The $1 billion dollar annual loss announced by BlueScope Steel confirmed what is common knowledge: the Australian steel industry is in crisis and fighting for survival. The latest statistics show that steel production in this country has dropped by over 30% since 2011 as the high Australian dollar and low cost imports from China have largely wiped out our export market and created problems in local markets for Arrium and BlueScope.

The closure of the giant No. 6 Blast Furnace at Port Kembla last year was a momentous occasion and an acknowledgement that in the current climate, Australian steel simply cannot compete with our cheaper Asian rivals.

As discussed in an earlier article, these problems reflect not just the distortion to our dollar induced by the mining boom but also a failure to innovate and develop products and downstream industries that build on our significant advantages with raw materials and technological know how.

The No. 6 Blast Furnace was one of the most technologically advanced in the world and we have plentiful supplies of good quality ore and coking coals. Our steel industry makes relatively stock standard grades of steel – grinding media made by Arrium being a notable exception - that the aggressive and low cost Asian steelmakers easily undercut. Of course, the high Australian dollar makes the whole situation worse but the underlying problems are not new.

Is there hope for this ailing industry?

Yes, history does show that ailing steel industries can bounce back. The story of Nucor is a case in point. Nucor developed as a successful steel company during the 1970s and 1980s, when the American steel industry was in a deep crisis. During this era, the American steel industry had become slow and costly. It lagged behind the Japanese and other new players, in both technology and management practices. As wonderfully described by the Pulitzer prize-winning John Strohmeyer in Crisis in Bethlehem, many executives in the top-heavy American steel industry at the time were more interested in the politics of the company golf club than they were in technical innovation.

Ken Iverson, the charismatic president of Nucor, turned the problems of the traditional large corporation on their head by breaking down the hierarchical structures associated with companies like Bethlehem Steel and US Steel and emphasising teamwork, performance-based compensation, shared benefits and community involvement.

These innovations in management structures were also matched by taking the lead in the development of mini-mill technology, which at the time was undergoing a revolution. In particular, they moved mini-mill technology closer to the high-value end of the steel product range, producing high quality flat products from scrap feed materials.

These energetic and innovative approaches produced high performance in terms of profits, worker satisfaction and environmental impact. Many companies have copied Iverson’s approach and his ideas are still being discussed in the boardrooms of steel companies around the world.

What lessons can we draw from the Nucor story?

We need new ideas. Our steel industry needs to look for innovation, not just in terms of products but also, in terms of management structures and community engagement. I support efforts by the federal government to help our ailing steel industry through this difficult time, we should not let such a vital industry pass away so easily, but for a long term future we will need new players and ideas.
Can we use our plentiful natural gas supplies to make direct reduced iron in Western Australia? Where are the next generation of coated products? Could we develop mini-mills in the north of Australia to service the growing steel demand in south-east Asia? How do we move our existing mini-mills towards higher grade products?

Given our excellent nickel resources, could we develop a new ferro-alloy industry (we closed our only stainless steel plant in the 90s)? Is it time to develop a high tech. steel recycling industry in Queensland? Is there a future for ultrafine grain steels being produced in Australia?

In my own laboratories at the moment, we are exploring the idea of using concentrated solar energy for mineral processing.

The idea is that we could value add to our minerals at the mine site using our abundant solar resources to smelt minerals and produce metal close to the source. Production of iron is an obvious candidate. In Australia, we have plenty of iron ore, coal and sun. It is early days and there are many challenges to get such an idea working – capital costs, optimising the solar energy effectively, reactor design – but it is in looking for these types of natural advantages that some sort of new future could be found.

Are there any Ken Iverson’s out there? Your time has come.