

On Energy, ‘All of the Above’ Is Working

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It may come as a surprise, but the world leader in combined oil and natural gas production last year was not Saudi Arabia, despite its vast reserves. Nor was it Russia with its natural gas giant Gazprom. Rather, for the third year in a row, these countries were surpassed by the United States.

But this is not the only surprise in the energy sector. Accompanying these increases in production has been an unexpected turnaround in petroleum and gasoline demand. Although industry-standard projections by the Energy Information Administration from as late as 2006 suggested ever-increasing consumption of oil and gasoline, U.S. gasoline consumption has fallen by 5.5 percent since 2007, or half a million barrels per day. Moreover, according to the most recent EIA forecasts, gasoline consumption is now on a path to plateau, then decline after 2019.

At the same time, production of renewable energy has increased rapidly. Since 2008, electricity generation from wind has tripled while solar generation is up more than tenfold. Taken together, these shifts to cleaner energy sources and improvements in energy efficiency have contributed to a 10 percent decline in carbon emissions since 2007, a dramatic change from the 10 percent increase over the same period that was forecast as recently as 2005. Although about half of this decline was due to the Great Recession, the other half is due to fuel switching in electricity generation to natural gas, wind, and other renewables, and to accelerated efficiency gains.

Much of this energy revolution has been driven by technological advances and entrepreneurial risk-taking by a dynamic private sector. These trends have been supported and advanced by President Obama’s “all-of-the-above” energy strategy, which has three key elements: to support economic growth and job creation, to enhance energy security and to deploy low-carbon energy technologies and lay the foundation for a clean energy future.

Under this strategy, the administration has supported the responsible development of oil and natural gas resources, making tens of millions of acres of federal onshore and offshore areas available for drilling. The administration has accelerated the development and deployment of low-carbon wind, solar and nuclear projects through Department of Energy programs, targeted tax credits and other initiatives. And the administration has advanced energy efficiency by doubling fuel economy standards for light-duty vehicles, raising energy efficiency standards for appliances and cutting energy waste in buildings through the president’s Better Buildings partnership.

The energy revolution has been a major driver of output and jobs during the recovery, as documented in a new report released by the Council of Economic Advisers. Increases in oil and natural gas production alone have contributed more than 0.2 percentage points to real GDP growth in both 2012 and 2013, adding substantially to the 2.3 annual percent rate of growth of the economy as a whole over the past two years. Moreover, this energy revolution has provided

needed jobs in the aftermath of the Great Recession; between 2010 and 2013, employment in the oil and natural gas extraction sectors increased by 133,000, a conservative estimate given that jobs are invariably also created in companies that provide goods and services to workers in those industries as well as the jobs that are created in sectors of manufacturing that rely significantly on natural gas. Over this same period, industry data estimates employment in solar-related industries to have provided almost 50,000 jobs. And substantially more jobs and growth are created from the spillovers of these direct effects during this period of economic recovery.

The energy revolution has also enhanced our macroeconomic stability by making the U.S. economy more resilient to price shocks stemming from foreign oil supply disruptions. Since 2005, net oil imports have been cut in half to roughly 6.2 million barrels per day due to a combination of decreased domestic petroleum demand, increased domestic oil production and increased use of biofuels. Although international oil-supply shocks will always present risks, those risks are reduced when we import less oil.

Finally, the development of natural gas and renewable energy sources as part of the energy revolution has allowed the United States to make important progress in reducing greenhouse gas emissions. Since peaking in 2007, energy-related CO₂ emissions have fallen 10 percent. While some of these reduced emissions are due to the decline in economic activity as a result of the Great Recession, nearly half of the reduction is due to cleaner energy and improvements in energy efficiency. Low natural gas prices have led to more natural gas, and less coal, being used to generate electricity. And non-hydro renewables are already providing 6 percent of U.S. electricity, twice their share in 2009.

Despite this progress towards a low-carbon energy future, much remains to be done.

Roughly 40 percent of CO₂ emissions come from the power sector, and while there are cost-effective ways to cut those emissions there are no federal standards that apply to the existing fleet of power plants. On June 2, the Environmental Protection Agency will announce proposed carbon standards for existing power plants under the Clean Air Act. These new standards and additional steps by the administration will allow the continued development of the energy sector in a way that is balanced, economically efficient, upholds our responsibility to future generations and provides positive net economic benefits. America's energy transformation will keep us strong for years to come.

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