



SECURE YOUR LONG-TERM ENERGY SUPPLY

Take matters into your own hands

By Professor Corey Billington and Darren Willman – January 2010

IMD

**Chemin de Bellerive 23
PO Box 915,
CH-1001 Lausanne
Switzerland**

Tel: +41 21 618 01 11

Fax: +41 21 618 07 07

info@imd.ch

<http://www.imd.ch>



Leaders from around the globe will be meeting at the World Future Energy Summit to talk about contemporary energy issues such as carbon capture and storage, sustainable cities, renewable energy, technology and R&D, and energy policy. One of the topics on their agenda is energy security, an important matter as well for businesses.

How is a growing long-term supply of energy going to be guaranteed? Is your company thinking about the stability of its long-term energy supply?

With global events such as the 1973 oil crisis and the record highs in energy prices in 2007 and 2008, countries have been looking to make their energy sources more secure. Eastern European countries are nervous after Russia-Ukraine gas disputes in 2006, 2007 and again in 2009. Countries in Central Asia and the Balkans are scaling up infrastructure development of gas pipes to diversify their energy risk away from Russian gas. In Poland, risk management means the development of biomass. Political issues aside, even the US is responding to Middle East energy security concerns by funding the incredibly expensive and environmentally destructive Alberta tar sands oil project, and investigating biomass.

There is also the debate about peak oil - the point in time in which the world reaches the maximum rate of petroleum extraction, triggering a terminal decline in production. There is much speculation about peak oil, with many sources suggesting it has already hit. Japan, previously wholly dependent on imported oil, has transitioned to nuclear, gas and high speed rail. The UK turned to their North Sea oil reserves to once again become a net energy exporter. Abu Dhabi, Qatar and Saudi Arabia have sovereign wealth funds to help support their transition to a non-oil economy once it runs dry.

Countries are hitting two birds with one stone by scaling up renewable energy as a solution to both the energy security issue and climate change. After all, the idea of a never-ending supply of energy is appealing, isn't it? Weeks ago, Germany, Great Britain, France, Denmark, Sweden, Belgium, Ireland, Luxembourg and The Netherlands announced a €30 billion collaboration to link up wind, tidal and hydro plants in the North Sea to contribute 100 gigawatts of power, equivalent to just under half the total of power generated from coal in the US. This is just one of many examples. In Chile, public-private partnerships with European energy companies are aiming to bring stability to an energy supply that is currently dependent on Bolivia, which is politically unstable, and Argentina, a country facing its own energy security issues.

The implications of increasingly risky and uncertain energy supplies to business are paramount. Business is left with two options: to leave this to governments as it is traditionally their responsibility, or to take matters into its own hands.

It is of our opinion that business needs to start preparing for future energy issues. Governments can only take us so far. In the US for example, the innovation system is fundamentally flawed. The US government is providing billions of dollars in R&D funding and support, and technologies are being made. However, power suppliers are not adopting the technologies. In the US, for a technology to be adopted by municipal utility companies, it must be *proven* to work. But how is an energy innovation proven if it is not adopted first? The US Department of Energy needs to facilitate distributed innovation, the process of managing innovation across stakeholders and organizations to meet the needs of customers and to rapidly increase the speed of innovation and commercialization of future energy technologies.

With governments struggling with their own systemic issues, energy supplies will become expensive if not scarce. Soon business will not be able to expect low energy prices and easy availability and therefore will need to sacrifice its existing consumption pleasures. To maintain consumption, business would need to compensate the lack of energy coming from the grid.

Business must do two things: become more energy efficient and/or buy energy generators for themselves, preferably renewable.

Firms will need to be smarter and more economical about energy usage. There needs to be a change in common perception that energy will always be there and that it is infinite. Yahoo!'s Silicon Valley office has done well with this. When it gets hot and there is pressure on California's energy infrastructure, Yahoo! sacrifices personal comfort and turns the air conditioning down.

Lighting, computer screens and air conditioning or heating are the three most energy intensive areas of an office. Here are some practical tips to lower the energy usage in the office:

- install the most efficient lighting with a motion sensor and run campaigns about switching off monitors.
- change the thermostat one degree closer to outside temperature.
- have an external energy auditor or volunteer analyze your team, department or business to find out exactly where your electricity usage is coming from. Most of their work will involve basic spreadsheet calculations and looking on the back of appliances for wattage figures. If they have a bit more experience or expertise, take them through your supply chain and determine your energy usage per unit of output. This will also be useful in anticipation for potential greenhouse gas emissions labeling regulations. Ask them for suggestions and then have your own sustainability manager compile a report

with solutions for increasing efficiency. This process would eventually lead to a reduction in energy costs, greenhouse gas emissions and exposure to energy security risk.

- develop your own mini sources of energy. There is a fast growing market for small solar or wind energy generators for offices, homes and factories. Find out whether wind or solar is more prevalent on your premises, then purchase and install the generator. Returns should be found within five years, especially as energy prices rise and supply becomes more uncertain.

Examples of business taking matters into their own hands have grown substantially in the last couple of years. In fact, pioneers are seeing the potential for business to take a large role in the development of the renewable energy sector. Many companies are concerned about the geopolitical landscape and the security of energy, future supplies and peak oil, and the lagging government processes to facilitate solutions. By taking matters into its own hands and supporting renewable energy, promoting energy efficiency where it is economically viable and reducing the energy needs per unit of output, business can reduce its long-term energy supply and expense risks.

Corey Billington is Professor of Operations Management and Procurement and the Director of the Forum for Corporate Sustainability Management at IMD (CSM). He directs the Managing the Global Supply Chain Program and also teaches on Orchestrating Winning Performance.

RELATED PROGRAMS



ORCHESTRATING WINNING PERFORMANCE - <http://www.imd.ch/owp>

The global business program

Program Director Bettina Buechel and Seán Meehan

- For individuals and teams who seek the latest management thinking and practical, innovative solutions for their business
- Anticipate global business trends
- Boost your performance, broaden your perspectives and expand your global network
- Design the program that suits you



MANAGING THE GLOBAL SUPPLY CHAIN - <http://www.imd.ch/mgsc>

Growth through productivity and efficiency

Program Director Corey Billington

- Understand and manage global supply chain complexity and risks
- Protect sales and revenue growth through efficient execution of sustainability programs
- Anticipate surprises and avoid problems within your global material, information and financial flows
- Explore collaboration and various forms of integration that allow you to take advantage of uncertainty