SUSTAINABILITY IN SUPPLY CHAIN MANAGEMENT CASEBOOK

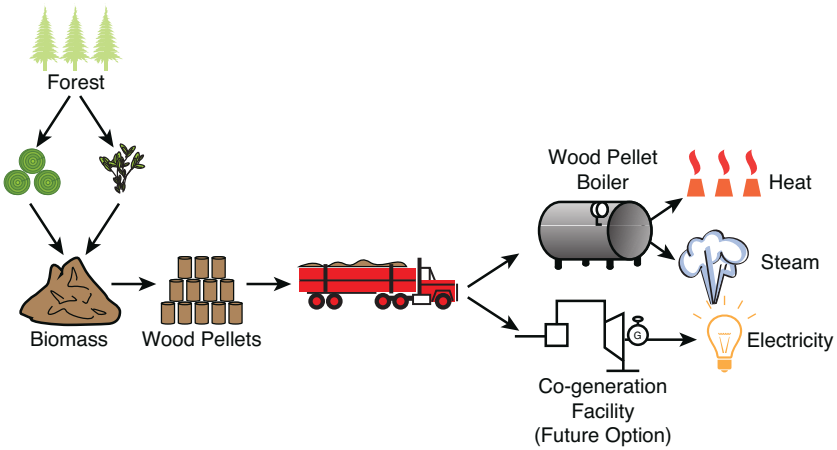
APPLICATIONS IN SCM

STEVEN M. LEON

Sustainability in Supply Chain Management Casebook

Phase 3 foresaw the installation of a co-generation[8] unit. This would replace one of the remaining oil and gas boilers (Boiler #4, capacity 6 tons/hr), leaving only Boiler #3 (capacity 8 tons/hr) as a backup oil/gas-fired boiler. The electric power generated from the co-generation unit would be used for lighting and production, and the heat would be captured for building and process heat (in the so-called combined cycle process) rather than simply releasing it into the environment. The electricity produced would be used by the Pfizer facility or re-sold to the grid. With the completion of phase 3, the Freiburg facility would supply 100% of its own energy needs from biomass obtained within 50 kilometres of its facility, as well as producing and supplying additional renewable energy (with zero carbon net emissions) to the local grid.

Figure 5-1 A Schematic Model of the WooB Project



If phases 1-3 of the Freiburg Energy and Resource Master Plan were as successful as hoped, Pfizer could capture these as best practices and disseminate them to other sites as part of its sustainability strategy.

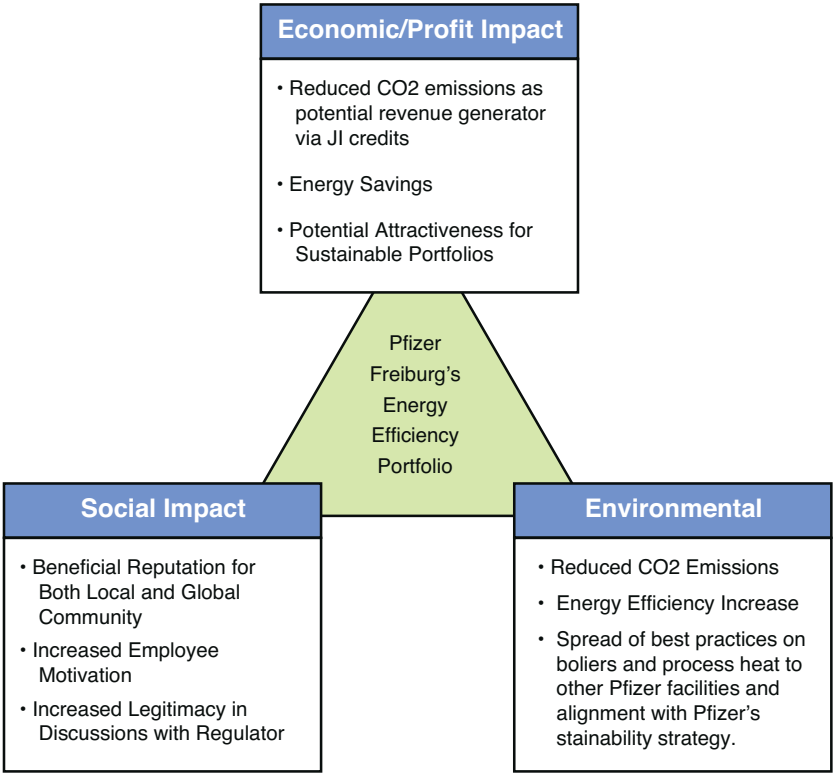
[8] Co-generation refers to the process of generating both electricity and heat from the same electric generator.

Role of the Portfolio of Projects within Pfizer's Sustainability Agenda

In 2002, Pfizer became the first US pharmaceutical company to join the UN Global Compact (UNGC), a multi-stakeholder corporate responsibility initiative in support of principles on human rights, labour and employee rights, environmental protection and anti-corruption. Pfizer was also a founding member of the US Network of the UNGC that brought together US corporate members in bi-annual stakeholder forums. Areas of focus and reporting for the company included (a) improvement of the R&D process and expanding research for diseases affecting the developing world, (b) public policy issues such as improvement of business practices, and (c) environmental sustainability issues including expanding research on green chemistry processes (innovative ways to lessen environmental impact during the discovery and manufacture of medicines) and the reduction of its GHG emissions through investments in clean energy, increasing energy efficiency, and initiatives in waste and water management. Pfizer's overall commitment to sustainability thus underlined the positive convergence between the economic, social and environmental impacts of its operations. Becker and plant manager Krasowski clearly saw the Freiburg energy initiative as aligned with this company-wide commitment (see Figure 5-2).

CO_2 emissions reductions resulting from the Freiburg Energy Portfolio illustrated its alignment with Pfizer's commitment to sustainability. Pfizer had also endorsed "Caring for Climate", a supplemental initiative through the UNGC focused on climate change. Companies were required to publish a 'Communication on Progress'—on programmes and performance that supported the ten principles of the Global Compact—which at Pfizer took the form of its Corporate Responsibility Report. One aspect of this, noted above, was the goal to reduce GHG emissions by 20% on an absolute basis by the end of 2012 (from 2007 the baseline year).

Figure 5-2 The Becker Energy Project Portfolio and Pfizer's Sustainability Agenda



In line with these objectives and public commitments, Pfizer initiated a global energy and climate change programme to understand the challenges of climate change and to cope with new carbon constraints. It received increasing recognition for its efforts towards sustainability, both in the local and global community. Pfizer was included in the Carbon Disclosure Leadership Index for the third consecutive year in 2009, in recognition of its understanding of the impacts of climate change on business and for taking appropriate measures at leadership levels to lessen these impacts. The achievement of Pfizer's initial greenhouse gas reduction goals was also honoured by the US Environmental Protection Agency (EPA).

The Freiburg energy initiative, if coordinated appropriately, could be seen as a role model for the energy component of Pfizer's broader sustainability agenda. Replicating this elsewhere could mobilise a series of similar initiatives at Pfizer facilities around the globe. Besides the energy savings and external brand image benefits, the participative approach, which was core to Becker's plan, could increase employee enthusiasm for facility engineering management regarding environmental issues and raise the company's credibility in dealing with local authorities and external stakeholders.

The Decision

As Becker thought about the meeting with the CFO of Pfizer Europe and the Capital Budgeting Committee where he would lay out his plans for the next few years for energy conservation at Freiburg, he realised that he had a lot to sell beyond 'plain vanilla' energy efficiency projects. He was convinced that the payoff from this portfolio could have much greater consequences than standard facility engineering initiatives. He also wanted to stay firmly rooted in good science and engineering as the basis for the projects, without the inflated language so often used to describe energy efficiency and sustainability initiatives. Making a good case to the CFO and ultimately the Pfizer Capital Budgeting Committee to get the green light for his project portfolio was clearly the first step. However, coupling this effort with the company's broader sustainability agenda should not be just an afterthought. How to do the right thing, and do it right, were foremost in Becker's mind as he prepared for his meeting with the CFO.

Appendix 1

Kyoto Protocol, CO_2 and Emissions Trading

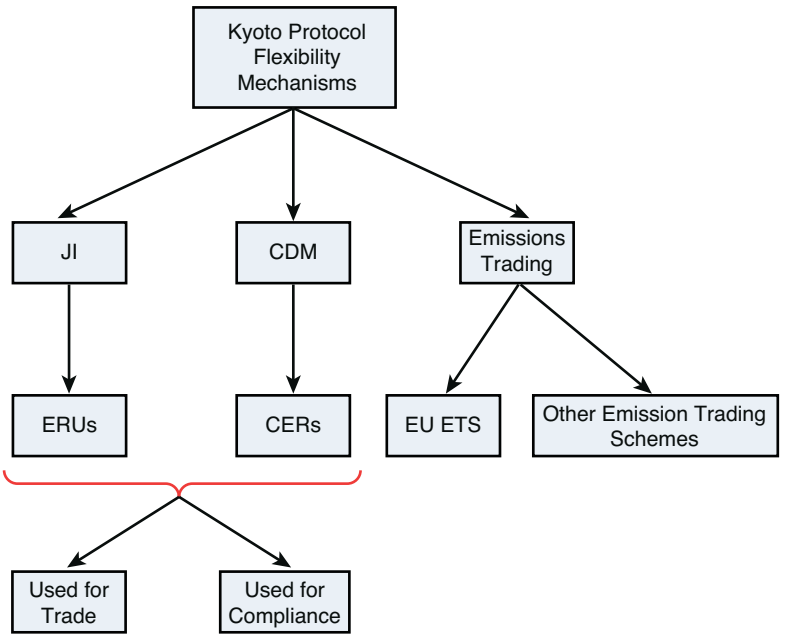
The Kyoto Protocol was the first international response to concerns about climate change. It was ratified in 2005 with the agreement of 141 countries (excluding the US which represented 25% of total emissions). The ratifying countries made the commitment to reduce their GHG emissions by 5% of their actual emissions in 1990 in the timeframe of 2008-2012, with further reduction targets anticipated in the post-2012 years.

Achieving the indication reduction targets is left to individual countries (with some blocks of countries being treated as a single entity for the purposes of meeting the target, as is the case of the European Union, which reports as a single entity for the purpose of the Protocol). In the EU there are both direct regulations regarding energy and carbon efficiency targets as well as the requirement that some 12,000 facilities in energy-intensive sectors, such as steel and cement, must cover their emissions at the end of each year with emission certificates. They can either purchase these certificates through the European Trading System (ETS), or generate them by implementing projects that lead to reduction in GHG emissions relative to a business-as-usual case. Figure 5-3 shows the basic structure of this scheme.

There are two mechanisms under the Kyoto Protocol through which such projects can be certified as having achieved emission reductions: joint implementation (JI) and the clean development mechanism (CDM). In the JI, the industrialised countries, listed in the Kyoto Protocol as *Annex* I countries, implement emission reduction projects in Annex I countries. This will result in the issuance of emission reduction units (ERUs) which can be used by Annex I countries themselves, or by companies operating in these countries, to verify compliance of their emission targets. The CDM is essentially identical to the JI mechanism, with the difference that under CDM,

the emission efficiency project is implemented in a developing country. JI or CDM projects result in certified emission reduction units (CERs), which can be submitted for compliance. These reduction units or "allowances" can then be traded in the existing markets, and the traded allowances can be used to achieve compliance.

Figure 5-3 Structure of the Kyoto Protocol Emission Permit and Trading Systems



From Mansanet-Bataller, M. and A. Pardo (2008). "What you need to know to trade in CO_2 markets." Mission Climat de la Caisse des Dépéts, Paris.

In the case of Pfizer Freiburg, their geothermal and their WooB project were able to achieve certification as JI projects resulting in GHG certification credits obtained for CO_2 emission reduction, against a business-as-usual scenario, of over 6,000 tons per year. As noted below, these certified reductions lead to ERUs which are tradable on the active carbon markets in Europe. They can be tradable as well in other cap and trade systems in the US, for example, once these systems are launched.