A new chapter for energy

By Shellie Karabell

If the birth of renewable energy in the US can be pinpointed to the early 1970s, following the first Middle East oil crisis, then Lee Bailey has literally bought into most of it.
Twenty-five years ago, as an ambitious law student, Bailey took a summer job in a renewable energy company to help finance his education. He achieved a law degree from Washington University (as well as an MS from Northwestern University and a BA from St. Lawrence University), but found the lure of renewable energy more compelling, and today has logged more than 15 years of operating experience in the field.

He began his career at Energy Conversion Devices (NASDAQ: ENER), founded a $60-million joint US-Israeli government fund, specialised as a partner investing in energy-based companies with Rustic Canyon Partners, and served as White House Director for International Science and Technology Commercialisation Programmes between 1995 and 1997.

Today, Bailey heads up one of the largest US private equity concerns focusing exclusively on renewable energy – its two funds investing more than $700 million in more than 19 utility-scale projects internationally. Founded in 2003, the group provides and “mobilises” (as lead financier) development capital for projects in renewable power, clean fuels, and related

infrastructure companies. US Renewables eventually sells stakes in these projects to other energy companies or other equity partners.

The renewable energy sources Bailey invests in are almost exclusively US-based, for use throughout the country. But the type of renewable energy depends on its location.

“Wind resources are very good in Texas and the Midwest,” says Bailey. “There’s great solar capacity in the Southwest, but virtually none in the Northeast. Hydro tends to come from the Northwest, while the Southeast states tend to have wood forests, so biomass plants make sense there,” he adds.

US Renewables has a hand in all of these energy sources and more, for both electricity generation and for fuel. On the fuel front, the US Renewables Group has investments in corn-based ethanol, cellulosic-based ethanol, and biodiesel oils, and is waiting for the auto industry to catch up.

On the electricity front, the company has invested in biomass, burning wood to generate steam; geothermal, releasing underground steam to drive turbine engines; and large-scale concentrated solar energy.

“We’ve invested in a few landfill gas companies for electricity generation, but the result is really too small to be commercially viable,” says Bailey.

“Fifty percent of our electricity is still generated by coal,” says Bailey. “It is still the most cost-efficient, so we’re not likely to stop burning coal in the near future. But many of these plants are slated to be phased out within the next 50 years. No new generating plants have been built in the US in the past 25 years.”

Given these hard facts, how viable is renewable energy? “We might see renewable energy increase from the current three per cent of US energy use to about 10 per cent in the next decade,” says Bailey. “We will need a mix to replace fossil fuel and carbon, which will be stretched dramatically within the next 20 to 30 years due to increased demand from India and China. For electricity, we might see 50 per cent from coal, 15 per cent nuclear, the rest a mix of natural gas, hydroelectric, etc. The problem is not so much running out of energy as it is running out of capacity (in the US).”

Bailey is quick to point out that another part of making renewable energy commercially viable is transporting it from remote locations (southwestern deserts or dense, pristine forests) to population centres that need it. US Renewables invests in energy transport and support structures and Bailey realises the challenge of getting renewable energy to market. “Sometimes this involves running pipes through agricultural land or forests or neighbourhoods, and there is a lot of opposition to this kind of disruption,” he admits. “There will have to be some legal changes before we can make real progress.”

But there is one source of renewable energy that occurs basically everywhere people live: municipal solid waste. “The United States is the Saudi Arabia of waste,” says Bailey, referring to the huge amounts of refuse generated by US municipalities. “About 60 per cent is organic and can be converted to energy,” says Bailey.

US Renewables last year partnered with Novo Energy LLC to form the Novo Development Company to further utilise Novo’s proprietary waste-to-energy technology package. Its list of financial partnerships reads like Fortune 500: Citi, Credit Suisse, the Carlyle Group, another equity partnership. Its list of projects is far-reaching: Fulcrum BioEnergy, a commercial-scale production facility for converting municipal solid waste to ethanol; Davenport Power, to develop geothermal power; Solar Reserve, a Los Angeles-based solar thermal power company with energy storage technology for on-demand utility-scale solar power.

Solar Reserve is looking to build its first energy storage units in Spain. “Europe is at least 10 years ahead of the rest of the world when it comes to renewable energy development,” says Bailey. The Spanish government and EU tax incentives were also key factors in the decision to build in Europe at this time, when traditional funding in the US has dried up.

The current economic crisis is ushering in a new day for renewable energy funding and development. On the one hand, the Obama Administration has put renewable energy “front and centre,” says Bailey of the US government’s new agenda. “We believe the Federal government will be our preferred partner, taking tax equity in the form of loans, grants and loan guarantees. Partnerships are currently being put together between the Federal government, the banks and the Department of Energy to allow financing to move forward.”

But this is not really a comforting scenario: Bailey is concerned about the US government taking a stake in the energy marketplace. “Yes, the Fed’s involvement makes me nervous … Historically, the private sector has been responsible for financing these projects through tax credits. Companies like AIG, GE or Morgan Stanley would come in at the financial close and buy up equity as tax credits.”

“But today these companies – nobody – has profits to shield, so tax equity has gone out the window. And credit is tight. We really have no choice. Without the Federal Government there would be no movement,” Bailey laments. “We are entering a new chapter in the field of energy.”

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