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BUSINESS AND CLIMATE CHANGE:

EXAMINING DRIVERS FOR ACTION

by Sara Standish*

INTRODUCTION

Rising greenhouse gas (“GHG”) emissions – a major driver of climate change – could negatively impact human activity and natural resources. Even small fluctuations in temperature or precipitation could have amplified effects for humans and ecosystems. With global energy consumption estimated to increase 150 to 230 percent by 2050, the demand for solutions to climate change will intensify.¹ As both a source of emissions and a potential provider of solutions, business has a pivotal role to play.

But what drives companies to take action? Some are able to realize financial gains by initiating energy efficiency projects. Others are forced to comply with regulation that limits emissions. In addition, regulation influences the markets in which business operates, so companies that are not directly regulated may see changes in their competitive positioning and market opportunities.

These drivers – translated into business action – are illustrated by three examples in the first section of this article. Each highlights why a company took action and what specific outcomes were expected. Examples are drawn from the experience of the World Resources Institute’s Sustainable Enterprise Program, which has engaged corporate leaders and investors on GHG management, green power procurement, and climate change strategies.

In order to curb climate change trends, current efforts to reduce GHG emissions will need to be accelerated and expanded. Understanding the tangible returns and intangible benefits that businesses seek when taking action can help create policies that raise the level of corporate engagement. The second section examines policies that can support business through clear signals, long-term targets, and market mechanisms. In contrast, the third section highlights how policies inhibit action by creating an uncertain regulatory context.

BUSINESS ACTION

Amidst the pressures and uncertainties of climate trends, companies are taking action. Early actors are finding cost-effective GHG reductions. Companies that invest in developing and manufacturing low-emissions technologies are positioned to expand market share and improve their long-term competitiveness. New markets – partially driven by regulatory signals – are creating an opportunity for clean energy products and services to thrive.

COST EFFECTIVE GHG REDUCTIONS FOR EARLY ACTORS

In the United States, office buildings account for nineteen percent of commercial energy consumption and \$100 billion is spent annually on lighting and heating costs.² Energy efficiency can reduce a company’s GHG emissions and save it money. In 2002, Citigroup installed a new technology to centrally manage

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its heat, ventilation, and air conditioning (“HVAC”) operations in the greater New York City area. The retrofit cost over \$2.5 million, but energy efficiency rebates from the New York State Energy Research and Development Authority and the Long Island Power Authority reduced capital investment costs by \$507,000. Additionally, Citigroup estimates that the project has led to a fifteen percent reduction in energy use and a 30 percent reduction in service calls, while meeting an internal goal to improve corporate environmental management systems.³

DEVELOPING NEW CLEAN ENERGY PRODUCTS

Trends toward a carbon constrained economy have increased demand for “green” energy products and created new market opportunities. For providers of energy-generating technology, investment in new environmentally friendly products can create revenue. For example, General Electric manufactures an array of products, including wind turbines and higher-efficiency gas turbines that cut emissions. In addition, the company acquired a solar photovoltaic equipment manufacturer, thus expanding its position in the market for clean energy technologies.

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CREATING COMPETITIVE POSITIONING WITH CLIMATE STRATEGIES

Incomplete information about future regulations and markets makes it difficult to determine a company's long-term competitive position. However, studies on the oil, gas, and automotive sectors have shown that carbon constraints could significantly change a company's revenue, earning potential, and shareholder value.⁴ In addition, major insurance companies such as Swiss Re are asking companies for long term climate strategies.

In the automotive industry, emerging mandatory and voluntary standards in Japan, China, Canada, Australia, and the European Union ("E.U.") are forcing carmakers to build higher fuel economy fleets. In California, legislation may increase fuel economy by 30 percent and if successful, other states have signaled their desire to follow. Together with Canada, these states could represent over 30 percent of the North American auto market. Automakers investing in low emissions technology now hold a competitive advantage in these carbon-constrained markets, affecting shareholder value. For example, Toyota, a company that is selling hybrid cars and leasing low-emissions technology to other automotive makers, is well-positioned in markets that limit emissions.⁵

DEFINING VALUE PROPOSITIONS

In each of these examples, companies have benefited from early action. These outcomes, or value propositions, provide a window into why companies take action and how policies can support the growth of climate friendly markets (See Box 1). Incorporating these outcomes into short and long term goals can help companies quantify the value of climate change activities.

POLICIES THAT SUPPORT BUSINESS ACTION

So, if companies can benefit – financially and otherwise – by taking action on climate change, why aren't they all lining up for outcomes that improve their bottom line and the environment? For some, the initial costs, such as steep learning curves, capital costs, and potential penalties for first movers, may seem too high. For others, an aversion to risk or a failure to understand the market opportunities are factors. Simply put, all companies will not be affected equally by climate change action. While some will thrive on new opportunities, others can at best minimize risk.

Providing clear policy signals can help companies realize return on investment, develop new technologies, or establish long-term competitiveness, while reducing emissions. Also, utilizing market mechanisms can establish low-cost solutions where companies take advantage of new business opportunities related to environmental services. In addition, policies may provide unanticipated benefits, such as effective GHG management systems that improve upon existing efforts.⁶

RENEWABLE PORTFOLIO STANDARDS AS AN ACCELERATOR

Seventeen states have now adopted a "renewable portfolio standard" ("RPS") that requires electric power companies to use

increasing percentages of electricity produced from renewable resources such as wind and solar, which do not emit GHGs. These standards cover roughly 40 percent of U.S. electricity supply, including large electricity markets in California, Texas, and New York.⁷ An RPS can drive the creation of new renewable energy markets and diversify a state's energy mix.

Texas, a state better known for oil than clean energy, passed a renewable portfolio standard when restructuring energy utilities in 1999. The restructuring created room for new competitors in the market, and with the addition of the RPS, renewable energy became a viable business opportunity. In part due to the state's investment in "green" power and clear policy targets, Texas is a leading provider of wind energy for the nation, supplying both residential and commercial markets.

CAP AND TRADE IN THE NORTHEAST U.S.

For policymakers, forward-thinking states often serve as "incubators" for larger initiatives. This is well illustrated by the successful nitrogen oxide ("NO_x") emissions trading program, which began as regional legislation and was later adopted at a national level. In the absence of federal action in the U.S. on climate change, state and regional initiatives are at the forefront of climate change policy creation. The most developed regional initiative is in the Northeast U.S., where nine states are working together to create a "cap and trade" system.

The Regional Greenhouse Gas Initiative ("RGGI") is designed to manage carbon dioxide ("CO₂") emissions from power plants within participating states through an interstate emissions trading system. First, the states will set a limit on allowed emissions. Then, regulated sources will be given permits to emit carbon. Companies that emit less than their assigned permits can trade the excess permits to companies that have higher abatement costs and therefore choose not to reduce emissions.

New markets – partially driven by regulatory signals – are creating an opportunity for clean energy products and services to thrive.

For companies operating in the Northeast, the RGGI creates both challenges and opportunities. Compliance with RGGI may increase energy prices, affecting downstream markets. But businesses that effectively reduce energy use may reap a host of benefits, including lower energy costs and increased competitive advantage in the face of wider regulation. The cap and trade system allows cost-effective solutions to flourish and provides companies with the flexibility to decide whether to make internal reductions or seek credits in the market.

BOX 1: TANGIBLE RETURNS AND INTANGIBLE BENEFITS¹¹

Businesses create a GHG strategy by gauging tangible returns and intangible benefits. Anticipated outcomes, or value propositions, are the indicators of a successful GHG program.

TANGIBLE RETURNS

- Climate-friendly projects yield a positive return on investment.
- New or enhanced products or services increase revenue, capture market share, and/or deliver net income.
- Internal emissions-reduction projects allow for the sale of emissions reduction credits.
- Enhanced energy-conservation practices and fuel switching stabilize corporate energy use and protect against energy price volatility.

INTANGIBLE BENEFITS

- ***Competitive positioning***
 - Low-carbon products or services improve the company's position vis-à-vis its competitors.
 - The public perceives the corporate brand as environmentally friendly, leading to improved public relations.
 - Strong environmental performance results in higher employee recruitment, retention, and productivity.
- ***Shareholder-related benefits***
 - Shareholders drop climate resolutions as their conditions are satisfied.
 - Investors perceive strong environmental performance as an indicator of superior business management, resulting in a premium on the stock price and a lower cost for capital.
 - The company's stock is included in a specialized stock index, such as the Dow Jones Sustainability Index, and is held by investment funds that track the index.
 - The company receives higher stock ratings from "socially responsible investment" ("SRI") analysts, resulting in more stock purchases by SRI investors.
- ***Regulatory preparedness***
 - Company staff is trained to manage GHG emissions, thereby broadening the company's experience and enabling it to adapt more easily to future regulations.
 - The company's GHG emissions are at or below legal requirements at the time the GHG regulations go into effect, thereby making compliance easier.
 - A strong GHG management program gives the company greater credibility and thus a greater voice in policy discussions and an opportunity to influence policy outcomes.
- ***Management benefits***
 - Coordination of GHG management across business units and jurisdictions improves learning, identifies opportunities, leads to innovation, and offers unexpected efficiencies.
 - The company is protected against potential class-action lawsuits related to corporate governance, specifically claiming breach of fiduciary responsibility for failing to manage GHG emissions and their associated liabilities.

THE FINANCIAL SERVICE INDUSTRY AND CLIMATE CHANGE: INSURANCE AND REINSURANCE

By Cari Shiffman*

At the United Nations Institutional Investor Summit on Climate Risk on November 21, 2003, institutional investors representing over \$1 trillion in invested capital met to address the financial risks of global climate change.¹ The discussions included the projected economic impacts of climate change and the possible actions that investors could take in order to address this risk in their portfolios.² Harvard University Professor John Holdren, speaking to the group on the science of climate change, stressed that climate change is “the most dangerous of all the environmental problems caused by human activity.”³ Participants at the summit called on institutional investors and the U.S. Securities and Exchange Commission to take action to understand and mitigate investor climate risk by requiring disclosure and independent analyses of climate risk.⁴

Climate change is considered to be of particular strategic business importance to insurance and reinsurance companies.⁵ As climate change poses an increasing threat to human health, life and health insurance companies may begin to see a rise in demand for their services.⁶ While very few insurers have yet factored in climate change-related risks when underwriting premiums and deductibles,⁷ reinsurers have initiated qualitative sector-level impact analyses.⁸ Financial institutions and the financial services industry, including insurers and reinsurers, will likely continue to see a greater role in addressing the impacts of climate change.⁹



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ENDNOTES:

¹United Nations, *Institutional Investor Summit on Climate Risk*, available at http://www.incr.com/summit_summary_report.pdf (last visited Mar. 28, 2005).

² *Id.*

³ *Id.*

⁴ *Id.*

⁵United Nations Environmental Programme (“UNEP”), *CEO Briefing on Climate Change* tbl. 1, available at http://www.unepfi.org/fileadmin/documents/CEO_briefing_climate_change_2002_en.pdf (last visited Mar. 28, 2005).

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ UNEP, *supra* note 5.

bring operations into compliance, they will be poised to service the technology need of this expanding market. And early engagement will capitalize on the high-return energy projects, such as landfill gas recovery and hydro-fluorocarbon destruction.

Yet significant uncertainties remain, tilting the market's development. For developers and financiers, the uncertainty of continued value for credits after the first phase of the Kyoto Protocol in 2012 means that projects must come online quickly and maximize sellable credits. Lead-time for construction and a potentially lengthy approval process reduces the return on investment. Long term policy signals are needed, or many projects will not attract financial capital.

For companies poised to develop projects or appropriate technologies, the market demand for credits will impact profits. Therefore, policies that leverage business must consistently support the market. For example, the incentive to pursue CDM projects is significantly weakened if energy efficiency, credit trading, or joint implementation projects prove to be a less expensive way to reduce emissions. In particular, the availability of excess credits from former Soviet countries that experienced emissions reductions due to economic decline could undermine the market for project-based CDM offsets.

CONCLUSION

Curbing rising emissions trends requires a multifaceted, coordinated effort, in which business leaders and policymakers collaborate to drive change and reduce policy uncertainties. By examining the relationship between regulation – or the threat of regulation – and the value proposition for business to take action on climate change, a number of key ideas emerge:

- Companies that take proactive steps on climate change can offset some of the risks associated with regulation and create business opportunities.
- While the business case may be broadly tied to long-term profitability, a company may anticipate specific benefits and returns from its GHG program. These outcomes, or value propositions, are indicators of a successful GHG program and strategy.
- Participating in mandatory or voluntary systems may identify unexpected benefits for engaged companies.
- Companies engaged in mandatory or voluntary schemes may hold a competitive advantage over companies understanding and adapting to policy at a later time.
- Providing long-term regulatory certainty can provide incentives for business investment and stimulate new markets for climate-protecting technologies.
- Climate change is a powerful example of how business can create new market solutions to environmental problems.



ENDNOTES: Business and Climate Change

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² U.S. DEPARTMENT OF ENERGY, ENERGY EFFICIENCY AND RENEWABLE ENERGY, available at http://www.eere.energy.gov/consumerinfo/tips/comm_energy_use.html (last visited Apr. 14, 2005); see also U.S. DEPARTMENT OF ENERGY, 1999 COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY, DETAILED TABLES, ENERGY INFORMATION ADMINISTRATION, available at http://www.eia.doe.gov/emeu/cbecs/detailed_tables_1999.html (last visited Apr. 14, 2005).

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⁴ D. AUSTIN, N. ROSINSKI, A. SAUER, AND C. LE DUC, SUSTAINABLE ASSET MANAGEMENT AND WORLD RESOURCES INSTITUTE, CHANGING DRIVERS: THE IMPACT OF CLIMATE CHANGE ON COMPETITIVENESS AND VALUE CREATION IN THE AUTOMOTIVE INDUSTRY (2003) [hereinafter Austin 2003]; see also D. AUSTIN & A. SAUER, WORLD RESOURCES INSTITUTE, CHANGING OIL: EMERGING ENVIRONMENTAL RISKS AND SHAREHOLDER VALUE IN THE OIL AND GAS INDUSTRY (2002) [hereinafter Austin 2002].

⁵ Austin 2002, *supra* note 4; see also A. SAUER, WORLD RESOURCES INSTITUTE, TAKING THE (FUEL ECONOMY) HIGH ROAD: WHAT DO THE NEW CHINESE FUEL ECONOMY STANDARDS MEAN FOR FOREIGN AUTOMAKERS? (2005).

⁶ For further discussion of policies supporting business action, see PEW CENTER ON GLOBAL CLIMATE CHANGE, INNOVATIVE POLICY SOLUTIONS TO GLOBAL CLIMATE CHANGE (2005).

⁷ World Resources Institute, Figure based on calculation using U.S. Department of Energy state energy consumption information (2005).

⁸ See PEW CENTER ON GLOBAL CLIMATE CHANGE, THE EUROPEAN UNION EMISSIONS TRADING SCHEME (EU-ETS): INSIGHTS AND OPPORTUNITIES (2004).

⁹ Aulisi, *supra* note 3.

¹⁰ PEW CENTER ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE ACTIVITIES IN THE UNITED STATES: 2004 UPDATE (2004).

¹¹ Aulisi, *supra* note 3.