

Insuring an alternative energy future

Why technical expertise is vital

IN HIS FIRST STATE OF THE UNION address for 2007, President George W. Bush announced his "Twenty In Ten" plan aimed at increasing the US's energy security by reducing its dependence on oil. The plan aims to reduce US gasoline consumption by 20% in the next 10 years through increasing the supply of alternative fuels, such as ethanol and other biofuels, and supporting alternative energy resources, including solar, geothermal and wind power.

While the Bush Administration's energy plan focuses on alternative energy resources, many energy businesses have already directed their attention toward developing new alternative energy technologies and products while improving reliability and efficiency.

Given the extreme weather of late, including colder winters, hotter summers, and of course, the active hurricane seasons that affect energy production, the interest in alternative energy use is likely to continue to grow. This interest will be further fueled by oil and gas prices that are expected to remain high, and a recent United Nations' report on global warming, which is adding credence to calls to cut dependence on fossil fuel and look for new alternatives to meet energy demands.

As the energy industry continues to explore new resources, the insurance industry has increased its efforts to manage the risks associated with alternative energy. For some of the technologies, such as hydropower and ethanol production, the risk management issues are very much the same issues faced by more traditional energy companies, such as exposures related to general operational issues, construction of energy projects, and reliability of power sources and facility equipment such as turbines. Other alternative energy technologies expose different risks.

POWERFUL ALTERNATIVES

Wind farm operators, for example, have had to overcome significant challenges and the insurance industry has learned some lessons about insuring risks associated with wind power. The first wind turbines used in the US were designed by European firms. The equipment proved to be better equipped at handling the more constant, but gentler, winds common to that continent, than the stronger US breezes. Then the US aerospace industry began to apply some of its technological know-how, entering the market with small, light turbines. Similar to the European models, these lighter and smaller designs did not stand up well. Many early wind farm power developments were situated in

California where winds may average 35 mph or more and peak at over 80 mph during the windy season, May-October. The technology was simply not able to handle these high-wind conditions.

After the failure of these early ventures, wind farm operations sought financial relief by turning to the turbine manufacturer's warranty or their insurance policies. This resulted in insurance carriers paying out millions of dollars in claims and many of them stopped providing wind farm coverage altogether.

While the wind power market was largely eroded in the United States by the 1950s, the use of wind power remained strong throughout Europe and in parts of Africa and Australia. Despite the early setbacks and with lessons learned elsewhere, wind farm operators in North America worked on improving technology and reliability while the insurance market continued to monitor its progress and develop a greater understanding of the risks faced by wind farms.

Reluctance to provide insurance coverage has lessened with a greater understanding and confidence level in the wind power industry's ability to manage its exposures. Improved turbine designs backed by stronger manufacturer warranties, maintenance programs, and greater attention to risk

**TODAY'S INSURERS HAVE MORE OF A RISK APPETITE
AND CAPACITY FOR PROVIDING INSURANCE COVERAGE
DURING THE VARIOUS STAGES OF ALTERNATIVE
ENERGY PROJECTS**

management, have led to wind farms' significantly higher reliability, productivity and cost effectiveness and subsequently, their insurability.

Solar energy technology is following a similar path. As solar technology has evolved and demand for it has grown, the insurance market is investigating ways to meet the demand to insure solar power systems. Some solar energy supporters are even quick to say just how the insurance industry can benefit from greater use of solar electricity — outside of providing insurance. According to proponents of solar power, photovoltaic cells which convert energy from the sun into electricity, can be used to restore power to businesses and residences more quickly, reducing business interruption losses and living expenses claims. Likewise, supporters say that solar power could improve the insurance industry's response to catastrophes by powering mobile offices at disaster sites.

SHINING ADVANCEMENTS

From a risk perspective, many businesses involved in alternative energy projects can benefit from specialized insurance coverage, whether they are wind farms or solar energy installations on a single building or a whole housing development. Insurance is a risk management strategy for all involved in the process of supporting alternative energy production, including:

- **The Manufacturer**, who must deal with equipment warranty issues related to the equipment provided for the project, but is concerned about carrying the liability of warranties on his own books;
- **The Lender**, who may be concerned with manufacturers' warranties, and is interested in protecting the financing of a specific project;
- **The Installer**, who manages their

exposures during the construction of an alternative energy facility;

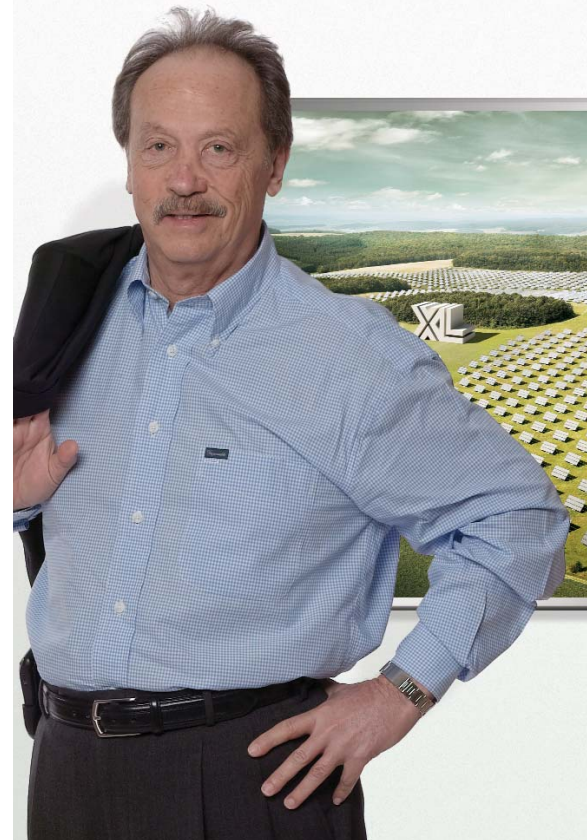
- **The Operator**, who has responsibility for day-to-day operational exposures and business interruption concerns;
- **The End User**, who is concerned with the contingent business interruption risks if the facility cannot provide adequate energy at any given time.

Wind and solar power involve harnessing natural resources that are not always available in the quantity needed to produce power. As the wind does not always blow at steady levels and the sun certainly does not always shine on all corners of the earth, weather insurance is also valued for protection against variances in weather affecting the facility's ability to produce energy.

INCREASED CONFIDENCE

For alternative energy ventures, insurers pay close attention to the planning, operation and maintenance of the project. Just as the energy industry has depended on technical expertise to develop alternative energy, the insurance industry has relied on its technical expertise to write the risks. Many of today's energy insurance underwriters are engineers, trained in risk management issues facing energy companies.

The end result of the insurance industry's growing level of confidence is that insurance coverage is currently available. During all project phases, financial losses, such as income, profit, loss of tax credits and other incentives, may now be covered. Insurance policies offer protection against damage of equipment during transit and construction, as well as any physical loss or damage including a natural catastrophe. Additional coverage offers protection against business interruption.



With more competitive rates and terms, insurers are also showing increased flexibility with their programs offering combined construction and operation policies as well as the ability for a developer or operator to combine multiple sites under one policy.

Venturing into the alternative energy market appears to be growing more enticing for many companies. As energy users have adapted to alternative energy sources, so has the insurance industry to underwriting the risks associated with alternative energy. Today's insurers have more of a risk appetite and capacity for providing insurance coverage during various stages of development, construction and operation of alternative energy projects. Such coverage has become even more important giving financial protection from delays and damage that may affect the overall financial viability of a project.



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