

Renewables Offer No Quick Cure To Fossil Fuel Addiction

With both oil and gas at prices exponentially higher than those seen just a few years ago, the moment for renewable energy should be now. But for some reason it's not. Although high prices have undeniably put greater impetus behind investment in renewable energy companies and developing new technologies, the effect on consumption has been minimal and looks set to remain so for some years — particularly as a replacement for natural gas.

The continued marginality of renewables is not for lack of trying, and the 2005 International Energy Agency *World Energy Outlook* forecasts that certain renewables will grow faster than any other energy source in the years to come. Indeed, the substantial rise in global demand means that all energy sources have a place in today's market. The problems holding renewables back from attaining a substantial market share quickly have less to do with price than with technology and the low base off which they're starting.

Although no silver bullet to kill off fossil fuel use has been devised as yet, the moment is significant. Amid high prices and environmental and energy security concerns, pressure to find alternatives is definitely growing (WGI Oct.19,p8). "Fifty dollars [per barrel] drives a lot of new ideas" concerning renewable energy, says Robert Wilder, chief executive and founder of Wildershires, an index tracking renewable energy stocks.

Yet, even for those renewable sources that are already competitive — such as wind power — growth won't be big enough to make much of a dent in the huge gas apparatus now in place in the US and worldwide (p7). The US currently has only some 10,000 megawatts in wind generation, less than 1% of total power generation capacity and enough to cover less than 0.2% of total energy demand. Even if, as Simmons and Co. estimates, wind capacity shoots up to 60,000 MW in ten years, that will be small change, as total power generation in the US is forecast to rise as high as 1,200 gigawatts. "The energy pie is so big that growth to 2% or 5% or 10% of the total is still enormous, considering we're starting at a base close to zero," Wilder notes.

Solar is even less likely to become a major energy source in the near future, as order-of-magnitude problems are compounded by shortages in key components (WGI Mar.29,p7). The solar industry has seen average annual capacity growth of 40% since 2000, but that looks set to slow to around 15% per year between now and 2008 due to a silicon shortage. Even so, high prices are making a difference "psychologically," says Colin Murchie, director of government affairs at the Solar Energy Industries Association. "Solar is now getting on people's radar. It's trendy."

Over the next 10-year period, the Solar Energy Industries Association estimates that solar power will displace about 1 trillion cubic feet of gas use in the US. However, with the US consuming gas at a rate of 1 Tcf-2 Tcf per month — and consumption likely to grow, aided by the incremental increase of LNG imports — that suggests solar power will remain marginal for quite a while.

Some argue that the fast and furious development of the LNG industry will take its toll on renewables, as more relatively cheap gas will spur the construction of more gas-fueled power plants instead of wind farms and solar facilities. In a recent report, Tam Hunt, director for energy programs at California's Community Environmental Council, wrote that building LNG infrastructure could "lock California and other states ... into natural gas generated electricity for decades to come."

In practice, however, this seems unlikely to be a major factor, since strong opposition to LNG in the US and elsewhere will probably limit its availability, while at the same time, utilities are under pressure from governments to incorporate more renewable energy into their systems. Such government pressure is a larger factor in Europe than in the US right now. State incentives devised in response to the Kyoto Protocol hold more sway

than do movements in oil and gas prices, although price and political fears still play a significant part. Incentives include EU emissions trading schemes, renewable energy quotas and state grants.

Despite the slow transition from fossil fuels to renewables, a sign of the changing times is the amount of investment — by banks, hedge funds and major energy companies alike — in the fledgling sector. Global utility AES recently announced plans to spend \$1 billion over the next three years on alternative energy. About half of that is to go into wind energy. AES aims to add 300-500 MW of wind capacity per year for the next couple years, and thereafter to grow capacity at a rate of 1,000 MW per year.

BP has come out with an even more ambitious plan in response to high fossil-fuel prices. Late last year the company announced it will spend \$8 billion over the next few years through its new subsidiary BP Alternative Energy on its already substantial wind and solar businesses, as well as on other renewables projects. However, a BP spokeswoman cautions that, although solar and wind are booming businesses, they aren't going to make a huge dent in natural gas demand using existing technologies. "Developing hydrocarbons is going to remain a major part of our business for quite a few years yet," she notes.

Ivan Weiss, with John van Schaik, in New York

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