

The convergence of environmental and capital markets



We are delighted to introduce the first of a monthly series of articles by Richard Sandor exploring the growing use of capital markets products to solve environmental problems.

Few people are better placed to comment on this important trend. Best known as "the Father of Financial Futures" for his pioneering work on interest rate futures contracts, Dr Sandor is currently chairman and chief executive of Environmental Financial Products, a Chicago-based company which designs novel risk management tools for the environmental, financial and commodity markets. He is also a senior advisor to PricewaterhouseCoopers on greenhouse gas emissions trading; an expert advisor to the United Nations Conference on Trade and Development on tradeable permits for greenhouse gases; a director of Zurich-based investment and risk management company Sustainable Performance Group; a principal of SAM Sustainability Group and a member of the board of Dow Jones Sustainability Group Indexes GmbH.

During several years' work with the Chicago Board of Trade, he was instrumental in developing the exchange's annual auction of sulphur dioxide allowances and its options and futures contracts for catastrophe insurance.

Two facets of the convergence of environmental and capital markets became visible in September 1999 as final preparations were being made for the COP 5 climate change meetings in Bonn.

The early news from the markets is good. The cost of reducing greenhouse gases is less than early forecasts and corporations that are sustainable yield superior value to shareholders.

In London, British Petroleum reported on the success of its pilot program in greenhouse gas emissions trading and announced its plan to expand to group-wide emissions trading in January, 2000.

In Zurich and Chicago, Dow Jones and the SAM Sustainability Group announced the launch of a family of comprehensive stock indexes – the Dow Jones Sustainability Group Index (DJSGI) – that track the share prices of the leading companies that have a proven record of being financially, socially and environmentally sustainable. The select companies represented in the new indexes demonstrate a real commitment to reducing pollution and safeguarding human and natural resources.

In 1998 British Petroleum – a component of DJSGI – announced that it would voluntarily reduce its greenhouse gas emissions to 10% below 1990 levels by the year 2010. It began a pilot emissions trading program to accomplish this objective in the most cost effective way. Twelve business units initially participated. The cost of reducing a ton of carbon emissions in early trades was approximately \$63–\$70 (\$17–\$20/ton CO₂). Although the initial prices should be viewed cautiously, they are significantly below some early forecasts of \$200 per ton. Furthermore, the expansion to group-wide emissions trading and the inclusion of credit-based trading (e.g. net emission reductions associated with external investments in energy efficiency and carbon sequestration)

should witness a further reduction in costs associated with meeting the corporate targets. It is important to emphasise that British Petroleum extended its commitment when it acquired two US companies, Amoco and Arco.

The comprehensive sustainable stock index family includes an index with global coverage, the DJSGI World, as well as regional indexes focused on companies in Europe, North America, Asia-Pacific, and a country index – DJSGI USA.

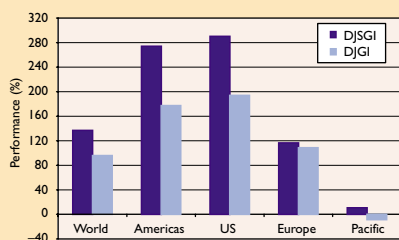
The table shows salient features of the global DJSGI index.

The DJSGI index is fully integrated with the Dow Jones Global Index in the sense that it uses the same calculation, publication and review methodologies. Sustainability ratings for individual companies are based on general sustainability criteria, industry sustainability and a corporate sustainability criteria. In addition to public information a proprietary corporate sustainability questionnaire is used.

The results of backcasting the price appreciation performance of the indexes are very instructive. As shown in the chart, in all instances the sustainable indexes outperformed the standard Dow Jones index. Furthermore, these superior returns were realised with minimal increases in volatility (risk) relative to comparable indexes. Evidence from the markets shows that sustainability and maximisation of shareholder value are entirely compatible.

Both these examples of the convergence of the environmental and financial markets provide interesting price signals. The cost of reducing greenhouse gas emissions appears to be lower than many predicted and corporations that cut pollution and manage for sustainability will increase value to their shareholders. *Special thanks to Dr Alois Flatz, Dr Michael Walsh and Rafael Marques for their valuable input.*

Dow Jones Sustainability Group Index: five-year performance
(Jan 1, 1994–Jun 30, 1999, US dollar, price index)



Salient features of the Dow Jones Sustainability Group World Index

Number of companies:	229
Total market capitalisation:	\$4.3 trillion
Selection criteria:	Dow Jones Global Index companies scoring in the top 10% of SAM sustainability index
Coverage:	73 major industries in 22 countries, best-of-class selection
Share weighting process:	market capitalisation
Currency:	prices and total returns expressed in US dollars and euros
Base value:	set at 1,000 on December 31, 1998