

# Long-term Sustainability Orientations for Businesses

Point of View by Colette Lewiner





During the present economic recession, many companies tend to focus on short-term decisions in order to overcome the day-to-day difficulties. However, to be among the winners in their respective sectors and to have a better market position after the crisis than before, they have to include long term thinking in their short term decisions. This is even more difficult today as the present economic indicators, especially in energy, are not leading to the right long-term decisions.

## Overview of global and European energy issues

### Before the present economic crisis

Worldwide, governments, companies and individuals were confronted to a quasi impossible to solve equation: How to satisfy the growing demand for energy driven by the developing countries (China, India), ensure long term security of supply while reducing CO<sub>2</sub> (and other Green Houses Gases) emissions?

As far as energy supply is concerned, oil, gas and (to a lesser extent) coal reserves are limited to a few decades of consumption: around 45 years for the conventional oil, 65 years for gas and 150 years for coal. These are very short times in a sector that is characterized by heavy infrastructures.

The energy demand increase, combined with the necessity of replacing aging infrastructures, led to extremely high investments requirements:

- On a global level, US\$22,000 billion (cumulative from 2006 to 2030) in all energy infrastructures,
- On a European level, Capgemini estimated in the *10th edition of its European Energy Markets Observatory (EEMO)*<sup>1</sup> at €1,000 billion the investments necessary from now until 2030 in the electricity and gas infrastructures,
- Building these infrastructures within these timeframes constituted in itself a considerable challenge. The obligation to reduce CO<sub>2</sub> emissions to combat global warming made this challenge much more complex. So, it was not enough to make the investments in a timely manner, but they also had to be in “carbon free” type of energies.

Capgemini reported in its Observatory, that, since the low point in 2005, Utilities had resumed their investments, which was encouraging. However, their energy mix choice posed a problem. The majority (58%) of power stations under construction or planned in Europe could be supplied by fossil fuels, essentially by gas, and therefore would emit additional quantities of CO<sub>2</sub>. There were also significant investments in the renewable energies that don't emit carbon dioxide but that raised other type of concerns: as they are not schedulable, these energies bring no production guarantee during peak periods and thus don't really enhance security of supply.

In certain regions, politicians have begun to respond to these issues:

**Europe:** In December 2008, the leaders of the European Union (EU) member countries adopted the Energy-Climate package, thereby confirming their 2007 objectives known as the 3x20% (20% reduction on energy consumption, 20% reduction on CO<sub>2</sub> emissions and 20% renewable energy sources in the energy mix) by 2020.

Up to mid 2008, this European plan had had little effects as stability in CO<sub>2</sub> emissions and energy consumption were observed and not a reduction.

**Globally:** The International Energy Agency (IEA)<sup>2</sup> 2008 scenarios forecasted an annual energy demand growth of 1.2% (mainly due to the developing countries) and a 46% growth in CO<sub>2</sub> emissions by 2030 (in the reference scenario), with China soon overtaking the United States as the biggest emitter and contributing 20% of these emissions by 2020.

<sup>1</sup> Capgemini's European Energy Markets Observatory is an annual report analyzing the electricity and gas markets. It scans all segments of the value chain and assesses hot topics to identify key trends in the Utilities industries. More information is available at <http://www.capgemini.com/industries/energy/eemo/>

<sup>2</sup> Source: IEA forecast published by AFP “Commodity prices mostly fall as demand concerns weigh”, January 16, 2009

European efforts could, therefore, only be a “drop in the ocean” while at the same time penalizing the European industry.

But the election of Barack Obama as United States president and his new energy and climate change policy, constitutes a positive element and Europe will no longer be alone in its “climate change” battle. In his stimulus plan and in his speech to the Congress on February 26, 2009, the new US President announced certain measures:

- From 2011, the new car standards will limit gasoline consumption to 150 miles per gallon. This regulation, combined with actions in favor of the biomass, could lead to a 35% reduction in America’s oil consumption in ten years time,
- From 2011 and onwards, adoption of standards reducing the cars CO<sub>2</sub> emissions,
- Financial incentives to double the percentage of renewable energies in three years (from 7 to 14%) in the American energy mix,
- Lastly, Cap and Trade system adoption for CO<sub>2</sub> emission rights, with the auctioning of these rights in 2012 and onwards.

**During the crisis**

a) **The crisis has a positive impact on some of the previously mentioned issues**

**A fall in demand:** In the summer of 2008, the rise in oil and gasoline prices pushed the Americans to reduce their oil consumption. It was the first time that such demand elasticity to price had been observed.

In the fall, the economic recession triggered a decrease in oil prices and also in demand. The IEA anticipates for 2009 the highest fall since 1982 in

global demand for oil, to 83.4 millions barrels per day (bpd), which is a reduction in demand of 2.4 millions bpd.

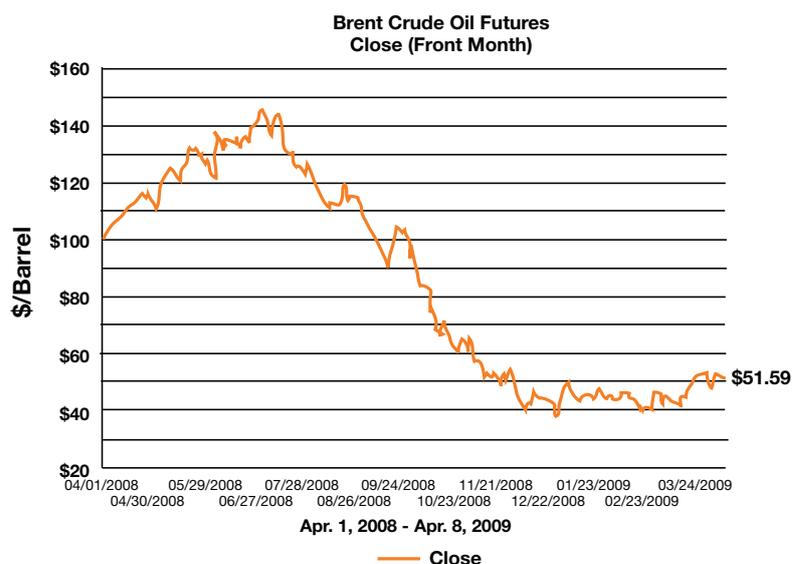
The industry sector electricity consumption is declining everywhere in Europe. In France, the consumption of the major industrialists fell by 15% in January and February 2009 and in Germany a 10% decrease is expected this year. In other countries, total electricity consumption is declining. In Italy, a 10% decrease in January and in Denmark a 3% fall in the last quarter 2008 were noted. In the United States, total electricity demand fell by 2.5% in the first quarter of 2009 compared to the same period a year ago.<sup>3</sup>

**A drop in CO<sub>2</sub> emissions**, resulting from the fall in energy consumption. In 2008, the drop for the EU was around 5% (compared to 2007) and

with the economic recession, a further drop for 2009 is anticipated. This could result in an excess of Emission Rights and explains why the CO<sub>2</sub> prices have dropped on the exchange markets (€1.75 per ton of carbon equivalent in April 2009, or a 70% decline since the summer peaks). This market move is probably amplified by the cash flow needs of companies (who received these emission rights free of charge) pushing them to sell. As a result there is little incentive for generators to switch from coal to gas production as the former is cheaper even if more polluting.

**A supply and demand balance improvement** for electricity and gas excluding exceptional events such as the cold spell in Europe in the beginning of January 2009 and the gas crisis between Russia and the Ukraine. This, hopefully exceptional event, caused the major part of the

**Figure 1: Oil Price Evolution**



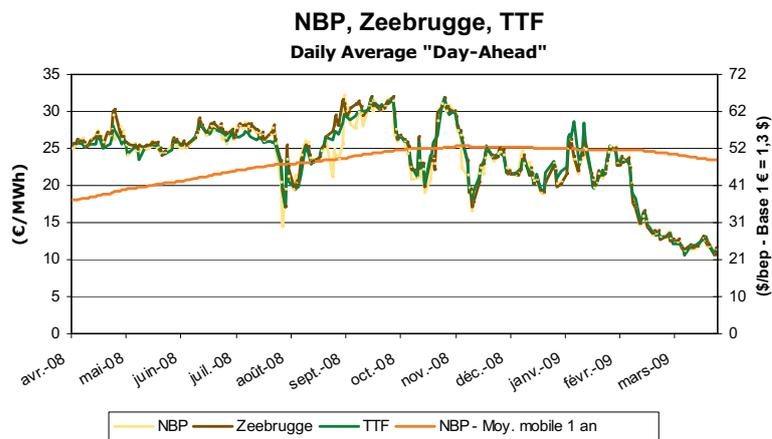
Source: WTRG

<sup>3</sup> Source: Edison Electric Institute in The Financial Times: “US Utilities”, April 13, 2009

gas supply from Russia to Europe to be cut off for 22 consecutive days during the same cold spell and put some countries, such as Bulgaria, in a very difficult situation.

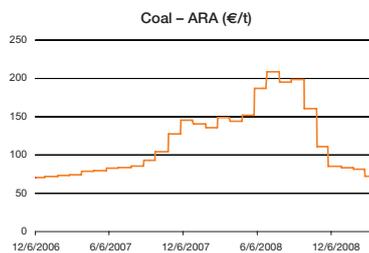
**Falling prices:** The oil price fell from US\$150 per barrel during the summer of 2008 to around US\$50 in March 2009 (c.f. Figure 1). The gas price which peaked at €37 per MWh for a delivery in Zeebrugge (Belgium hub) in October reached €11.5 in March and is expected to descend further because of the deferred indexation of gas prices on oil prices (c.f. Figure 2). The coal price has also decreased from a peak of €110 per ton in June 2008 to €70 per ton in March 2009 (cf. Figure 3). The same is observed for electricity prices on the wholesale market – Powernext – which, after peaking at more than €120 per MWh in mid October 2008 stands at under €40 in March 2009 (c.f. Figure 4).

Figure 2: Gas Price Evolution



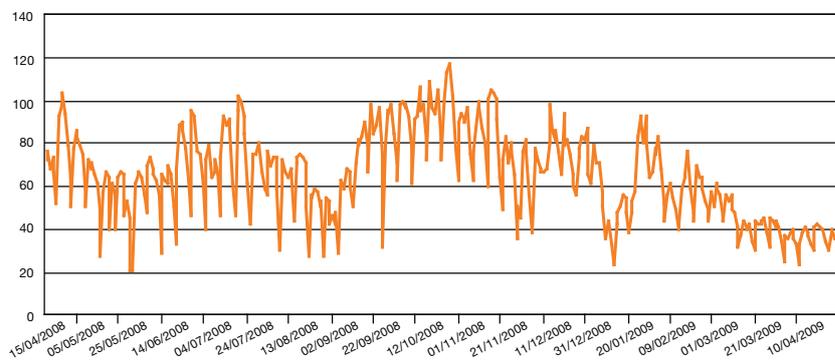
Source: Focus Gaz, March 2009

Figure 3: Coal Price Evolution



Source: SG Equity Research, Datastream

Figure 4: Evolution of the electricity price (Powernext Day Ahead: EPEX Spot Auction Prices in €/MWh)



Source: Powernext



**“Sustainable development is a key factor for our planet and companies should make a contribution by reducing their energy consumption and greenhouse gas emissions.”**

**b) Unfortunately, the crisis has also had negative effects: Investments will be affected**

**Oil companies** are already planning a 10 to 20% reduction in their exploration and production expenditures. At current oil prices and at the market cap level of certain companies specialized in the upstream oil industry, the major oil and gas companies take fewer risks by acquiring more cheaply these “pure players” who provide them with reserves in the ground than by exploring. Examples include the acquisition of Imperial Oil (UK) by ONGC (India), Taganyiaka (Canada) by Sinopec (China), Verenex (Canada) by CNPC (China), as well as StatoilHydro’s (Norway) investment in Chesapeake (US), and Total’s (France) bid for UTS (Canada).

Unfortunately, these investments in acquisitions rather than in exploration will not enable the finding and commissioning of the new oil and gas fields that our planet really needs.

Regarding **electricity and gas companies**, half of the American Utilities announced at the beginning of 2009, the postponing of investments for a total of US\$2.7 billion.

In Europe, the major Utilities, who recently spent their war chests in acquisitions, are beginning to announce postponed investments and asset disposal plans. In Germany, E.ON has revised its investment plan for 2009-2011, from €36 to €30 billion and intends to dispose of €10 billion in assets. In Italy, Enel also intends to dispose of €10 billion in assets and to reduce its 2009-2013 investment plan by €12 billion (from €44 to €32 billion). In France, EDF should dispose of €5 billion assets.

It is also clear that the smaller electricity companies who do not generate enough cash flow and who do not have a strong enough balance sheet, will cancel or postpone investments.

In electricity as in oil and gas, mergers and acquisitions can be foreseen; the companies with the strongest balance sheets will buy the smaller companies.

Fortunately, many stimulus plans contain incentives to investment.

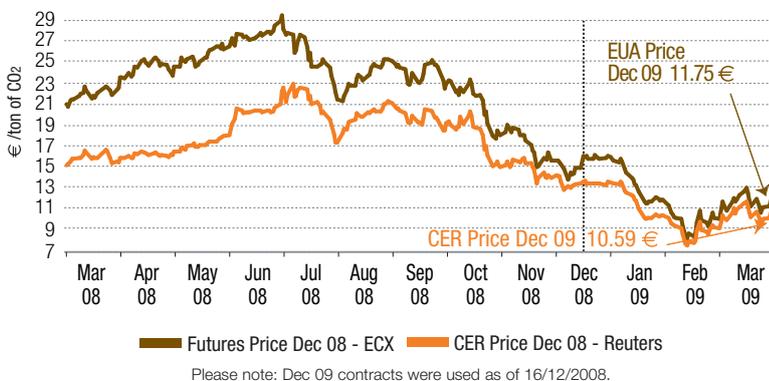
- In France, EDF has committed to an accelerated investment plan of €2.5 billion (and it will invest €23 billion between 2015 and 2035 to increase its nuclear reactors life time from 40 to 60 years), GDF SUEZ plans to maintain its investment plan of €30 billion over three years,
- In Europe, a €4 billion energy infrastructure investment plan was adopted on March 19 and 20, 2009 by the EU Member States presidents,
- President Obama’s “Stimulus Bill” allows for investments of US\$45 billion in new energy-related expenditure, US\$20 billion in new tax cuts for energy and US\$4.5 billion in the smart electrical grid.

**c) How will the crisis affect environmental awareness?**

This is a difficult question as there are contradictory forces at work. This is the main conclusion of the Economist Intelligence Unit (EIU)<sup>4</sup> report published in February 2009 which is based on a survey and interviews of business leaders and experts in the key world regions. According to the study, “73% of the companies interviewed will make energy efficiency a high or medium priority over the next two years, with the aim of reducing costs”. However, “67% think that the question of climate change will be less of a priority for businesses as long as the global economic crisis continues”.

In fact, on the one hand, the current economic signals don’t give incentives to invest in renewable energies. The

**Figure 5: CO2 Emission Rights Price Evolution**



Source: Tendances Carbone, April 2009, ECX, Reuters

4 “Countdown to Copenhagen, governments, businesses and the battle against global warming”, published by the Economist Intelligence Unit on February 25, 2009.

prices of fossil fuels make such investments even less profitable than before the crisis (for example for wind mills compared to gas power stations). In addition, at their current low price, CO<sub>2</sub> emissions represent only a small burden for gas or coal fired plants and therefore do not help to close the economic gap with the renewable energies. In Europe in the second half of 2008 (compared to the second half of 2007) investments in renewable energies fell by 14% to US\$21.2 billion and in the United States, there was a 50% reduction to US\$10.7 billion.

But, on the other hand, many stimulus plans have a “green” component. For example:

- In France, the *Grenelle de l'Environnement*<sup>5</sup> comprises various measures to improve building insulation (400,000 homes per year at cruising speed), to reduce the cars' CO<sub>2</sub> emissions with a “green sticker” (in order to meet the European standard of 120 g per km in 2012) and to encourage the use of rail transportation. It also comprises a measure to prohibit incandescent light bulbs sales from September 2009 for 100 W bulbs and January 2010 for 75 W bulbs, then lower powers until 2012, when these light bulbs will be completely withdrawn from sale,
- In the United States, the Obama plan, that was detailed above, aims, in particular, to double the proportion of renewable energies in the energy mix in three years (from 7 to 14%),
- In China, the €400 billion two-year stimulus plan announced by Beijing in November 2008 treats the environment generously with €35 billion or 8% of the total funds assigned to the protection of the

environment. Unfortunately, as elsewhere, the necessity for growth and concerns over employment could well water down these good intentions and weaken the environmental abuses controls,

- Japan is claiming a “Green New Deal” with economic stimulus plans. In fact, these measures represent more support for a movement already underway than a real new impulsion. At the same time, Japan remains the only developed country that has not made tangible commitment to reducing greenhouse gases by 2020.

It is however regrettable that, for political reasons, nuclear power is very often absent from these plans intended to support a CO<sub>2</sub> free economy. Nuclear energy is (with, to a certain extent, hydro power) the only competitive energy source, that can be scheduled and that is capable of producing electricity on a large scale without generating CO<sub>2</sub> emissions.

We should not deprive ourselves of it!

#### After the crisis

In the developed countries the crisis will probably transform the way companies and individuals consume energy, through the adoption of new standards (for example on cars energy consumption and CO<sub>2</sub> emissions and on building insulation) and perhaps through certain changes in consumers' habits.

On a global level, it is more than likely that a large part of the previous problems related to demographic growth and rising standards of living will re-emerge. To convince ourselves of this, we only have to remember that annual population growth in developing countries is 1.2% and that

their energy consumption is expected to increase annually by 1.7% because, in particular:

- 1.6 billion people on earth have no electricity,
- 19% of the population owns 76% of the cars and, inversely, 81% of the population owns only 24% of the cars. There will be a re-balancing.

This is why it is absolutely vital that the reduction in energy consumption in the developed countries aims at compensating for the increase in the developing countries.

It is also necessary, during the crisis, to continue to invest not only in demand management, energy infrastructures but also in achieving the right energy production mix. It is the duty of governments to provide the right financial incentives to make sure that these investments continue. Otherwise and because this is a heavy industry and time is required for investments (e.g. approximately five years for a gas power station) the problems which existed prior to the crisis will be exacerbated after.

The wake-up call could be very painful!

#### The long-term responsibilities of Industrial and Service companies

The first responsibility of industrial and service companies is the *profitability of their company* in the short- and long-term and its long-term development. But they have also other types of commitment: towards their employees, their stakeholders, including local authorities, and more generally towards our planet's sustainability and climate change issues. Many have already taken actions by carrying out benchmark

<sup>5</sup> The “Grenelle de l'Environnement” is a Round Table on environmental issues, instigated by the President of France, Nicolas Sarkozy, to define the key points of government policy on ecological and sustainable development issues for the coming five years. More information are available at <http://www.legrenelle-environnement.fr>



studies, by increasing their energy efficiency and by improving their carbon foot print. Their Corporate Social Responsibility (CSR) is sometimes incorporated into their long term strategy and into the executives' yearly key performance indicators. The "Performance and Confidence" five year strategic plan of the French Postal Office (La Poste)<sup>6</sup> is a good example of how seriously the CSR obligations can be taken. These commitments are, in general, very well received by the employees.

These obligations that relate to sustainable development translate into improved energy and raw materials consumption management and CO<sub>2</sub> and other greenhouse gases emissions reduction. The industrial sector has a

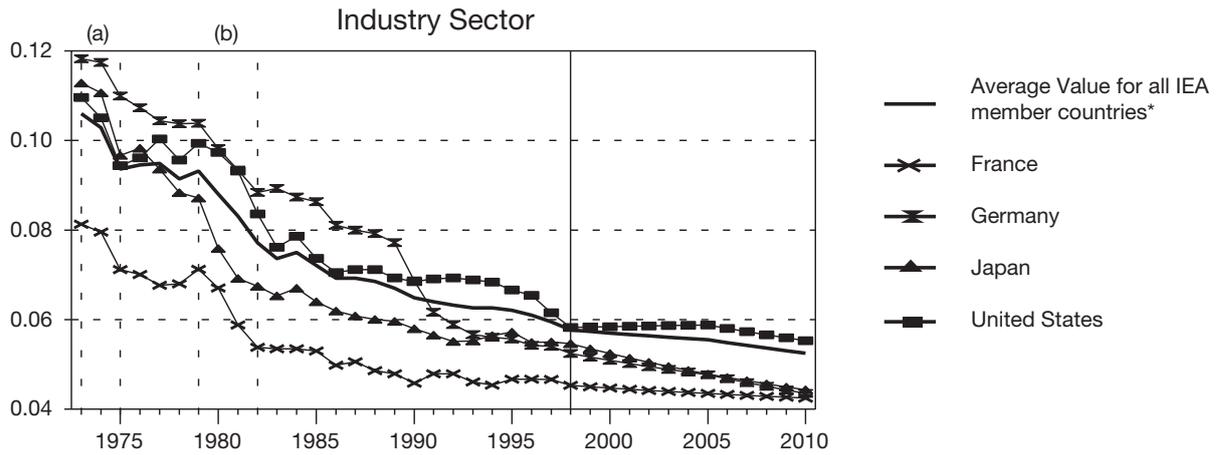
significant overall impact, for example, in France, it represents 22% of energy consumption and a similar percentage of the French CO<sub>2</sub> emissions.

In Europe, French and German industrial companies compare favorably to other countries, with an energy intensity (measured in tons of equivalent oil per US\$1,000 GDP) at 0.04, similar to Japan, but better than the average of the Organization for Economic Co-operation and Development (OECD) countries at 0.07 and much better than China at 0.63 and Russia, 1.23. This is also true for total CO<sub>2</sub> intensity (measured in tons of CO<sub>2</sub> per US\$1,000 of GDP): France 0.26, Germany 0.43, Europe 0.45, Japan 0.24 and the US 0.54.<sup>7</sup>

<sup>6</sup> More information on the La Poste's strategic plan is available at <http://www.laposte.com/2008-outlook-for-the-la-poste-group>.

<sup>7</sup> Source: International Energy Agency, 2006

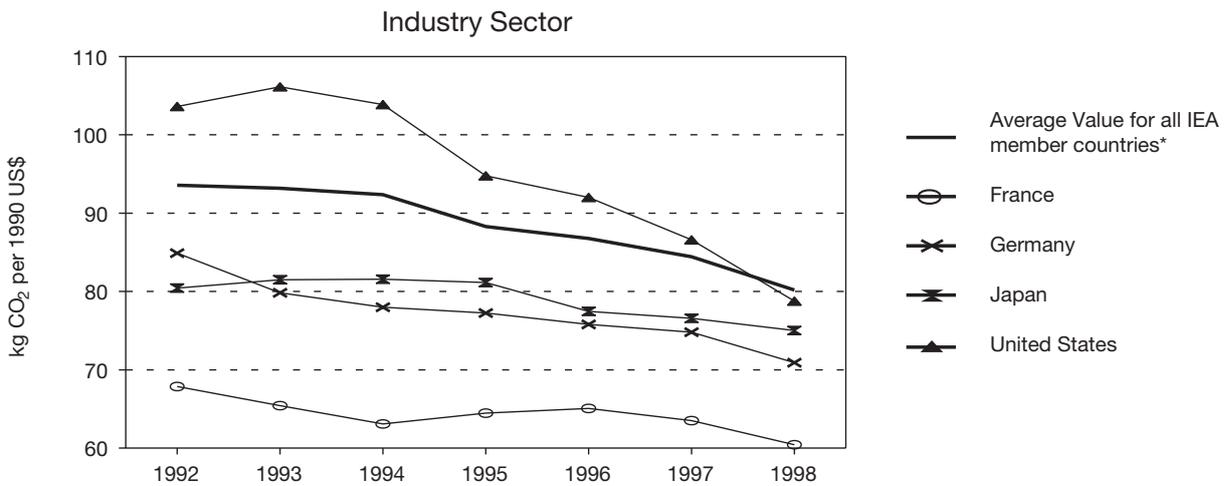
**Figure 6: Evolution of the energy intensity (Final Consumption by Sector per GDP in selected IEA countries, 1973 – 2010 (Toe per thousand US\$ at 1990 prices and purchasing power parities))**



\* Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Excludes Norway from 1999 onwards.  
 (a) Corresponds to the first oil shock (end 1973) and macro-economic recession induced by this shock.  
 (b) Corresponds to the second twin oil shock (early 1979 and end 1980) and the macro-economic recession induced by this double shock.

Source: Energy Balances of OECD Countries, IEA/OECD Paris, 2000 and National Accounts of OECD Countries, OECD, Paris, 2000

**Figure 7: Energy-Related CO2 Emissions in the Industry Sector in Selected IEA Countries, 1992-1998**



\* Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Source: Energy Balances of OECD Countries, IEA/OECD Paris, 2000 and National Accounts of OECD Countries, OECD, Paris, 2000

### Industrial Companies

Industrial companies can take sustainable development actions in three domains: their production activities; their raw materials consumption; and the development of their new products.

#### a) Production activities

In the past, considerable progress was made in energy conservation by recycling heat, improving the industrial processes as well as the buildings insulation. These results were achieved by appropriate measurements and by better regulation and control. These actions resulted in quality improvement as well as in a fall in OECD countries energy intensity in industry. In France, Germany, Japan and the United States, the energy intensity of the industry fell by 30% in the years following the oil crises of 1973 and 1979.

At that time (contrary to now) oil and energy prices raised significantly which naturally incited industrial companies to increase their profitability by reducing their energy consumption. These progresses were also achieved thanks to the workforce mobilization and change in its every day behavior.

In a different energy context than the one following the oil shocks and with falling energy prices, these efforts have to be continued:

By adopting innovative processes developed by the Research and Development (R&D) departments such as:

- The use of membranes for separation that considerably reduces the energy consumption of these energy-intensive processes (they represent

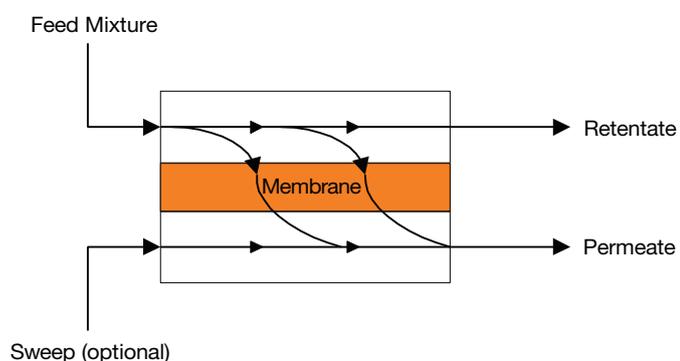
one third of the United States manufacturing industry energy consumption) (c.f. figure 8),

- The improved design and operation of high temperature furnaces,
- The adoption of chemical reactions that consume less energy.

By making a better use of energy as such, examples include:

- Double flow ventilation,
- Heat pumps systems which are:
  - *very economical*: they convert 1kWh of energy to 2 to 4 kWh of heat or cold compared to less than 1 kWh of heat for conventional systems,
  - *environment respectful*: they generate three to four times less CO<sub>2</sub> than a fossil fuel boiler,
  - *reversible* combining heating and air conditioning in a single device,
- Combined cycle generation (heat/electricity) having a 60% plus efficiency compared to approximately 35% for conventional gas power stations.

**Figure 8: Basic Membrane Separation**



Source: Syed Ali, Paul Boblak, Efrem Capili, Stanislav Milidovich: Membrane Separation and Ultrafiltration; CHE-396 Senior Design

“Discharge lamps and Light emitting diodes will allow significant electricity savings.”

Figure 9: Light Emitting Diode



### b) Raw material management

For many years, paper and glass manufacturers enabled by waste collecting firms have achieved very high recycling percentage. This is also true for metal recycling.

In the car manufacturing sector, Toyota established in 1972 its own automobile shredder company. From that point on, advanced automotive recycling activities have been conducted. Today, Toyota is recycling 93% of the car sound proofing and isolation material and more than 10 million vehicles have been produced with this recycled material.

### c) Development of products using less energy

These products generally are welcomed by the buyers who are increasingly sensitive to sustainable development questions. Here are a few examples:

- In the *automotive industry*, hybrid cars, which use both electricity and gasoline, are smaller, and lighter and comply with the new European, and future United States, legislations,
- In the *lighting industry*: discharge lamps and LED (Light Emitting Diodes, c.f. figure 9) will gradually replace incandescent bulbs. They will allow 90% electricity savings. Knowing that lighting represents between 10 and 19% of total electricity consumption, these savings would avoid building, in France for example, 6,000 MW generation capacity or the equivalent of 6 large power plants,
- In the *metering industry*: over the past few years the cost of smart meters has decreased significantly and their functionalities have improved. Their worldwide market is growing and is today estimated at

US\$1.2 billion a year. These meters, which are already installed in many factories, are bi-directional sending signals from the Utility to the consumer and vice-versa. They enable hourly consumption measurements and even over shorter intervals if appropriate. Certain governments (Sweden, California, Ontario, Quebec) have made them compulsory for all consumers including residential ones. Combined with electricity prices incentivizing customers to save energy, this technological innovation allows large scale energy demand management programs to be launched. A Capgemini study<sup>8</sup> shows that dynamic programs launched in the EU 15<sup>9</sup> countries could save 200 TWh per year by 2020 (which represents the residential consumption of Spain and Germany together) and 100 million tons of CO<sub>2</sub> (a significant share of the gap to be filled between now and 2020 to reach the European Union objectives),

- In the *computer industry*: Regarding hardware, major progress has been made by the manufacturers in terms of individual consumption and computers recycling. For example, a newly commercialized processor allows up to 40% energy savings. Additional energy savings can be achieved by installing and running software that, for example, switches the computer to standby after it has been idle for an hour, and only switches it on when necessary (to update applications, for example). Knowing that 25 to 30% of users don't switch off their computers in the evening and over the weekends these "soft" initiatives would provide additional savings of 30%. Energy savings are also achieved by using Service Oriented Architecture (SOA)

<sup>8</sup> The Capgemini Point of View "Demand Response: a decisive breakthrough for Europe" is available at [http://www.capgemini.com/resources/thought\\_leadership/demand\\_response\\_a\\_decisive\\_breakthrough\\_for\\_europe/](http://www.capgemini.com/resources/thought_leadership/demand_response_a_decisive_breakthrough_for_europe/)

<sup>9</sup> EU 15: original 15 members of the European Union until May 1, 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

to manage servers, making better use of each of their computing capacity. Lastly, the internet development and videoconferencing enable home work which cuts down on travel.

**Tertiary Service Companies**

In Tertiary Service Companies, a considerable proportion of energy consumption comes from buildings. Heating, cooling and lighting are the largest energy uses in offices (c.f. figure 10). Overall the residential and tertiary buildings represent globally 38% of the total energy consumption and have a large potential for savings (c.f. figure 11). In Europe, tertiary buildings are usually relatively old. In France, for example, three quarters of them were built before 1990 (when building insulation regulations started to apply to new buildings).

It is therefore essential not only to build efficient new buildings, but also to set goals in terms of renovation for existing ones. In France, the Grenelle de l'Environnement has set ambitious targets for both new buildings and for renovation:

- Enhanced energy efficiency standards for new tertiary buildings will apply in 2010,
- Obligation to improve existing tertiary buildings energy efficiency within five years will start in 2012.

To renovate efficiently buildings, the following energy effectiveness levers must be used:

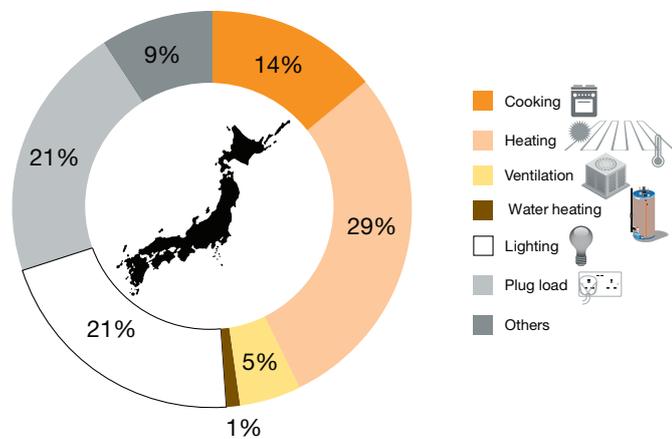
- The limitation of needs by efficient insulation,
- The use of highly efficient equipment (condensation boiler, advanced lighting, heat pumps, efficient computer system),
- The local production of renewable energy (solar photovoltaic in

particular),

- Control and management of the system comprising the building and its energy systems, as a whole.

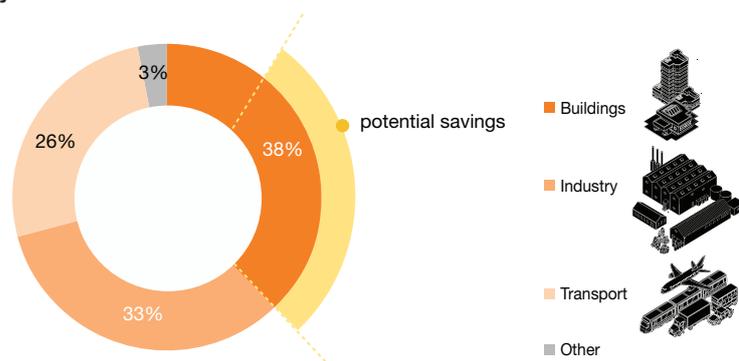
These actions could lead to significant savings (c.f. figure 11).

**Figure 10: Office building energy consumption in Japan**



Source: World Business Council for Sustainable Development: Energy Efficiency in Buildings – Transforming the Market (April 2009)

**Figure 11: Residential and tertiary building energy savings as much as transport today**



Source: World Business Council for Sustainable Development: Energy Efficiency in Buildings – Transforming the Market (April 2009)

## Executives' multifaceted obligations

Executives have always had multiple and sometimes contradictory obligations to balance. This complexity is enhanced by today's economic crisis as nobody knows really how deep and how long the recession will be.

Some critical questions are: How to balance profitability with social and moral obligations towards employees? How to comply with local responsibilities while taking advantage of offshore production? How to develop new production sites while respecting local environment? How to be successful against a global competition while complying with local rules and legislations?

Let us focus on energy and sustainability related questions, for example:

- Reducing energy consumption and CO<sub>2</sub> emissions requires investments that are difficult to make today with the low energy and CO<sub>2</sub> certificates prices that increase the return on investment time. In this case, public incentives reducing the amount and risks related to investment should be implemented (e.g. tax cuts, loans at preferential rates, car scrapping premiums). Even if their launch is difficult today, it is also wise to prepare application files for projects to be launched when the recovery takes place.
- Offshore production to developing countries reduces the cost of labor but increases energy consumption and CO<sub>2</sub> emissions:
  - The applicant countries for delocalization have low energy efficiency,

- And weak environmental regulations. It is true that this can also represent substantial savings. The purchase of CO<sub>2</sub> emission rights by auction, which will be at least 20% of the total in 2013, and at least 70% in 2020, will cost European industry several billion euros per year<sup>10</sup>,
- In addition, the transportation of products back to Europe or the US consumes energy and generates greenhouse gas emissions.

Offshoring presents sometimes other disadvantages such as the mediocre electricity quality, the lack of intellectual property rights and the consumers negative image at a time when job security is a key issue pushing them to buy locally manufactured products.

Each company must find its own response to these complex questions.

Capgemini, for example, was faced a few years ago with competition from Indian "pure players" (Indian Information Technology companies). Therefore, it launched a strong policy of offshoring parts of its production mainly to India but also to Morocco, China, Poland and Argentina.

More exactly, Rightshore<sup>®11</sup>, Capgemini's global delivery model, brings together the best talent from the right balance of onshore, nearshore and offshore locations who work with the client as a unified team. The Rightshore<sup>®</sup> network draws on the knowledge and abilities of more than 35,000 people, of which 20,000 are based in India. This strategy allowed Capgemini to considerably improve its competitiveness, and to be more resilient in the current crisis.

This required considerable efforts in terms of aligning processes and defining rules for sharing responsibility and profits. Capgemini's philosophy is to keep "onshore" client relations and intimacy, expertise, innovation and a large proportion of the consulting activities and to offshore a large part of the actual IT and Outsourcing Services production.

Intensifying R&D efforts, encouraging collaborators to get patents, never hesitating to launch innovations are certainly actions making it possible to keep a significant presence "onshore" while taking advantage of lower "offshore" labor costs and large talent pools (engineers in India for example). They prepare for success in the long term.

One has to recognize that we are part of a global economy but the standards, regulatory constraints and labor legislation are not global. With the crisis, governments are even more faced with a dilemma: let globalization continue or take protectionist measures to maintain national employment. The return to protectionism would perhaps help to overcome certain current difficulties but would be damaging in the long term, as a number of examples in the past have shown.

## Energy management in businesses

Let's stress two points:

The customer/energy supplier relation is changing. On the medium term, customers, will become more active players, aware of energy conservation issues or will even produce part of their electricity needs thanks to photovoltaic solar energy for example. The relations between the Utilities and their customers would then change

<sup>10</sup> €5 billion a year, taking 50% of the rights at auction and €30 per ton of carbon  
<sup>11</sup> Rightshore<sup>®</sup> is a trademark belonging to Capgemini

significantly. The Utilities could become their customers' advisers on energy and CO<sub>2</sub> emissions management. Their objectives would therefore no longer be solely based on increasing sales and revenue. Energy retailers would have to change fundamentally with new missions and objectives, a new business model and the appropriate organizations and information systems.

Energy and the environment questions management are important subjects that require a long term strategy. To be more efficient in managing these issues, companies should also rethink their internal organization.

Two extreme models can be thought of: Either centralize these energy questions, entrust them to a specialist division which has the advantage of bringing together expertise and getting stronger in negotiations with the suppliers. Or leave these questions management to each entity and achieve the company related goals by setting, measuring and controlling an appropriate set of objectives and incentives for the entire workforce.

Each company has to choose its model in accordance with its characteristics and markets. Nonetheless, there is a feeling that the first model, which could even lead to outsourcing part of the company's energy management, is probably most suited for high energy consuming industrial companies. The second model would be more adapted to the services sector having dispersed and overall lower energy consumption.

In any case, it is worthwhile reflecting on these questions.

### Conclusion

After the crisis, the energy problems and tensions observed previously will re-emerge and will be aggravated if the necessary investments have not been made or have been postponed. Prices will also rise, as well as the cost of CO<sub>2</sub> emissions. These factors have to be taken into account in industrial and tertiary businesses strategies.

More generally, sustainable development is a key factor for our planet and companies should make a contribution by reducing their energy consumption and greenhouse gas emissions. Europe is very proactive in this domain, which can penalize its industries and businesses in the short-term. The good news is that it has now been joined by the United States and commitments from other countries can be expected at the 2009 Copenhagen conference later this year.

In this case, the European industry, which will have conformed to the Energy-Climate regulations, and developed innovative technologies and related industries, will have key advantages in exporting them to others.





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Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies.

Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working, the Collaborative Business Experience. The Group relies on its global delivery model called Rightshore®, which aims to get the right balance of the best talent from multiple locations, working as one team to create and deliver the optimum solution for clients. Present in more than

30 countries, Capgemini reported 2008 global revenues of EUR 8.7 billion and employs over 92,000 people worldwide.

With 1.2 billion euros revenue in 2008 and 12,000+ dedicated consultants engaged in Energy, Utilities and Chemicals projects across Europe, North America and Asia Pacific. Capgemini's Energy, Utilities & Chemicals Global Sector serves the business consulting and information technology needs of many of the world's largest players of this industry.

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