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The steel, cement and oil champions are forced to reform themselves using what can only be called "green" marketing

The Schumpeterian approach of "creative destruction", which is linked to a Darwinian vision of economics, suggests that leaders in the previous economic model give up their positions to leave room for innovative start-ups who are devoted to succeeding with their entrepreneurial drive. The reality is more complex. It's the entire economy which takes on new production methods, with varying levels of resistance, for industrial and social successes and failures when it is necessary to restructure the means of production.

The 23rd edition of Eurosif-Ernst & Young-*Le Monde* indicators of social and environmental performances of multinational companies measures the level of improvement of this transformation at the heart of the industrial sector, who pollute the most, by looking at how they have reduced, or not, their emissions. The first edition, published in "Le Monde Economie" on March 14th, 2006, examined the CO2 emissions of these same companies in 2004.

In four years, almost all of the large industrials and air transporters have improved their performances, with a few rare exceptions (including changes in how they are measured as is the case with the steelmaker Arcelor Mittal).

It is true that many companies would like to reduce their environmental impact, which allows them to develop innovative technology that may in fact open new markets for them. This is how EDF created a subsidiary, EDF Energies nouvelles, which, in 2008, invested one billion euros in wind and solar technology. The group also placed their bets on the experimentation of "intelligent (electrical) networks" which save energy, and they closed partnership deals with Renault and Toyota to develop prototypes for electrical or hybrid cars.

Lafarge, the cement manufacturer, increased its research and, in partnership with Bouygues, developed the "termedia", a product whose thermal performance reduced energy consumption by 35% in comparison with concrete. The group, world market leaders for cement, is a member of the cement initiative programme to reduce CO2 emissions. It brings together eighteen cement manufacturers. Their average emissions per tonne of cement have gone from over 760 kg of CO2 per tonne in 1990 to 670 kg in 2007. This is the equivalent of 70 million tonnes of CO2 less today than in 1990.

Most importantly, members of the cement initiative have created a common methodology to measure emissions which allows them – as well as the public and investors – to keep track of progress they have made. Unfortunately, notes Jérôme Verdier, a consultant in the sustainable development department at Ernst & Young, this is an exception: "*In the petroleum sector, each company uses different indicators, which make comparisons between groups, or from one year to another, very difficult.*" Progress in reporting between 2004 and 2008, according to scores given out by Ernst & Young, is also weak. Out of the 34 companies in included in the table, only 8 have improved, 16 obtained the highest score, compared with 11 four years ago.

This resistance to strive for more transparency could help explain the scepticism the general public has with regards to the commitments from these large groups to improve the environment. According to a poll carried out by TBWA Corporate, 64% of those surveyed maintain that the "sustainable development" argument is above all a marketing tool, and 44% say they are "*weary*" from the repetitive messages on this topic.

Antoine Reverchon

Public data
Information published in this table was collected and processed by the auditing firm Ernst & Young based on documents published by companies (annual reports, social reports or "sustainable development" reports). The companies are the largest global firms (based on 2008 sales figures, from the Global 500 published by *Fortune*) in the five sectors for which the EU has imposed quotas on their CO2 emissions: steel, chemicals, cement, hydrocarbon and, since 2008, air transportation.

Eurosif

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Green house gas emissions in 2004 and in 2008

Company name	GHG emissions 2008 (millions teqCO_2)	Performance ratio 2008	Performance ratio 2004	Availability and precision of information (0 to 2) 2008	Availability and precision of information (0 to 2) 2004
ACIER		tCO_2/tonne of steel			
Arcelor Mittal (LU)	223.0	2.18	1.55*	1	2* ; 1**
ThyssenKrupp (DE)	NA	1.50	NA	0	0
Nippon Steel (JP)	69.5 (2007)	NA	NA	1	1
Posco (South Korea)	NA	2.20	2.10	1	1
JFE Holdings (JP)	52.9	1.99	2.09	1	1
Baosteel group (China)	NA	NA	NA	0	0
CHEMICALS		tCO_2/tonne of product			
BASF (DE)	27.1	NA	NA	2	2
Dow Chemicals (USA)	34.1	0.60	NA	2	2
Bayer (DE)	4.0	0.90	1.07 (2005)	2	1
Sabic (Saudi Arabia)	NA	NA	NA	0	0
CEMENT		kgCO_2/tonne of cement			
CRH (IE)	13.0	729	NA	2	1
Lafarge (FR)	107.0	629	687	2	2
Holcim (CH)	102.8 (2007)	660 (2007)	672	2	2
Cemex (MX)	49.6	681	745	2	2
AIR TRANSPORTATION		gCO_2/passenger/km			
Air France KLM (FR)	27.5	95	102	2	1
Lufthansa Group (DE)	24.2	109.3	110	2	2
American Airlines (USA)	NA	NA	ND	0	0
United Airlines (USA)	21.1	NA	ND	1	0
Japan Airlines (JP)	NA	722[5]	782[5]	1	1
Delta Airlines (USA)	NA	NA	ND	0	0
British Airways (UK)	17.6	107.3	110,8 (2005)	2	0
OIL & GAS		TeqCO_2/1000 barrels			
Exxon Mobil (USA)	131.0	EP: 19[1] / R: 17[1]	EP: 20[1] / R: 19[1]		
Shell (NL/ UK)	75.0	NA	NA		
BP (UK)	61.4	EP: 25 / R: 986[2]	EP: 23,5 / R: 984[2]		
Chevron (USA)	63.0	EP: 37 / R: 36	NA		
Total (FR)	57.9	NA	NA		
Conoco Phillips (USA)	64.3	EP: 19 / R: 32	EP: 18 / R: 35		
Sinopec (China)	NA	NA	NA		
China National Petroleum (China)	NA	NA	NA		
ENI (IT)	62.0	EP: 268[3] /R: 1 275[4]	EP: 305[3] /R: 1 324[4]		

* ONLY ARCELOR; ** MITTALSTEEL
TeqCO2 : CO2 equivalent in tonnes; NA: not available; EP: Extraction & production; R: Refining
Availability and precision of information - 0: not available and/or reporting non-existent. 1: available but without precisions on perimeter and reliability. 2: available in public annual reports for a clear and pertinent perimeter.
(1) TeqCO2/100 tonnes of product; (2) TeqCO2/1000 barrels of capacity for distillation used in the year; (3) TeqCO2/1000 tonnes of equivalent for oil; (4) TeqCO2/1000 of equivalent for barrels of capacity for distillation; (5) TeqCO2/ATK (capacity to transport in tonnes per kilometre).