

Environment-conscious, World-class Steel Industry

The Swedish steel industry is well-known worldwide and has a reputation for producing high-quality, advanced steel products. The industry also maintains a competitive edge in the area of environmentally clean production technology.

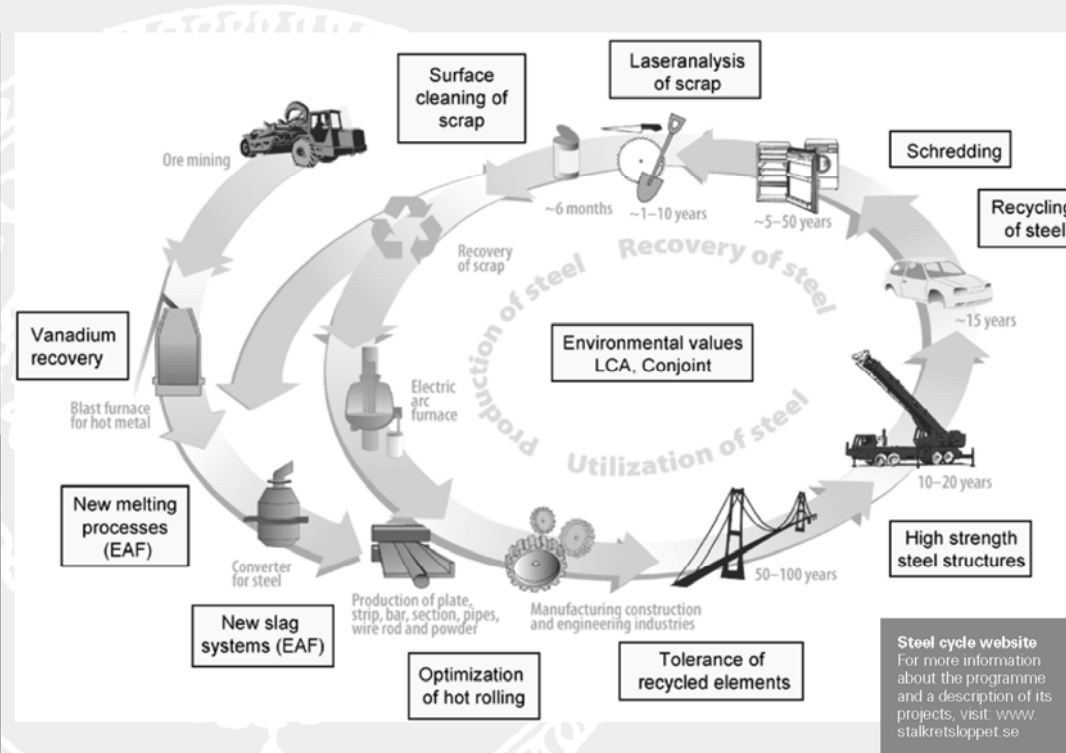
By Göran Andersson

The Steel Eco-cycle

"The Steel Eco-cycle" environmental programme is a unique, integrated research concept, initiated and organised by the Swedish steel industry in cooperation with the mining, recycling and manufacturing industries.

"New methods must be established for working on issues related to the environment, climate and energy. This development must be carried out from a broader perspective than it has been previously. The Steel Eco-cycle serves as a guide," says Elisabeth Nilsson, Managing Director at the Swedish Steel Producers' Association.

The Steel Eco-cycle research programme is specially designed to provide Swedish industry, universities and research institutions with leading-edge knowledge. The programme covers the entire steel eco-cycle and can be classified into four scientific work areas: environmental evaluation, steel application, steel recovery and steel production.



The Steel Eco-cycle programme is unique in that it involves four industrial sectors in a single research programme and follows a shared vision of "Closing the loop in the manufacturing and use of steel in society" – a vision that all participants in the programme strive to achieve.

"By involving industry in the research from an early stage, we ensure that the results will be useful," says Bir-

gitta Lindblad of the Swedish Steel Producers' Association in her capacity as Programme Director.

The Steel Eco-cycle comprises ten technological projects and two environmental evaluation projects.

The technological projects aim to retain the metals in the steel cycle, which limits the need for natural metal resources, energy and carbon in the manufacturing of new steel.

This results in lower carbon-dioxide emissions and a reduction in energy consumption.

Reduced carbon-dioxide emission

There is an obvious need for solutions that enable conservation of energy and natural resources.

The environmental evaluation shows that the Steel Eco-cycle programme could reduce carbon-dioxide emissions from steel manufacturing and com-

"Closing the loop in the manufacturing and use of steel in society" enables the Swedish steel industry to remain a world-wide environmental leader."



Assistant Programme Director Göran Andersson from the Swedish Steel Producers' Association

modities by two million tonnes and energy consumption by 10 Twh annually if all of the results are utilised.

The impact of the programme is further enhanced by the research's focus on new types of steel and the environmental value that is generated when they are used in various products.

By offering new opportuni-

Increasing steel consumption

Since its launch at the end of 2004, the research programme has grown in significance. Worldwide steel consumption is increasing substantially, particularly in Asia. As a consequence of this increase, the strain on the environment is intensifying as consumption continues to grow.

This trend can be mitigated by using the results generated within the Steel Eco-cycle programme.

The significance of the programme's environmental value and unique research methods has been noted in the international and national evaluations that the programme has undergone. These evaluations have rated the programme very highly. So far, the outcome of the Steel Eco-cycle programme indicates results of high scientific and industrial value and relevance that can be utilised by the industry.

Financing for the Steel Eco-cycle programme, provided by its participants in cooperation with Mistra – the Swedish Foundation for Strategic Environmental Research – will allow the programme to continue until 2012.

With a budget of EUR 20 million, the programme provides the Swedish steel industry with the necessary strength to meet future challenges in the environmental field.

Interest in the Steel Eco-cycle programme has gradually increased and applications for participation in the programme are being submitted.

This is necessary because a sustainable society requires extensive dedication and sustainable eco-cycle materials – like steel. ■

General information

The Steel Eco-cycle programme:
- Provides reliable methods for evaluating the environmental value of the entire steel cycle.
- Increases scrap-metal recycling and optimises the use of alloys.
- Economises the use of steel in applications and products.
- Stimulates cooperation and exchange of knowledge throughout the steel eco-cycle.

Environmental value incl commodities

An annual reduction of:
- Carbon dioxide 1.9 Mton
- Energy 9,500 Gwh
- Alloys 34,000 tonnes (Cr, V, Ni, Mo)
- Pellets 63,000 tonnes
- Lime 58,000 tonnes

Financing, etc.

The programme is funded by the Swedish mining, steel, recycling and manufacturing industries and Mistra – the Foundation for Strategic Environmental Research for the purpose of:
- Solving important environmental problems.
- Achieving sustainable development and promoting competitiveness among users of the results.
- Creating a strong research environment of the highest scientific quality.