

Green Topics

Plastics find a role in steel industry

P. Greenfield, *Financial Times*, 7 Aug. 1996, p. 15,
Business Day, 14 Aug. 1996, p. 14

The German steelmaking industry has come up with a novel solution to the problem of waste plastics—grind them into particles and use them in the steelmaking process. Plastics make ideal agents for removing oxygen from iron ore in blast furnaces, and save on oil and coal as well. The aim of replacing heavy oil and coal with plastics in blast furnaces is to use them as reducing agents as well as an additional energy source. Germany's use of the process relies on the Duales System Deutschland, a government-backed and industry-funded system for recycling consumer plastic packaging. Stahlwerke Bremen, which pioneered the use of waste plastics in the blast furnace, has replaced 30% of the heavy oil it uses with a corresponding amount of plastic agglomerates. The main modification to the blast furnace is to the injection system, which instead of spraying oil into the furnace, must combine oil and 5 mm pieces of plastic. Stahlwerke Bremen is looking to patent the injection system as there are many companies interested in it, and will not reveal any details. Planned regulations on waste from cars and electronics will mean more potential supplies for the steel industry. The UK plastics industry is now looking to the German experience as one answer to its growing problem of automotive plastics waste.

Ironing out industry's problems with waste

New Scientist, 20 Jul. 1996, p. 23, *Environmental Science & Technology*, vol. 30, no. 7, 1996, pp. 2155–2167

Molten iron could be used to recycle everything from toxic industrial waste to beer cans, say American researchers at Molten Metal Technology, Waltham, Massachusetts. Using the power of molten iron at 750°C to tear apart waste into its constituent elements, the iron then acts as a catalyst, combining the elements to produce useful gases, metal alloys and ceramics. Experiments include the processing of highly toxic toluene diisocyanate production wastes, chlorinated organics, and mixed metallic, plastic and inorganic wastes. Synthesis gas, hydrogen chloride, ceramic, and metal products were manufactured from these waste materials. The researchers have patented the technology, and have demonstrated the recycling system on several industrial waste streams in a pilot plant in Massachusetts.

The road to a green colliery: Amcoal's environmental initiatives

D. Robbins, *Optima*, Jul. 1996, pp. 28–35

Anglo American Coal Corporation (Amcoal) is one of the country's major coal extractors, operating eight collieries

which last year produced 47 Mt of coal for sale. The company is also a leader in the field of rehabilitation—that is the term used to cover a whole range of environmental saving and repairing activities. As well as coping with the impact of current mining operations, there is an extensive legacy from a past when processes were less well-understood and the tendency was to leave the environment to fend for itself. The article focuses on the impact of coal mining, both underground and open-cast and discuss some of the problems that result from mining, and how Anglo is approaching their solution. Polluted water from coal mining presents a major problem, and about 10% of operating costs at Amcoal's open-cast mines is devoted to environmental imperatives such as rehabilitation and water treatment. For underground operations the figure hovers between 2 and 3%. In addition, considerable amounts are invested in Amcoal's Pollution Control Trust fund, with current reserves of around R100 million.

Pollution prevention no longer 'merely a moral choice'

B. Orr, *Mining Mirror*, Jul 1996, p. 72

Prevention of industrial pollution to provide a healthy work environment is no longer just a moral choice. The acceptance of South African industry back into the international trading arena means that the country must satisfy global standards of pollution control in order to qualify as an acceptable global business participant.

Rare blue swallows threatened by mine

B. Ryan, *Sunday Times Business Times*, 21 Jul. 1996, p. 1

Proposals to prospect and mine for gold at Kaapschehoop in Mpumalanga are a direct threat to the largest breeding colony of the Blue Swallow—South Africa's most endangered bird. The Blue Swallow Exploration and Mining cc has announced plans to reopen an underground gold mine which was closed in 1952 after just two years of operation, because of metallurgical difficulties in treating the ore. A pre-feasibility study of the mine, based on only four underground ore samples, claims that the mine could produce gold worth R232 million. If granted a prospecting permit, the company proposes a drilling programme and limited underground mining to extract a 300 t bulk ore sample. Although Kaapschehoop was declared a Natural Heritage site in 1994, the surface and minerals rights to the 500 hectare site belong to the government and are held by forestry parastatal Safcol. Safcol, the Endangered Wildlife Trust and the Mpumalanga Parks Board oppose the drilling programme, which would cause serious disruption to the Blue Swallow colony. There are only 60 breeding pairs of Blue Swallow in South Africa, and 9–12 of them breed at Kaapschehoop. ♦