

Backgrounder

“The Importance of Steel Manufacturing to Canada – A Research Study”

Dr. Peter Warrian, Senior Research Fellow, University of Toronto

Introduction

Canada’s steel industry has undergone a tremendous amount of change in the past five years. The transformation of the ownership structure of Canada’s largest steel producers is only part of the many forces impacting the steel industry, domestically and globally. The role of the steel industry is also changing rapidly. These developments have attracted much attention, leading many to wonder about the implications for the future of the steel industry in Canada

To provide an independent perspective on these questions, the Canadian steel industry commissioned a respected expert, Dr. Peter Warrian of the University of Toronto to provide a first in-depth look at the industry following its ownership transformation and the recent recession¹. Combining existing information and new research, the study examines the Canadian steel industry today and its prospects for the future.

The author’s clear conclusion is that “from an employment, value-added, knowledge intensive and environmental perspective, this is an industry Canadians should want in their future”. He adds that steel will be a central part of a more sustainable economy and society, but this will require continuous investment and reinvestment. Flowing from the analysis, the study identifies several areas of public policy that will directly impact the industry’s investment environment.

Canadian Steel Industry Impacts

The study examines the impacts of the steel industry on many levels, starting with conventional economic measures: employment of about 30 thousand men and women in several provinces, annual shipments in the \$14 billion range, and exports of \$7 billion in 2008. Including multiplier effects, the employment impact is some 130 thousand jobs. The study notes the particular impacts in steel communities, where the industry is often the major employer with direct consequence for related industries, charitable contributions, and the local tax base.

An important finding is that steel’s impact goes well beyond the numbers. Because steel is a vital industrial material, the industry exhibits substantial linkages to many major industrial “clusters”, such as automotive, energy, and construction. This co-dependency is an important dynamic in understanding steel’s full impact. It is a two-way street: a sizable decline in the domestic steel industry would be magnified across the supply chains for which steel is a major industrial input, and for the steel industry’s suppliers of goods and services.

Technology and Innovation

The study presents intriguing perspectives on steel technology and innovation. In contrast with some perceptions of steel as an “old economy” industry, the study discusses the steel technology

cluster that develops advances in materials and production processes. Steel is shown to have been an early mover in the information economy. Technology and innovation will be ever more crucial in the future. In this respect, the study points to a major benefit of the recent industry transformation which provides Canada's steel mills access to a richer pool of technology, know-how and talent. Internal benchmarking with sister organizations generates both product and process efficiencies that were not previously accessible.

The study is clear that continuing to invest in technology, innovation, and the development of an increasingly skilled workforce will grow in importance. It points to experiences in other countries, and identifies the importance of public research infrastructure such as the relocation of a government CANMET laboratory to Hamilton. It suggests that similar opportunities be considered in relation to steel technologies required for western Canada's energy and mining steel technology needs.

New Opportunities

The study discusses "the Steel Growth Story". It includes the global expansion that will be driven by developing economies, notably the BRIC countries, which will see large-scale spending on infrastructure, construction, and transportation -- all of which are based on steel.

Within North America, demand growth will come from many sources, starting in the near term with the economic recovery in key steel-using industries. Over the longer term, steel will be an essential material as societies transition to a more sustainable or 'greener' economy, e.g. the steel required for wind towers and solar panels, or lighter steels to make more fuel efficient automobiles. The study also examines new uses of established steel technologies, notably for using high quality automotive sheet steel products in building construction.

International Steel Trade

The report documents the enormous impact of China, and to a lesser extent Brazil and other developing countries, in the global steel industry. China's significance to the Canadian industry is multifaceted, beginning with its sheer size (almost half the world's steel production), overcapacity that exceeds total North American production, and the extent of government support for the Chinese industry. Drawing on previous studies by the Organization for Economic Cooperation and Development, think tanks, and the extent of trade remedy actions in many countries, the study points to China's non-market behaviours as a risk to steel producers and their customers that are forced to compete with subsidized imports. Netting out the various forms of subsidy and other support, the study argues, would find China's steelmaking costs to be substantially higher. China's artificial cost advantage is further abetted, he notes, by China's undervalued currency. A policy consequence is to reinforce the importance of anti-dumping and countervailing duties to address market distortions introduced by WTO-inconsistent practices.

Environment

Though it is not a central theme of this study, the study describes the importance of research into fundamentally different ways to produce steel. As it notes, the laws of thermodynamics and

current technologies inevitably produce a certain carbon footprint in steelmaking. The study notes that while the Canadian steel industry has surpassed the Kyoto goals, major future improvements in CO₂ intensity will require “breakthrough” technologies, a challenge on which the global steel industry is already engaged collaboratively.

Another dimension of steel’s environmental performance is recycling, i.e. the use of scrap steel which is an infinitely recyclable material. The study describes the “remarkable” story of steel recycling, and the consequences for both waste management and air emissions when steel is remelted to make new steel products.

A Sustainable Steel Industry – Policy Implications

In a concluding chapter, the report discusses several public policy implications to be drawn from the research. It notes that Canada has not shown the same emphasis on policies to support innovation in industry, as is evident in the E.U. and increasingly, the U.S. This is partly a reflection, the paper suggests, of the growing importance of provincial and local government policies and regulations.

The analysis leads to a “horizon” of supportive public policies which will enable steel to be “a central part of the materials infrastructure of our future sustainable economy and society”. Many of these policies apply broadly to the manufacturing sector, including those examined in the Canadian Manufacturers and Exporters recent “Roadmap to Recovery” (www.cme-mec.ca).

In assessing the policy implications, Dr. Warrian begins with two important factors that need to guide public policy choices. First, as earlier chapters demonstrated, the “new economy” includes steel. Second, it is important to ensure that steel producers are not placed at a competitive disadvantage by the actions of other governments, e.g. China.

He then examines the critical importance of the industry transformation. With the globalization of the steel industry, Canadian producers now compete for investment within corporate organizations that have multiple options. Consequently, as the study observes, Canada must offer competitive conditions for investment across a spectrum of policy areas: fiscal/monetary/social; productivity, innovation and skills; international trade; Canada-U.S. relations; infrastructure and logistics; environment; and energy.

The study does not lay out a prescriptive policy ‘Agenda’, but in closing, it calls for a “sound, balanced mix of policy . . . so that Canada will continue to benefit from steel’s potential as an innovative, competitive industry in the 21st century economy.”

ⁱ This summary was prepared by the Canadian Steel Producers Association (CSPA). The CSPA commissioned the study with the financial support of the Canadian Steel Trade and Employment Congress (CSTEC), and the United Steelworkers (USW). The complete study can be found at www.canadiansteel.ca