

CAPITAL INVESTMENT COSTS FOR PLANT AND EQUIPMENT IN IRON AND STEELMAKING

Research Report

EXECUTIVE SUMMARY

December 2010

This research report centres on the capital expenditure costs of iron and steelmaking plant and equipment in the international steel industry. Based on public records concerning actual or planned capital expenditures of several hundred different modernisation projects in recent and coming years valued at ~\$265 billion, the report attempts to quantify typical capital costs at each main stage of the iron and steelmaking process. Average capacities and typical costs are discussed both for complete steel plants (BOF and EAF) and for ~30 different individual facilities ranging from direct reduction plants; through to coal washing facilities and billet casters; for bar mills and hot strip mills; through to organic coating lines. Covering up- and down-stream production areas for flat, long and tubular steel products, the reports also addresses the investments costs of ancillary plant (secondary metallurgy, waste water treatment, power generation plant etc) as often found in a typical steelworks.

For each main plant and process type, the report discusses current capital investment costs as well as typical plant sizes. Typical reasons for variations in per-tonne steel sector capital costs are outlined. A discussion is included about the geographical orientation of recent steel industry investments; about likely contractual differences in plant purchases from industrialised and industrialising regions; as well as about capital costs in the context of the steel product value chain. Expected trends in facility design are commented upon. Determinations are also presented concerning the typical employment impact of small and large-scale steel industry investments.

As a management tool for estimating approximate current capital costs, more than 30 capex cost vs capacity charts are included for individual plants and process steps in iron and steelmaking. These cover the capital costs of investment in sinter, coke, DRI, blast furnaces, BOF plants, EAFs, induction furnaces, slab casting, billet and bloom casting, heavy plate, hot rolled coil, cold rolled coil, hot dip galvanised sheet, tin plate, organic coated sheet, heavy sections, steel bar, wire rod, drawn wire, welded tube, seamless tube, pellets, washed coal, lime, PCI, air separation, power plant etc.

By way of a conclusion, a 'capital cost map' is shown summarising typical \$-denominated capital costs today for a notional BOF flat product plant, for a notional EAF long product steel works and for a range of ancillary plant.

For further information, please visit <http://www.steelonthenet.com/capex>