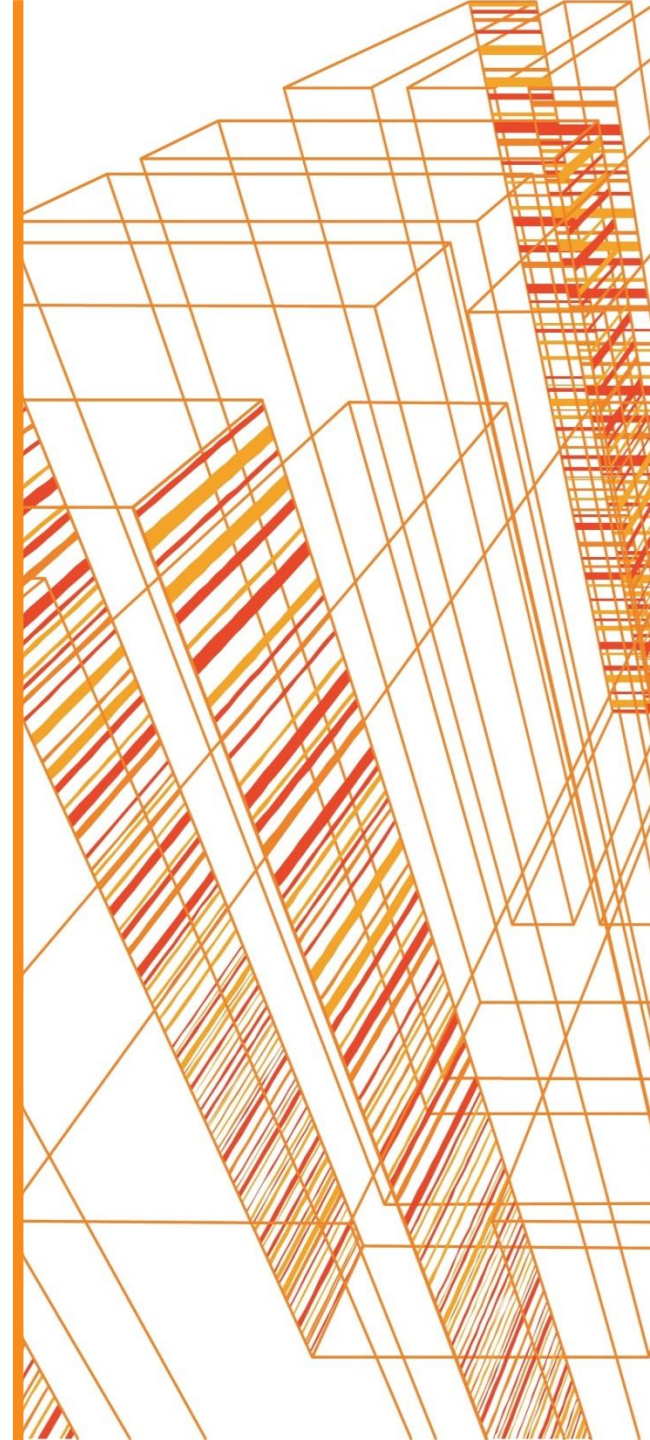


EVRAZ Canadian Steel: Low Carbon Footprint

November 2016




Electric Arc Furnaces (EAFs) with metal scrap: cleaner, more efficient

- EVRAZ Regina utilizes two EAFs to make up to 1.1 million tons of steel per year

- Over **91%** of steelmaking in China is from Blast Oxygen Furnaces (BOFs), which use iron ore, coking coal, and other inputs

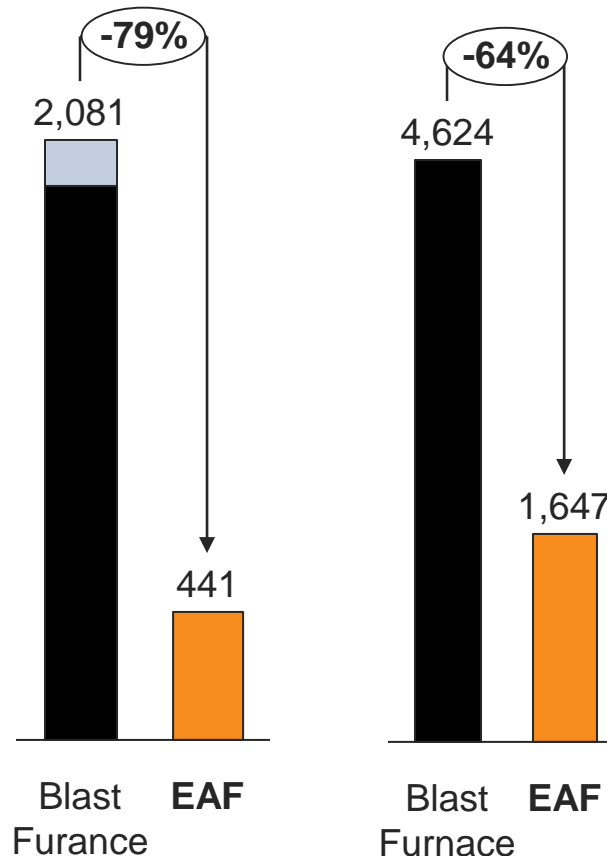
- For every one ton of steel scrap made into new steel, over 1,400kg of iron ore, 740kg of coal, and 120kg of limestone are saved

 Overseas input shipping to China

Steelmaking

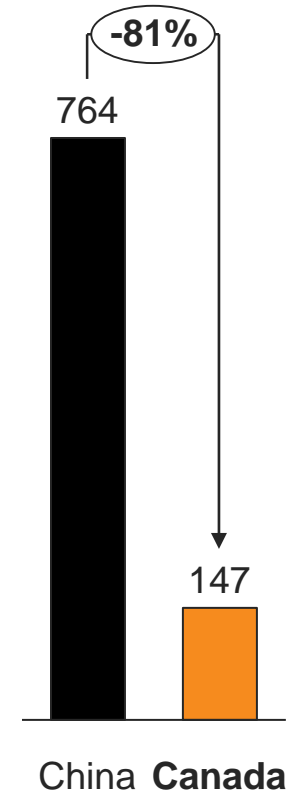
CO₂ emissions
kg / ton of steel

Energy used
kWh / ton of steel



Electricity Generation

CO₂ emissions
grams / kWh

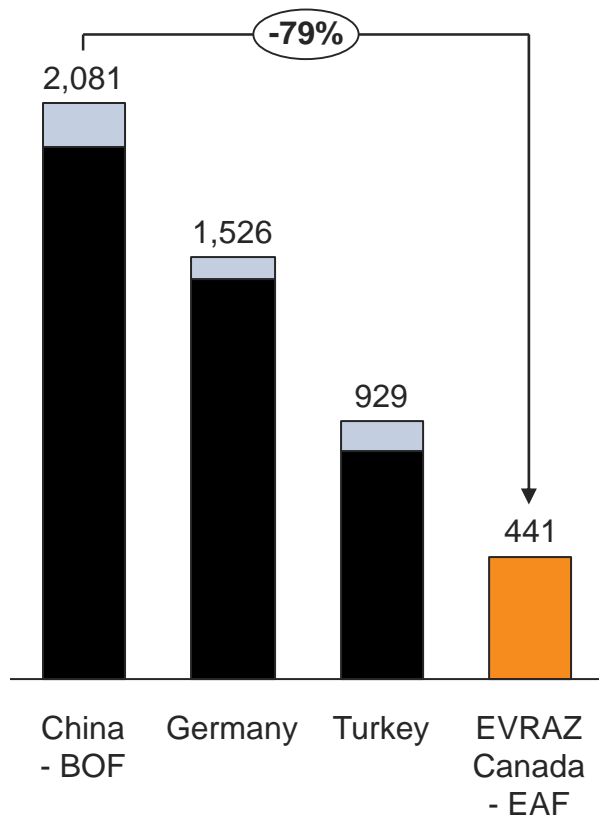


Sources: BOF percentage: Worldsteel. Shipping emissions: National Technical University of Athens. Steelmaking: Midrex – Blast Furnace assuming 11% Scrap, EAF Use of 100% scrap. Scrap statistics: Worldsteel. Electricity Generation: IEA 2011

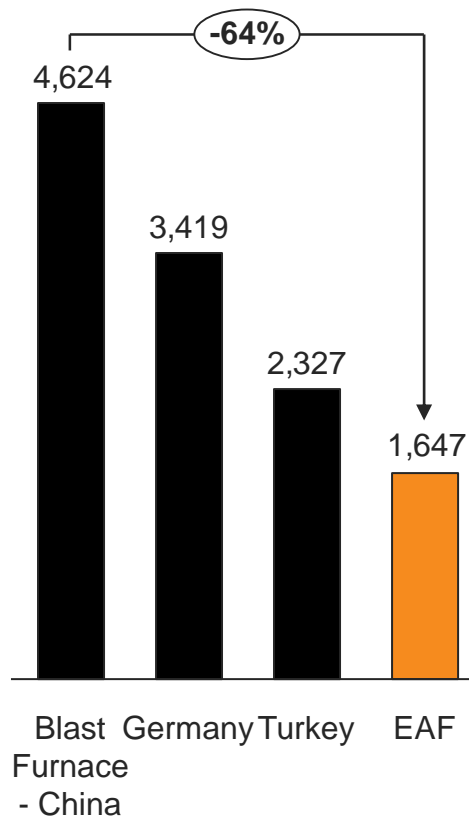
EVRAZ cleaner EAFs, Canada's power generation outpace others

Steelmaking emissions and energy use

CO₂ emissions
kg / ton of steel

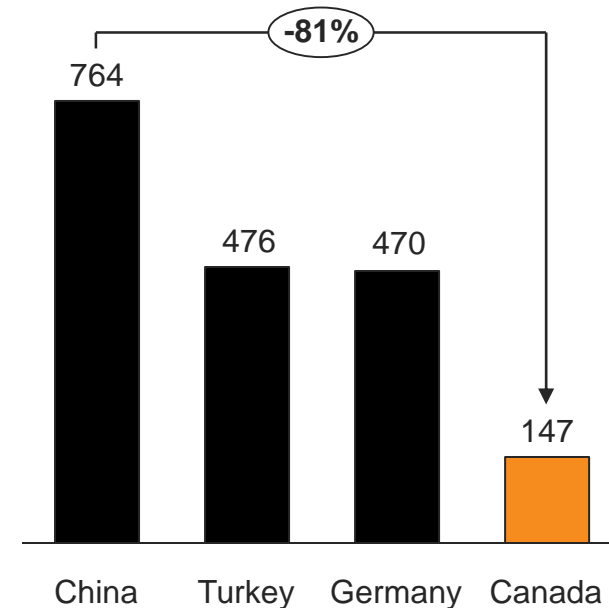


Energy used
kWh / ton of steel



Emissions from energy generation

CO₂ emissions
grams / kWh

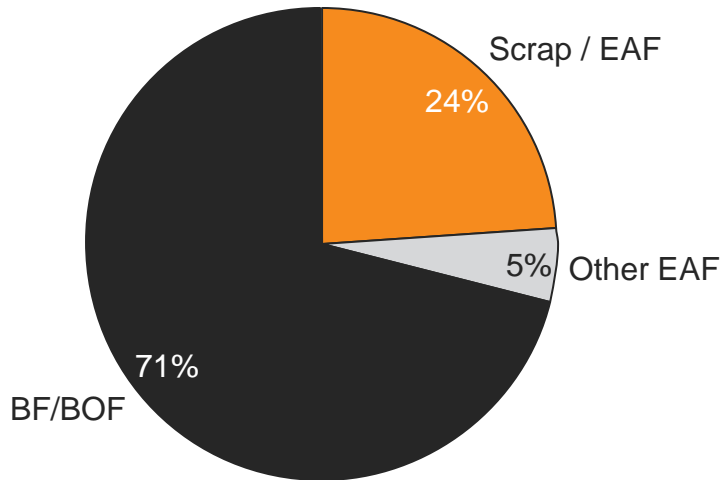


Overseas shipping of inputs

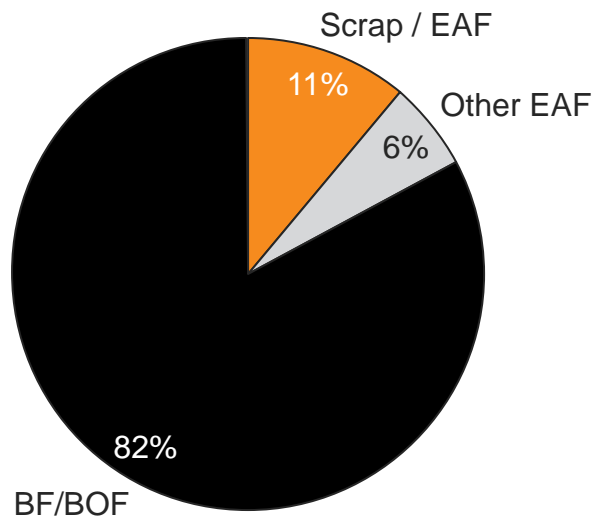
Sources: BOF percentage: Worldsteel. Shipping emissions: National Technical University of Athens, from China to BC, Europe to Houston. Steelmaking: Midrex – Blast Furnace assuming 11% Scrap, EAF Use of 100% scrap. Scrap statistics: Worldsteel. Electricity Generation: IEA 2013

EAFs have disproportionately less energy use, emissions than BFs

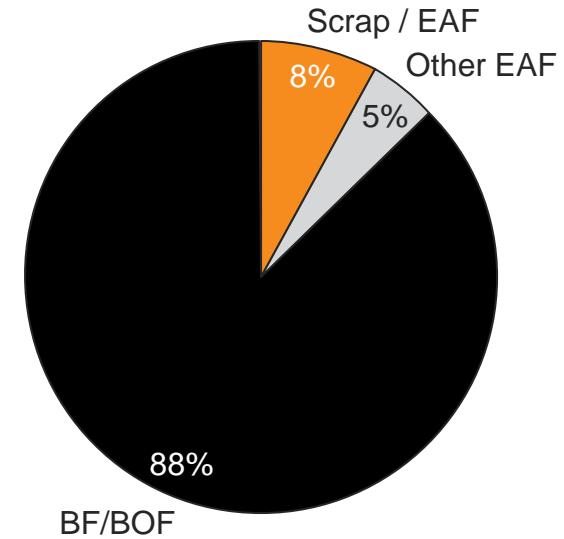
Production Share



Energy Consumption Share

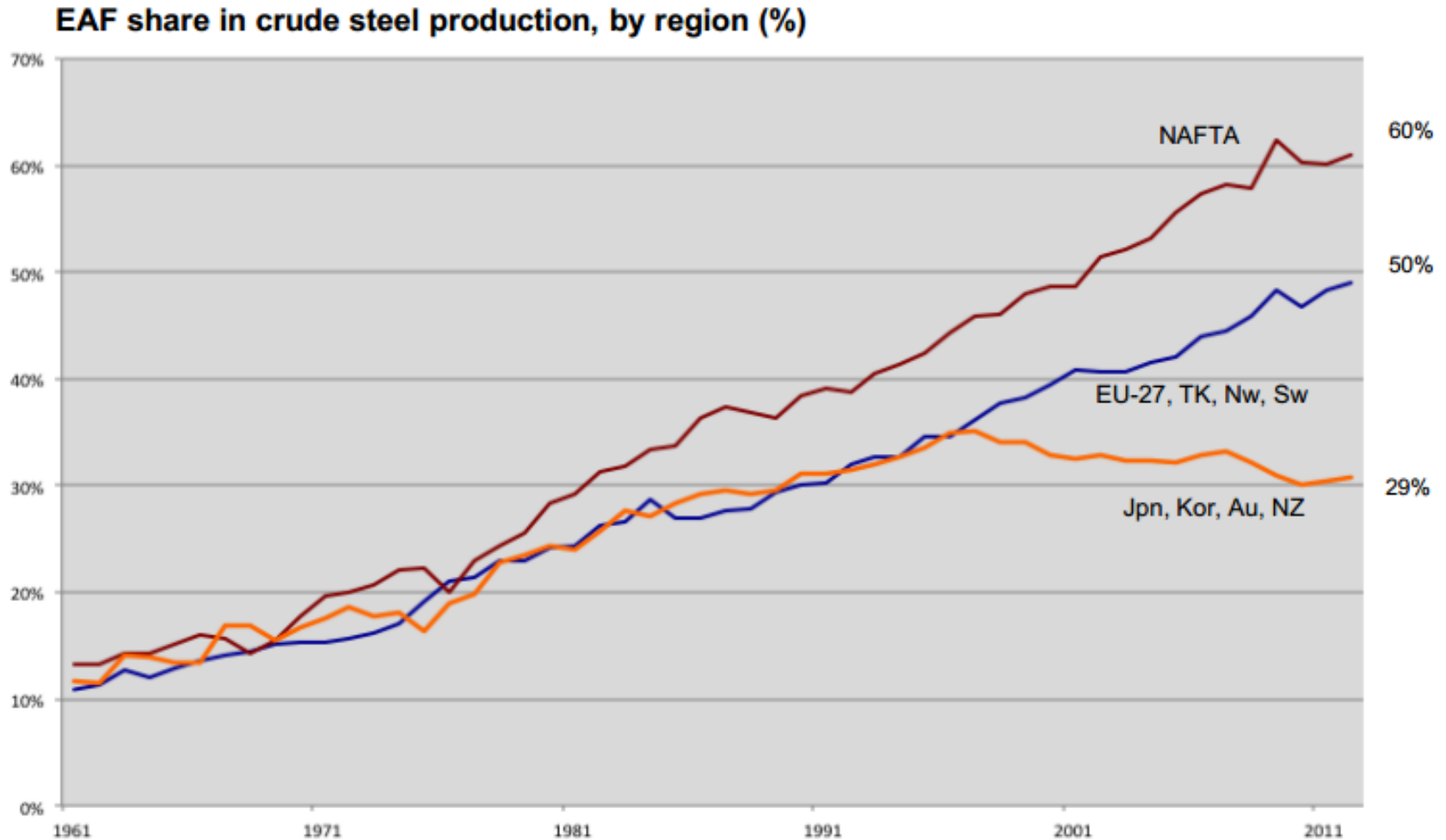


CO₂ emissions share



Sources: IEA, WorldSteel, BP, World Coal Association, Midrex, Laplace conseil

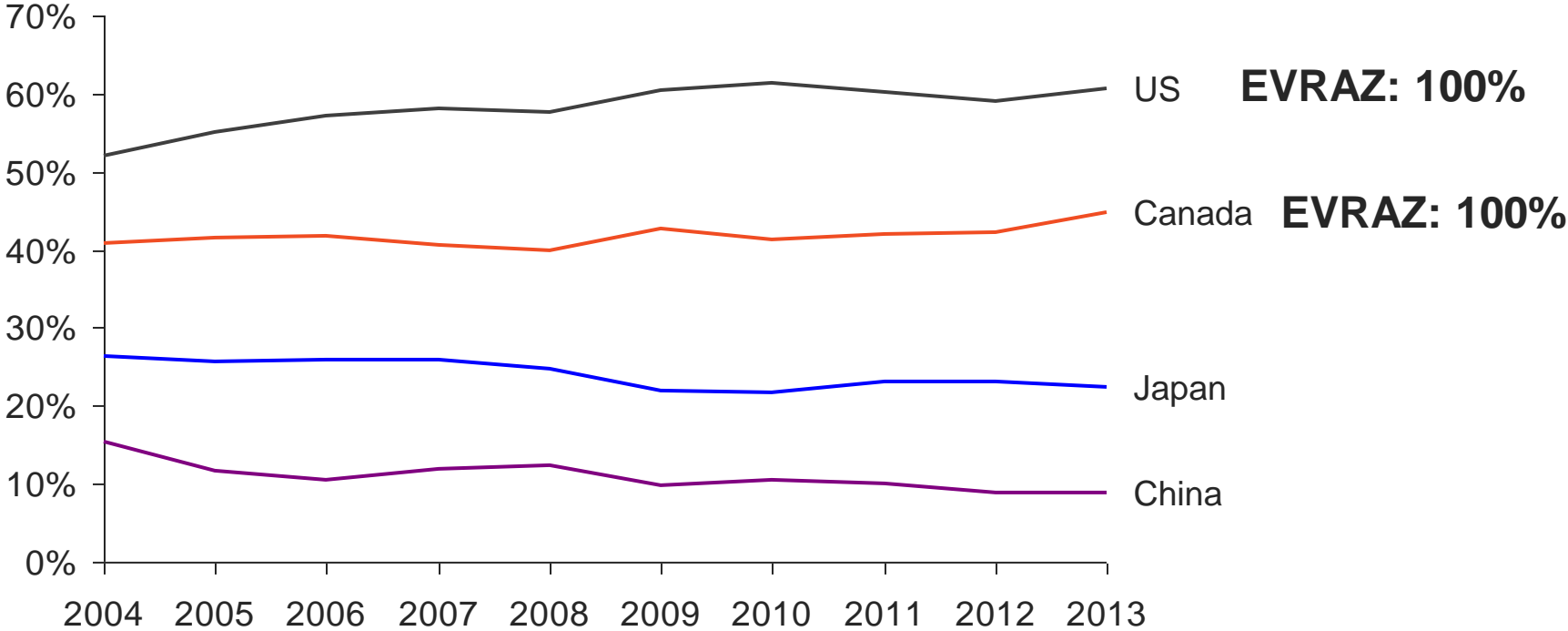
NAFTA ahead of China (9%) and Japan (23%) in EAF share



Source: Worldsteel

China and Japan lag US, Canadian cleaner EAF production

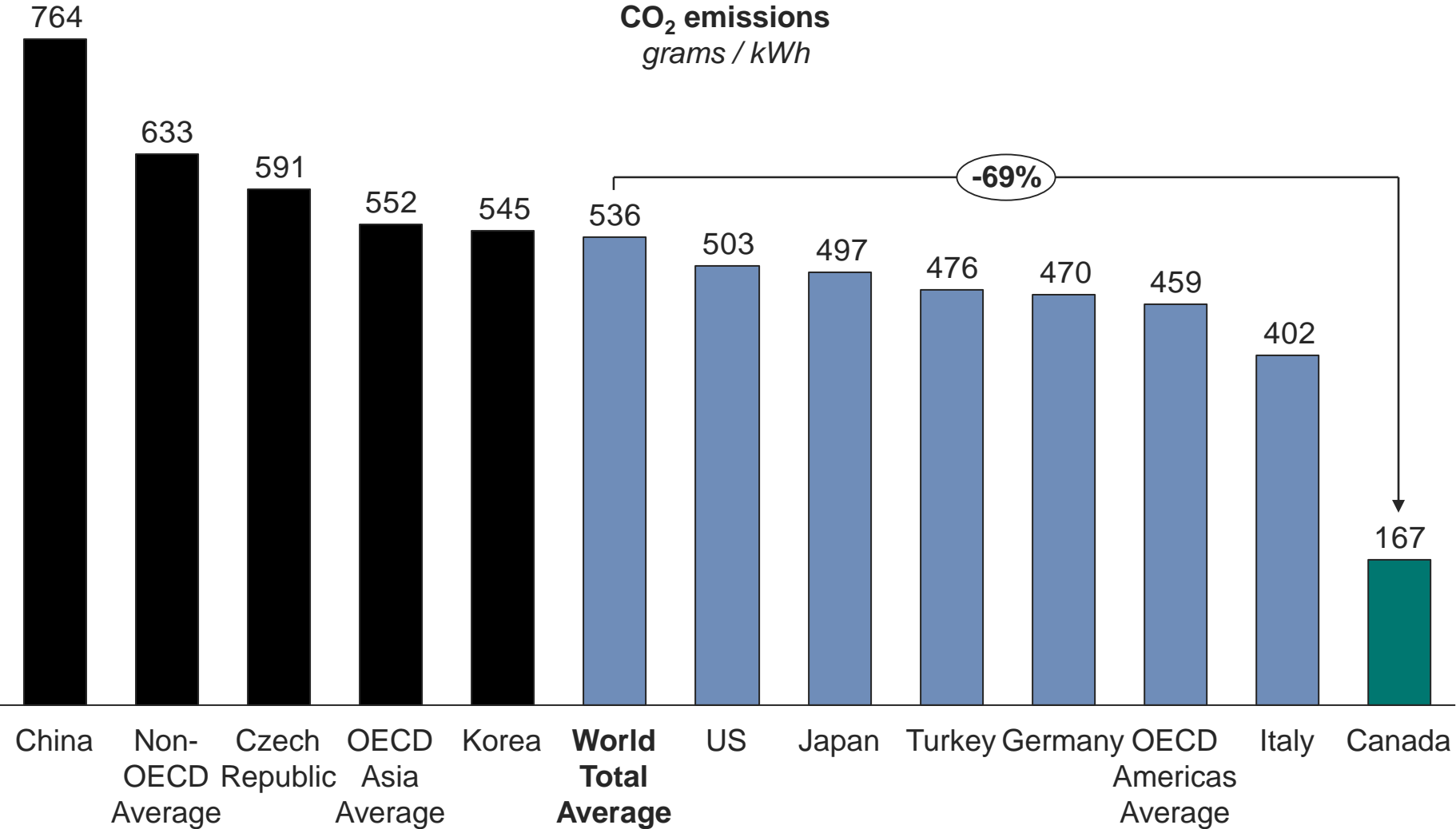
EAF share in crude steel production, by country (%)



Source: Worldsteel

Canadian Electricity generation: 69% fewer emissions than World average

Electricity Generation



Sources: Electricity Generation: IEA 2011