Growing environmental awareness and the increasing desire for sustainable economic growth have led to the concept of stewardship whereby a material’s characteristics are assessed on the whole of its life cycle and each of the steps in the life cycle are held accountable for improvement in environmental performance.

Because of Steel’s pre-eminent position as a material underpinning economic growth it was appropriate that a steel stewardship model be developed, and consequently the Steel Stewardship Forum was formed in 2008 in Australia. Representatives from industry, government and Non-Government Organisations initially instigated the forum and it has since grown with membership from a range of steel, mining, academic, non-government organisations and allied interests.

The purpose of the Steel Stewardship Forum is to:

- maximize the value of steel to society by improving the commercial, social and environmental impacts across its life cycle
- unite key stakeholders along the steel product life cycle chain within a structured forum
- work as a hub linking information, knowledge, leading practice and activity in the areas of environmental improvement and sustainability across the steel life cycle.

The Forum brings together all major sectors of the steel product life cycle – from mining through to steel manufacturing, processing, product fabrication, use and re-use, and recycling – in the shared responsibility of working co-operatively to optimize the steel product life cycle using sustainability principles.

By uniting the key stakeholders along the steel product life cycle chain within a formal structure, the Forum aims to maximize the value of steel to society by improving the commercial, social and environmental impacts across its life cycle. The Australian Steel Chain Footprint project is an essential first step to achieving this aim.
AUSTRALIA’S STEEL VALUE CHAIN FOOTPRINT HAS NOW BEEN MAPPED

With data contributions coming in the main from Steel Stewardship Forum (SSF) members whose activities range from mining at the beginning of the chain, through steel manufacturing, processing, fabrication, use, reuse and recycling, the Footprint (which also includes some publicly available data) has now been completed. For the first time it gives a high level input-output map of the major commodity flows and emission intensities of the steel value chain in Australia.

As a prerequisite the SSF needed to establish a high level picture of the major Australian steel value chain commodity flows and emissions intensities, and life cycle inputs and outputs. The Australian Steel Chain Footprint Project was the result.

Energetics Pty Ltd acted as the main consultants for the project and it was peer reviewed by ERM Australia Pty Ltd.

While not intended to be a detailed Life Cycle Inventory, and with some data limitations as noted in the report, it nevertheless provides an excellent overview of the steel value chain in Australia; and, importantly it will serve the purpose of the SSF by helping to identify areas for improvement.

2007 – 2008 data was selected as the reference year, based on data availability at the commencement of the project, and avoidance of years in which distortions in the industry data caused by the Global Financial Crisis were at a peak (being 2008-09 and 2009-10). An updating program to take account of changes in the Australian manufacturing industry and steel market since then is under consideration by the SSF.

The key material flows examined the report have been summarized in this schematic diagram of the Australian steel value chain and the full report can be accessed on the SSF website www.steelsewardship.com
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- Primary Consultant: Energetics Pty Ltd
- Peer Review Consultant: ERM Australia Pty