also picked up pace, enabling wind farms in isolated locations to offer power more readily to a wider area.

That is the key to overcoming the natural variability of renewables such as wind and solar power. Individual wind farms may be very volatile. But scores of wind farms over thousands of square miles show less volatility—the wind is always blowing somewhere. As grid operators have added more wind in more locations to their systems, as well as the lines to carry that wind, integrating wind power into the electricity system has become easier.

Take Texas. Four years ago, facing severe transmission constraints, the state was dumping 17% of all the wind power it produced. In 2012, after adding more wind farms and almost 2,600 miles of transmission lines, curtailments were below 4%, and wind power provided 10% of the electricity in the nation's biggest power market.

MYTH NO. 5
CHEAP NATURAL GAS IS THE ENEMY OF RENEWABLE ENERGY

WITH THE BOOM in U.S. natural-gas production, many concluded that renewable energies would be battered by a relatively clean, cheap fuel source. While natural gas has transformed the electricity sector, gas and renewables are actually complementary, not rivals.

A glance at national trends makes clear that the two energy sources can grow together. Natural-gas electricity generation rose 34% from 2009 to 2012. Wind generation rose 92% in the same period and solar generation almost fourfold, though the renewables grew from a much smaller base.

Granted, cheap natural gas makes it difficult for wind power to compete without federal subsidies. But researchers are finding that gas and wind complement each other as part of a balanced electricity-generation portfolio.

Look at it from a utility's perspective. Natural-gas plants have low upfront costs, don't rely on fickle federal subsidies, and their output can be dispatched to meet swings in power demand. Gas, therefore, gives reliable power now, with little worry in the short term about federal policies.

But over the longer term, volatile gas prices could be deadly—as could environmental rules from Washington. That makes the wind farms and other renewable-energy projects an appealing way to hedge. Almost all of their costs are up front—there's no fuel to buy, so no worries about volatile prices. Because renewable energy doesn't produce any harmful emissions, it doesn't face the specter of future federal rules—and indeed could benefit from state rules mandating green power.

lion clean-energy stimulus in 2009 and later efforts, and remains a staple of administration rhetoric.

But renewable energy has not been the job creator that its boosters envisioned. While the amount of wind and solar power has more than doubled since President Obama took office, renewable-energy jobs have not.

The hardest part of sizing up green jobs is figuring out what a green job is. The Bureau of Labor Statistics came up with an expansive definition: goods or services that benefit the environment or make a company more environmentally friendly. According to the most recent data from the BLS, the U.S. had 3.4 million green jobs in 2011. But the categories are generous, to say the least. Private-sector green jobs included petroleum and coal-products manufacturing (3,244 jobs); school and employee bus drivers (166,916); logging (8,837); paper mills (18,167); and iron and steel mills (33,812). The numbers get so fuzzy as to become all but meaningless as an indicator of employment potential from clean energy.

Direct-employment numbers from renewable energies are clearer. In 2012, the wind industry said it employed about 81,000, the solar industry employed about 119,000, and geothermal energy may have employed about 20,000. The Hydropower Association estimates the sector employs between 200,000 and 300,000 people today.

Not only are those numbers quite modest, but in broad terms they haven't increased much since 2008, before the recent strong growth in renewables. In 2008, the wind industry said it employed about 85,000 people. So while installed wind capacity more than doubled, wind employment shrank. Solar employment stood at about 93,000 in 2010. Two years—and a ninefold increase in solar power—later, solar employment had increased just 28%.

The contrast between the promise and the reality of green jobs becomes even clearer when compared with other energy sectors. Coal, for example, is shrinking as a share of the U.S. electricity mix. Nevertheless, total coal-sector employment of about 150,000 is the highest since the mid-1990s.

And, by far, the biggest jobs story in the energy patch has come from the oil and gas boom. According to a fresh study by energy consultancy IHS Cera, unconventional oil and gas production—hydraulic fracturing, or fracking, for natural gas and tight oil—accounted for about 360,000 direct jobs.

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