

Decarbonate Your Business: Be Lean, Be Future Proof

Point of View by Alain Chardon



Foreword

The 2009 United Nations (UN) Climate Change Conference COP15 will be remembered as an important chapter in the history of global environmental negotiations.

Part success, or part failure? Many politicians, Non-Government Organizations (NGOs), media representatives and international observers said they were disappointed with the negotiations that was complicated and erratic, after an unprecedented turn-out. Other voices, though fewer in number, were raised to assert that Copenhagen was a first step and was necessary, while admittedly insufficient.

It is certainly too early to draw any real conclusions about the summit and what will remain of it in the next few years. Copenhagen was a novel event in that it attracted unprecedented media coverage, powerful awareness-raising in the general public, and the mobilization of politicians who personally pledged to reach an agreement.

Several records were broken at Copenhagen: the number of heads of State and Government (over 180 present); the number of mobilized NGOs; the number of participants which reached 45,000, versus 10,000 on average for a Conference of the Parties (COP); and the mobilization of the media and public opinion. This mobilization was commensurate with the disappointment and exasperation that followed.

The main goal of Copenhagen was to reach an agreement on the reduction of greenhouse gas emissions, including with the United States (US)

and major emerging countries (China, India, Brazil), that followed up on the 2012 commitments that were made in the framework of the Kyoto Protocol and which concerned developed countries only. On this point, the negotiators failed to agree on concrete commitments. The Copenhagen Accord, which was signed at the last minute by a few countries and taken note of by the United Nations Framework Convention on Climate Change (UNFCCC), does not set out quantified commitments but acknowledges the need to limit temperature rises to 2°C, and asks countries to complete a commitment form supplied in the annex of the accord.

Progress

In spite of the fact that Copenhagen's participants failed to reach an agreement on the reduction of greenhouse gas emissions, a great deal of noteworthy progress was made.

1) Financing of adaptation to climate change and the fight against deforestation

In terms of financing, the European Union (EU), the US and Japan each promised the poorest countries €7 billion in aid per year between now and 2012. The target is €70 billion per year in aid for developing countries by 2020.

Financing adaptation to climate change and the development of “green technologies” is a critical point. One of the problems of the current financing mechanisms stipulated in the Kyoto Protocol Clean Development Mechanism Joint Implementation is that the main beneficiary of these investments is China, while the more needy

countries will receive little funding. Copenhagen will undoubtedly have marked the start of a rerouting of financial flows to Africa, and a new chance given to this continent.

2) Empowerment of towns and communities

Towns and communities are major players in the fight against climate change. For example, long before the US Federal State makes a commitment, US States and communities will have made considerable headway. In Europe, the Middle East and Asia, there are a growing number of plans to build green cities and environmentally friendly neighborhoods. Encouraged by this grassroots commitment, communities are demanding to become part of the international system of reduction commitments.

For example, in tandem with the Copenhagen Summit, in partnership with C40 and International Council for Local Environmental Initiatives (ICLEI)¹, the mayors of around 100 major international metropolises took part in a top-level meeting.

In keeping with the Action Plan for Cities, which was adopted during the Bali COP, the goal was to “positively impact the COP15 negotiations, by affirming that it is on the local level that many solutions need to be implemented (energy efficiency, waste management, water and urban transport)”.

Decision-making processes requiring adjustments

Numerous voices were raised after the Copenhagen Summit to demand a total revision of the playing rules in force at the UNFCCC. Ed Miliband, the UK's Secretary of State for Energy and Climate Change, was particularly severe. He asserted that the Copenhagen climate conference had been a “chaotic process dogged by procedural games”.

“The procedural wrangling was, in fact, a cover for points of serious, substantive disagreement,” wrote Miliband, referring to the fact that China, “despite the support of a coalition of developed and the vast majority of developing countries” vetoed the 50% reductions in global emissions by 2050 and the 80% reductions by developed countries.

The upcoming COPs will represent new stepping stones and will be opportunities – maybe – to transform commitments in principle into concrete commitments. But what really needs to be created is a new mode of governance, taking into account parallel processes and consensuses that can emerge between a small influential group of countries, of which the Copenhagen Accord was the perfect example.

Acknowledgments to François Bordes – *President and Founder of MyCO₂*. Capgemini is a partner of MyCO₂



¹ “ICLEI - Local Governments for Sustainability” is an international association of local governments as well as national and regional local government organizations that have made a commitment to sustainable development.

Decarbonation of the economy and businesses

The Copenhagen Summit ushered in a period of uncertainty on the world's markets. And yet companies need visibility in terms of the regulatory framework. Visibility fosters the transition to new playing rules and paves the way to new growing markets, as was the case historically in the water purification and waste management markets, and more broadly with the environmental progress made in economic activities over the past 30 years.

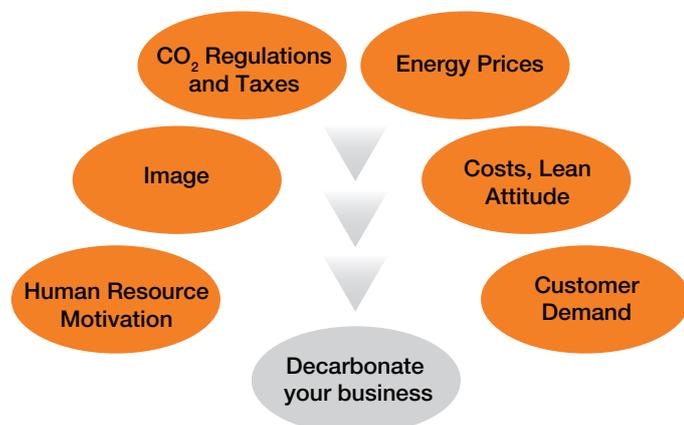
Strong tendency toward the decarbonation² of the economy

For economic decision-makers, the part-failure in December 2009 should not hide the fact that the decarbonation of the economy remains a major trend for the upcoming years:

- The negotiations on greenhouse gas **emission reduction** launched in Copenhagen will continue sector by sector on the global level;
- European and US **local regulations** are becoming more strict;

- **Energy prices** are certain to suffer new shocks once the economic crisis is over. This will affect fossil energies that are directly indexed on the oil price (fuel, gas, a percentage of electricity), as well as coal, which will take advantage of demand to raise its prices;
- The purchasing behavior of **civic consumers** is gradually maturing. The “low-CO₂ product” argument is becoming a must-have promise, at least for 25 to 40% of consumers;
- In companies, **employees** see more sense and “business” interest in moving their company toward low-carbon than exclusively toward financial returns for shareholders. The two can be compatible over the short-term, under some conditions that should be identified on a case-by-case basis. It will be important that the deep sense of business and the financial returns go hand-in-hand over the long-term. Meanwhile, what is needed is a thorough analysis and a strategic vision.

Figure 1: Drivers for decarbonation of businesses



² CO₂ accounts for 75% of our economies' greenhouse gas emissions. For simplification purposes we will henceforth speak of decarbonation and CO₂. Our discussion, however, applies to all greenhouse gases, which in some industries and processes can prove to be non-negligible, or even prominent.

Decarbonating your business requires a vision of your Strategy and Transformation

We may as well say it up front: it won't be easy and straightforward. Not everyone will come out a winner in the new decarbonated world. Business decarbonation questions tools, methods, organizations and some activities themselves:

- Decarbonating activities is a long-term undertaking: the period of time ranges from a few weeks, to implement quick wins, to 10 years for an industrial or real-estate strategy;
- Business Plan tools are necessary, but basing decisions solely on them without a global reflection can be ineffective. Discount rates used for economic analysis privilege the short-term to the detriment of the medium- and long-term;
- The terms of senior executives are generally shorter than the time needed for the transformation process;
- Shareholders want shorter return times;
- In many cases, initiatives have already been taken over the past few years. But often, these initiatives were decided upon at different levels of the company, without a global vision or yet with a goal of rapidly improving the company's image that only superficially incorporates profound business drivers.

The company, therefore, needs to have a strategic vision that encompasses not only the "traditional" business vision with its short-term constraints, but also long-term sustainability challenges in a world with increasingly scarce and expensive resources.

The difficulty of the task is that at the same time, the manager should continue to transform their company in order to perform on current markets, but they also have to integrate new paradigms related to the decarbonation of its activities into its daily decision-making and implementation processes.

9 areas, 7 learnings

Capgemini has been helping companies with the theme of decarbonation since 2005 – the year when the European carbon quota system was ramped up, and when the Kyoto Protocol entered into force after being ratified by Russia – in terms of both strategic questioning and transformation.

Together with clients, Capgemini has identified nine areas to which a decarbonation strategy can apply (see Figure 2). They are operational, functional, strategic or specifically related to carbon and alternative energies.

We have learned several lessons from these five years of experience:

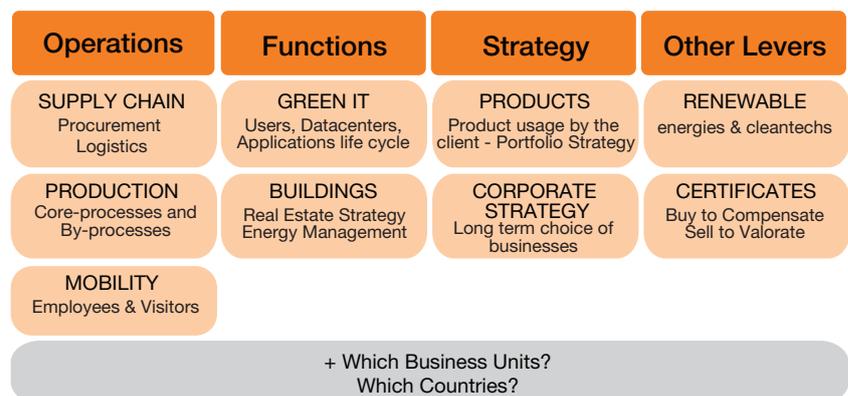
Two strategic learnings:

- Put reduction actions into perspective as part of a global strategy, including financially;
- Identify contradictions between the short- and long-term. Find the right management mode between the two

Five transformation learnings:

- Seek to profoundly transform each of the nine business areas to sustainably reduce the company's carbon footprint;
- Using the Lean approach can generate fast and shared gains in the company;
- Be pragmatic in terms of Green IT;
- Control time in real estate by being opportunistic and by revising the 10-year real estate strategy;
- Carefully define need concerning regulatory compliance processes (CO₂ emissions, other pollutants).

Figure 2: The nine possible areas of application of a corporate Decarbonate your Business approach



Putting actions into perspective, including financially

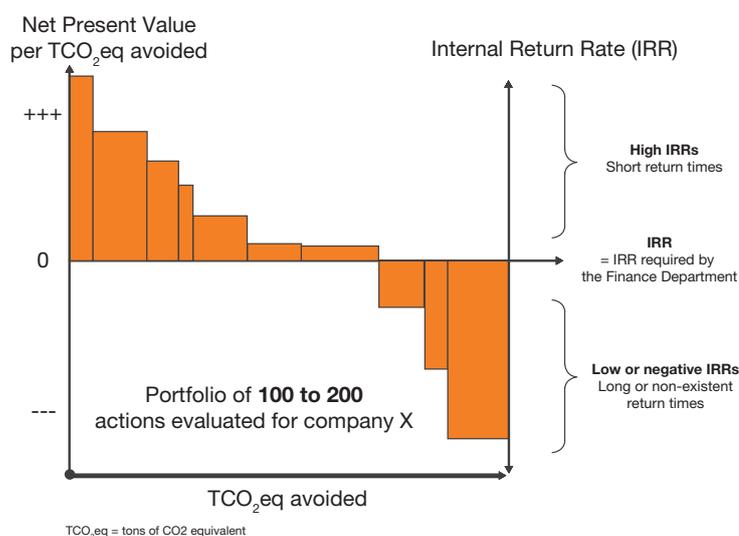
Over the past several years, companies have started undertaking actions targeting sustainability or emission reduction. Today, the point is to ensure their visibility at the senior management level and their strategic, managerial and financial consistency.

In fact, action portfolios at short-, medium- and long-term result from the initiatives of various business units, the Sustainable Development Department and the Communication Department. They often involved image research, but should further penetrate core businesses (operational, process departments) and fixed assets (Real Estate Department, IT Department).

To provide the high-level visibility and strategy, it often proves useful to launch an initiative that takes a few weeks (maximum two to three months) of which its objectives are to complete the portfolio of actions, to quantitatively evaluate it, and to provide a high-level strategic and financial synthesis: min-max scope of possible actions in terms of emissions reductions, CAPEX, OPEX, comparison with energy cost increase scenarios, cross-referencing with the company's strategic objectives, CO₂ equivalent gains, as well as subsidies and aid.

For international groups, the challenge consists in obtaining a cost estimate as well as addressable subsidies in each country. According to Capgemini's experience, these subsidies can make it possible to achieve internal rates of return that are equal to or greater than the group's standards for the entire action portfolio.

Figure 3: The Capgemini Carbon Levers™ approach: Sort the portfolio of reduction action according to merit



It is to be noted that, for this type of investment, some industrial groups authorize higher times of return than those due for purely business investments.

Dialogue with the senior management should focus on the choice of a coherent scenario. Ranking the portfolio of future or current actions from the most profitable to the least profitable generates an initial global vision.

The time of strategic decision-making: between “be lean” and “be future proof”

Practice shows that actions are divided up in two or three different strategic ways for the company:

- Grouping of actions corresponding to different technological macro-choices (processes, energy solutions, products);
- Attitude towards the acceptable CAPEX level, plausible third party investment strategy;

- Attitude of the executive board towards the levels of Internal Return Rates (IRR) or of payback times required for these types of investments; should they be different and in which proportion, than those applying to usual short-term business investments? What is the strategic goodwill of mitigating the risks of energy and CO₂ price volatility and the company's long-term sustainability on its core business activities?

In short, the key question in strategic decision-making often lies in the weighting up of the two imperatives:

- **Be Lean:** privilege actions leading to cost reductions;
- **Be Future Proof:** also include actions that are less profitable immediately, but that strategically secure the company's long-term position.

In all cases, in order to choose a portfolio of actions it is necessary to be concrete (need for quantification) and have guidelines from the senior management because all disciplines and financial and human resources are at stake.

Identifying conflicts between the short-term and long-term, finding the right management mode between the two

Climate change and the decarbonation of economies have brought about change in the field of strategic analysis.

Over the short-term, companies know the ropes: they assess risks and opportunities related to current regulations and market developments, and act consequently. Consultants help companies consider “Green Growth” opportunities, which remain the traditional role of strategic analysis (what markets, what entry strategy).

Over the long-term, what is new is that companies now have to project themselves over a 10-year period (2020) or even beyond (2030, 2050....) to more accurately understand the context in which they will need to survive and develop. In the 1990’s and early 2000’s, the three- or five-year strategic approach was still sufficient, but this no longer the case today.

A relevant approach needs to involve the Strategy Department, operational business units, the Research Department and sometimes external experts. The goal is to glean research gains using management approaches, while remaining sufficiently open to consider breaks and transformations. The format should be compatible with the constraints of operational management (seminars, deliverables) and lead to a list of simple lessons that can be put into practice.

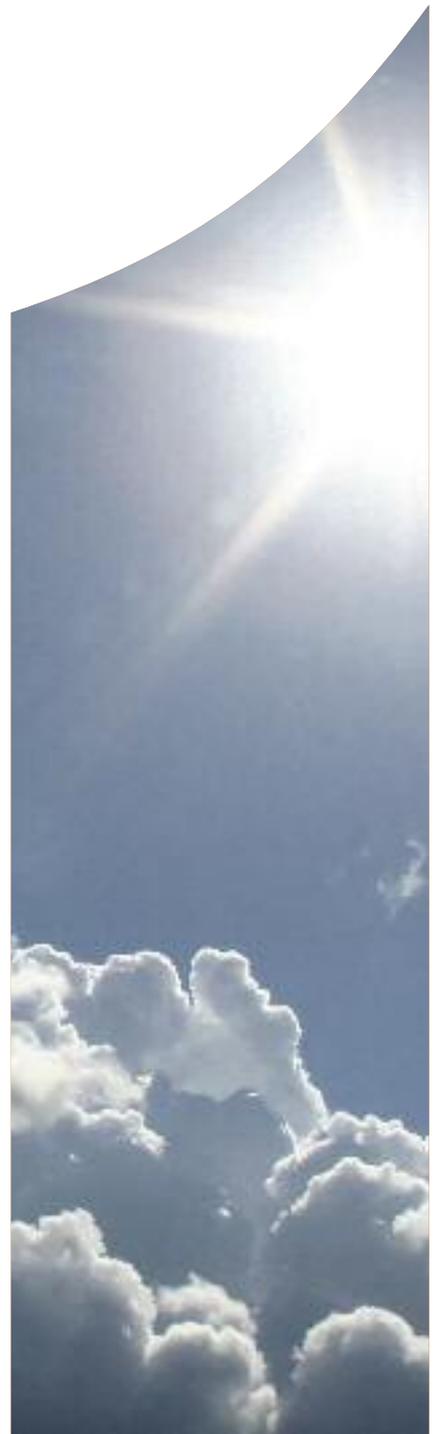
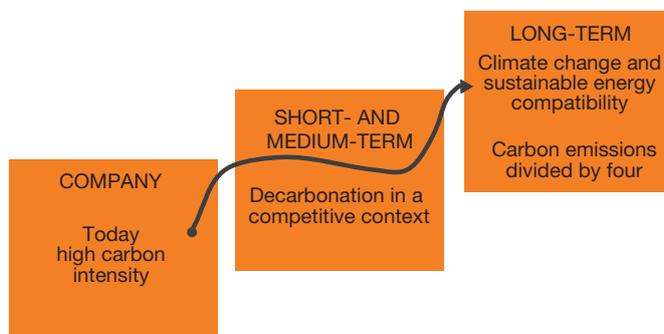


Figure 4: Helping companies identify and manage conflicts between the short-term and long-term



- Long-term investments that will need to satisfy energy and future climate constraints are engaged today
- But sometimes conflicts of interest between long-term requirements and short-term constraints (shareholder demands, growth, competition) occur

However, as mentioned earlier, decarbonation is not easy and straightforward. Such critical work can lead to:

- Green business opportunities (short- and medium-term);
- Ideas of ways in which companies can decarbonate their activities (short- and medium-term);
- As well as the inevitable long-term constraints that can lead to significant policy changes for the company's sustainability and business vision.

This last point can be particularly sensitive to the company's positioning on financial markets. At the same time, questions from financial analysts will gradually appear as they gain maturity about these issues.

In this type of situation, the ethical role of the consultant is, therefore, to play its consulting role, by putting contradictions and opportunities into perspective, by helping the company find a manageable decarbonation tactic between the short-term and long-term, while guaranteeing the utmost confidentiality on subjects that can be highly sensitive and strategic.

Seeking to profoundly transform each discipline to sustainably reduce the company's carbon footprint

Decarbonation deeply affects all of the company's processes. That is why transformation needs to be sought out in each discipline.

At Capgemini, the teams that handle decarbonation are above all teams specializing in each discipline and

sector, backed up, when needed, by experts in the fields of CO₂, sustainable energy, Green IT, and in specific tools such as Bilan Carbone^{®3} or Carbon Levers, associated with traditional tools (Business Case, transformation approaches and tools).

Using the Lean approach can generate fast and shared gains in the company

The Lean approach targets operational excellence by eliminating malfunctioning and red tape. Capgemini implements this type of approach together with the company's employees. This makes it possible to identify sources of performance, in a way that is pragmatic and close to the field and operational realities.

This approach is suited to the elimination of energy waste and CO₂ waste. It can be implemented specifically for that purpose. More pragmatically, the Lean approach can also first be implemented to achieve operational excellence and cost control objectives, but *with energy and carbon criteria included*. We then adjust the traditional Business Case with the carbon assessment and price of energies eliminated or replaced. The advantage of the combined approach is that it takes operational constraints into account at the source, leading to robust solutions.

Being pragmatic in terms of Green IT

Green IT affects both shared IT service centers (SSCs) and client operational entities. Moreover, the gains stem as much from efficient materials as from sober behavior (rationale use of energy).

Progress can be made in the following areas:

- Energy and carbon balances related to the use of information technologies by end users (an Enertech study conducted in the Tertiary sector showed, for example, that this equipment stays on in the user's absence more than 70% of the time, including nights, weekends and holidays);
- Hardware specifications and progressive replacement policies (computers, printers, video-conference screens);
- The energy and carbon balances of SSCs and the IT Department itself;
- The design of data centers, the management of energy and cooling (40% of the consumption), the servers optimization (1 watt saved in a server saves 2,8 watt on the whole IT chain including datacenters), the right level of virtualization, of redundancy (Cloud Computing, Cold Hot Warm site strategies), the global application management strategy (Application Lifecycle Services).

Here it is also important to find the right compromise between strategy and transformation (implementation support). Pragmatic approaches involving the company's stakeholders and employees can lead to significant short-term gains.

Clearly defining your need in terms of CO₂ compliance processes

A growing number of processes are managed by voluntary or mandatory certificate mechanisms (cap and

³ The Bilan Carbone[®] method was developed by the French Environment and Energy Management Agency, ADEME

trade). The most well-known is the Emissions Trading Scheme or ETS, which manages greenhouse gas emission on the European level, not to mention the equivalent systems under development in North America (REGGI, WCI, CCAR, MGGRA). There are also “green” cap and trade certificates that apply to quantities of renewable energy (electricity, biofuel) and “white” certificates (energy savings). There are many different systems and they vary from one country to another.

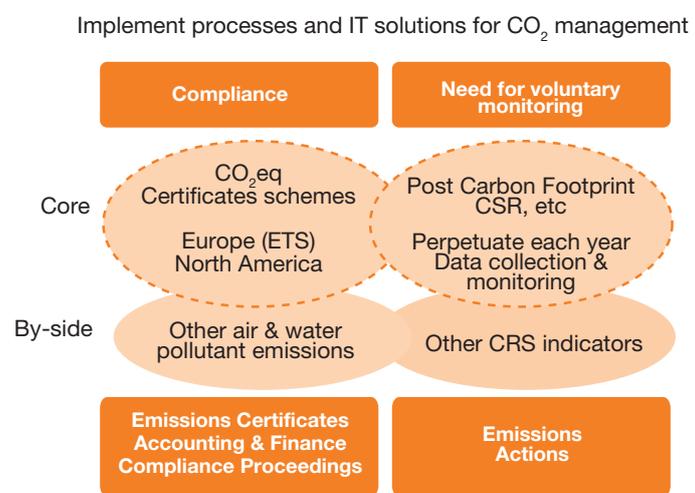
Furthermore, a growing number of sectors are becoming involved. For example, the ETS will also apply to aviation in its third phase.

To implement or upgrade the management of your certificates, Capgemini recommends that you ask yourself the following questions:

- In what areas does the company want to improve its management: physical emissions, the management of certificate portfolios themselves, the accounting and financial aspect?
- What scope of time: daily operations, monthly reporting and decisions, annual regulatory and administrative operations?
- What geographic and functional scope? At all operational sites? Only at the headquarters?
- What are the goals? Ensure compliance? Optimize management costs? Improve operational and financial performance?

Process improvement or transformation with the relevant teams are enhanced when the answers to these questions are well scoped at the start of the project. There are

Figure 5: Clearly defining your need for CO2 management: regulatory need or need for voluntary monitoring?



many IT solutions, in each stage of the process or in the framework of integrated solutions. The choice of IT solutions may occur at least after a period of time in which the above questions are answered.

Switching to carbon accounting

It should be noted that more and more companies that are not being currently limited by a regulatory framework are, nevertheless, automating their carbon information management processes:

- They have already conducted a carbon balance in the past, which gave them initial information and allowed them to launch a first wave of actions;
- They have reflected about the advantages of integrating carbon management into the company's other management aspects, both in terms of costs reduction and preparation for the future;

- They would now like to continuously monitor the implementation of actions and their results;
- This allows them to wrap up the circle of management, i.e. take corrective measures after first implementation for the following cycle of actions (yearly, three-year plan).

Carbon management can be fully integrated into the company's other management areas. A requirement is the automation of carbon information collection and monitoring using software packages or ad-hoc developments in existing information systems.

Conclusion

The decarbonation of business and greenhouse gas reduction are at the heart of the company's strategic imperatives, in the pursuit of short-term economic efficiency objectives ("be lean, be green") and of long-term sustainability objectives ("be future proof").

The nine aspects of the company's management are concerned:

- The three operational aspects are the supply chain (logistics, purchasing), core business "production" processes (in industry and services), employee and customer travel;
- The two functional aspects are green IT and real estate;
- Two aspects are product strategy and corporate strategy;
- Two additional aspects are the use of renewable energies and various types of certificates for compensation or the improvement of the company's balance.

Actions need to be analyzed both in Euros and in tons of CO₂ equivalent, and possibly in green KWh (renewable energies) or white KWh (energy savings).

To have the necessary leeway, it is necessary to take not only the short- and medium-term, but also the long-term (typically 10 years, the time needed to implement strategic levers, e.g. for core-business processes, supply chain, real estate) into account when developing the action portfolio.

Companies develop their carbon strategies on the basis of these rational factors but also in keeping with their general strategy, and by comparing themselves to best-in-class decarbonation strategies in their sector.

Lastly, to monitor their action plans, companies are now implementing "accounting, reporting and carbon management" in an integrated and automated manner, in the same capacity as the company's other information and management channels. Tons of CO₂ are like Euros or US Dollars: they can be linked to any human or business activity.

For example, in one major internationally renowned company, 30% of the personal key performance indicators of all the executives are already related to the implementation of decarbonation actions and the monitoring of greenhouse gas emissions.

Managers are motivated to achieve their personal carbon objectives: what best concrete sign that we have fully entered the era of business decarbonation?



About Capgemini and the Collaborative Business Experience

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

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More information is available at www.capgemini.com/energy

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