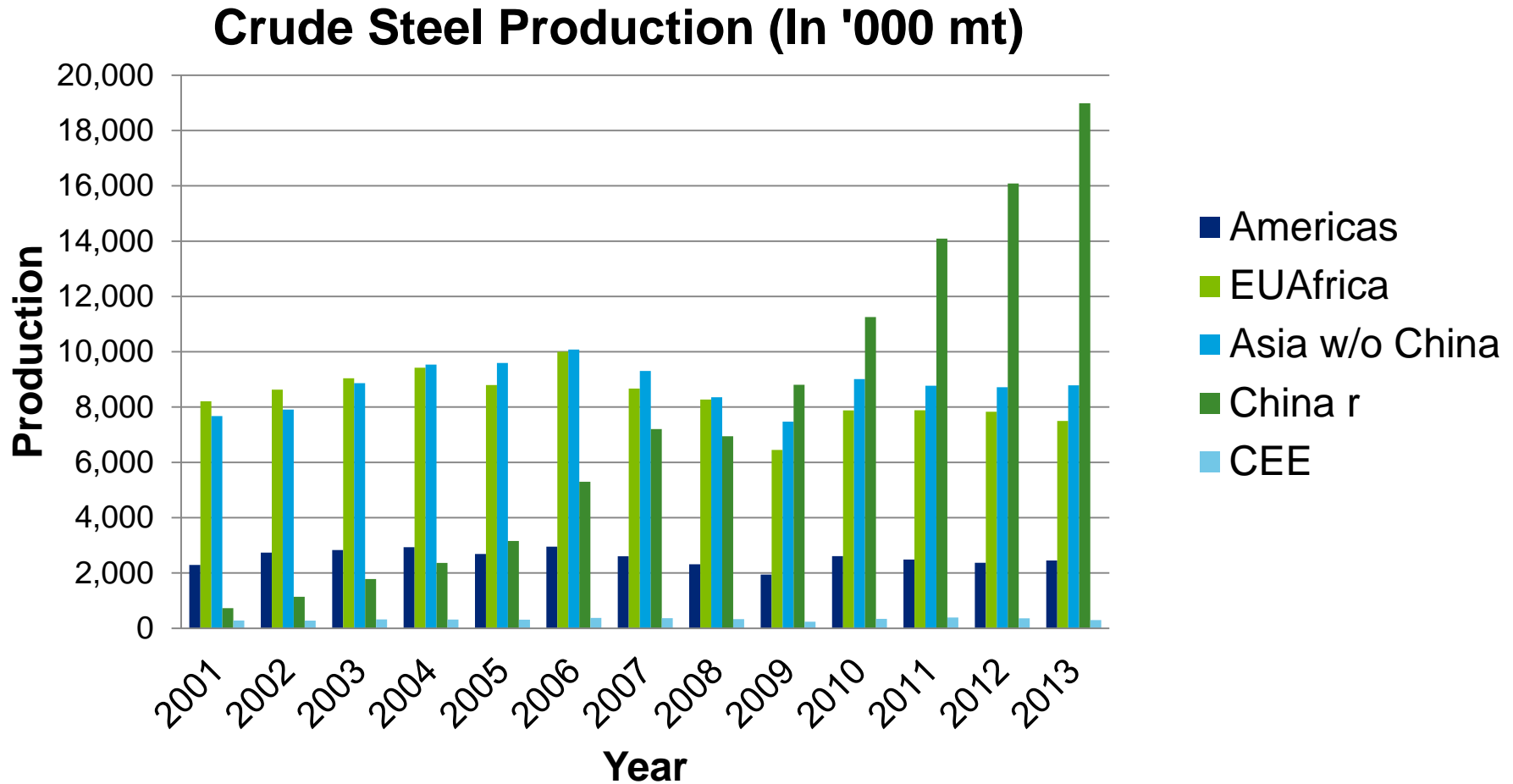
Source : SMR, 2010

Worldwide SS production by Region 2005-2014

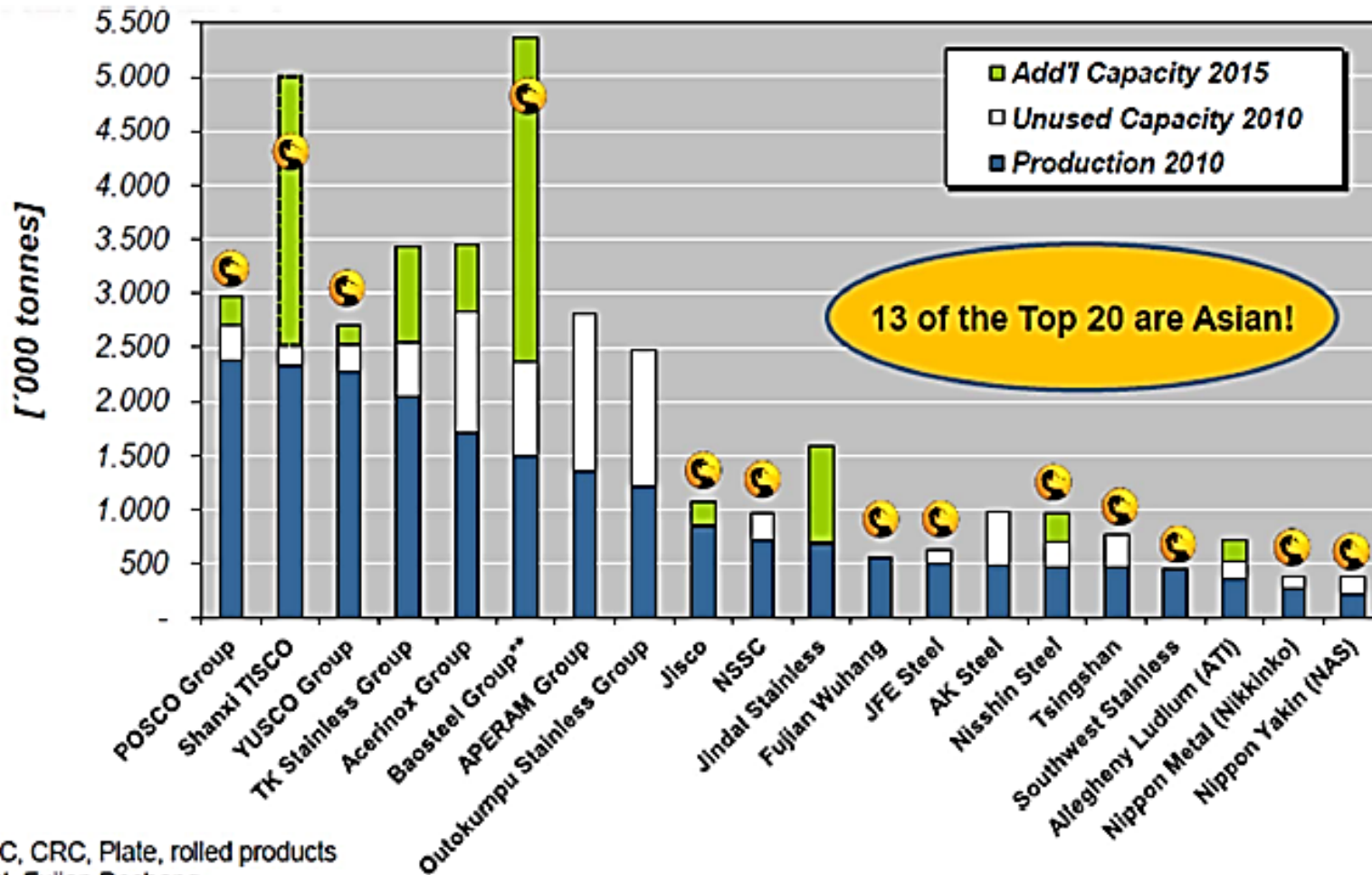
Region	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 (Fst Hlf)
America	2,688	2,951	2,604	2,315	1,942	2,609	2,486	2,368	2,454	1,386
EUAfrica	8,795	10,000	8,669	8,272	6,449	7,878	7,883	7,829	7,496	4,273
Asia w/o China	9,593	10,081	9,304	8,356	7,472	9,011	8,770	8,720	8,788	4,450
China	3,160	5,299	7,206	6,943	8,805	11,256	14,091	16,087	18,984	10,687
CEE	310	376	364	333	237	340	391	359	296r	143
World	24,546	28,706	28,146	26,218	24,904	31,094	33,621	35,363	38,018r	20,939

Source: ISSF

World Production of SS by Region



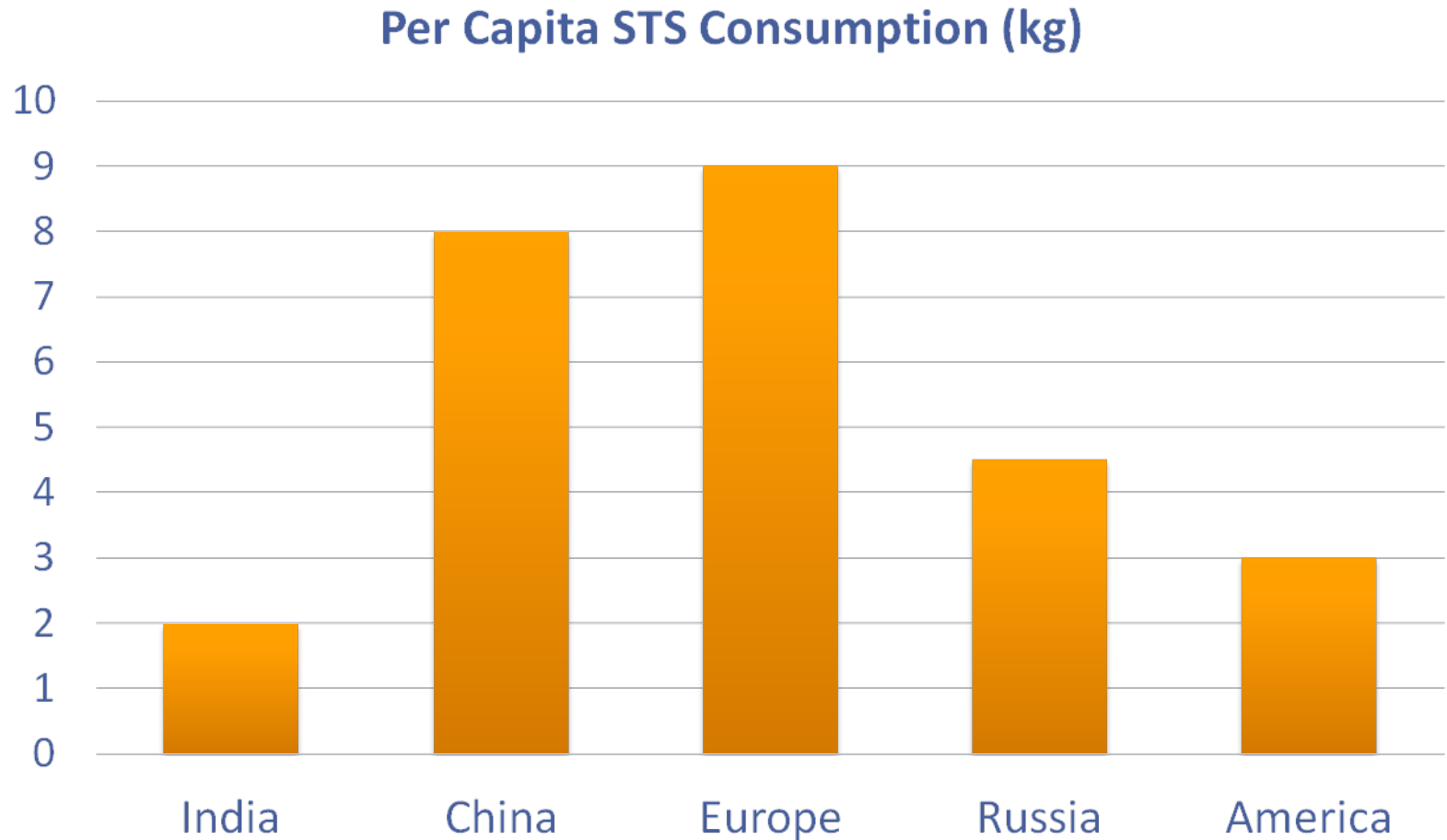
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Asia is Primed for Growth



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Future of Stainless Steel Recycling

Stainless steel Recycling

- Stainless steel is 100% recyclable.
- SS scrap is direct substitute for prime raw-materials...which is nickel , chrome and pig iron.
- There is no recycled stainless. Scrap is melted and refined to produce prime stainless steel.
- Mills rather use ss scrap as their raw material because it is cheaper to produce stainless steel using scrap than prime materials.
 - 1) Less energy used .
 - 2) Cheaper input cost.
- There is always demand for ss scrap. Supply is always short
- All this lends to a great future for stainless recyclers.

Stainless Scrap Processing

