



## ENERGY-RELATED TAX PREFERENCES AND JOB CREATION: Which Industries Provide the Best Value for Taxpayers?

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Advocates of wind energy are actively lobbying Congress for a multiyear extension of the 2.2 cent-per-kilowatt-hour production tax credit.

The Obama administration has made an extension of the tax credit part of the president's reelection strategy. During the American Wind Energy Association's recent WindPower 2012 convention in Atlanta, Heather Zichal, deputy assistant to the president on energy and climate issues, declared that if Congress doesn't extend the tax credit, "factories will close and tens of thousands of people will lose their jobs."

The oil and gas sector has made similar claims about the need to preserve its tax preferences in order to avoid job losses.<sup>1</sup>

That brings up an obvious question: Which forms of energy get the biggest subsidies? And perhaps just as important: How effective are those subsidies, or tax preferences, at creating jobs?

Some simple calculations, based on recent data from the Congressional Budget Office, show that the tax preferences given to the wind sector result in far fewer jobs when compared with the tax preferences given to the fossil-fuel sector. In addition, if conventional sources of electricity generation were to receive the same level of taxpayer support as is now extended to the wind-energy sector, the cost to taxpayers would amount to tens of billions of dollars per year.

### Key Findings:

- Each wind-energy-related job costs taxpayers between nine and 39 times as much as a job created by the oil and gas sector.
- If natural gas-fired electricity generators were given the same 2.2 cent-per-kilowatt-hour production tax credit as is now given to the wind-energy sector, the cost to federal taxpayers would be more than \$22 billion per year.

- If the big conventional sources of electricity generation—coal, nuclear, and natural gas—were given the same level of subsidies as wind energy, the cost to taxpayers would amount to more than \$76 billion per year.

In March, the Congressional Budget Office reported that energy-related tax preferences for renewable-electricity production totaled \$1.4 billion in fiscal year 2011. The vast majority of that money went to the wind-energy sector, which, in 2011, produced more than 60 times as much electricity as the solar-energy sector produced.<sup>2</sup> (Note that the \$1.4 billion figure does not include any of the \$3.25 billion in tax-free grants that were given to the wind-energy sector by the Treasury Department under section 1603 of the American Recovery and Reinvestment Act between 2009 and 2011.) As for fossil fuels, the CBO reported that tax preferences extended to the fossil-fuel sector totaled \$2.5 billion in fiscal year 2011.<sup>3</sup>

How many jobs does the wind-energy sector support?

In a recent press release, AWEA said, “Over 470 new American factories currently employ 30,000 workers in the wind energy supply chain from coast-to-coast.”<sup>4</sup> Assuming that all of the \$1.4 billion in tax preferences for renewable-electricity production was given to the wind-energy sector, that works out to about \$46,600 per wind-related job. But AWEA also says that the wind-energy industry “currently supports 75,000 jobs across the country.”<sup>5</sup> Using that number results in a per-job cost of about \$18,700. Therefore, it can be assumed that each wind-energy-related job costs taxpayers between \$18,700 and \$46,600.

Now, compare those figures with the jobs created by the oil and gas sector.

A 2007 report published by the American Petroleum Institute estimated total direct employment from the oil and gas sector, not counting service stations, at 1.2 million jobs.<sup>6</sup> Using the CBO’s \$2.5 billion tax-preference number, that works out to about \$2,100

per job. If all of the 905,000 jobs at service stations are included, then the per-job cost of tax preferences in the oil and gas sector drops to \$1,190. Therefore, each oil-and-gas-related job costs taxpayers between \$1,190 and \$2,100.

Put another way, each wind-energy-related job costs taxpayers between nine and 39 times as much as a job created by the oil and gas sector.

The wind lobby’s continued push for more subsidies to preserve jobs points to an obvious conclusion: if subsidizing wind energy is a good deal, then we should be subsidizing other forms of energy production as well. But what would happen if other parts of the energy business got the same level of subsidies as the wind sector?

Consider the booming natural gas sector, which, according to a recent report by the International Energy Agency, is helping the United States reduce its carbon dioxide emissions more quickly than any other country on the planet.<sup>7</sup>

In 2011, U.S. natural gas production was a record 23 trillion cubic feet.<sup>8</sup> According to the Energy Information Administration, 1,000 cubic feet of gas can produce 100 kilowatt-hours of electricity.<sup>9</sup> If the United States used all of its natural gas output to generate electricity, it could produce 2.3 trillion kilowatt-hours.<sup>10</sup> Multiply that amount by the 2.2 cents per kilowatt-hour that the wind sector gets, and the natural gas industry alone would be getting \$50.6 billion per year in subsidies.

Of course, that’s not going to happen. Natural gas is great for producing electricity, but we also use it for heating, chemical production, and other needs. Nevertheless, consider what would happen if other types of electricity generation were to get the same level of subsidy as wind energy.

In 2011, the United States produced 4.1 trillion kilowatt-hours of electricity.<sup>11</sup> The biggest portion of

that—1.7 trillion kilowatt-hours—came from coal. At 2.2 cents per kilowatt-hour, that would result in a subsidy for coal-fired electricity of \$37.4 billion per year. The nuclear sector produced 790 billion kilowatt-hours of electricity. If it got the same 2.2 cent-per-kilowatt-hour subsidy as the wind-energy sector, the nuclear-energy sector would be collecting \$17.3 billion per year. Meanwhile, natural gas-fired generators produced 1 trillion kilowatt-hours of electricity. At 2.2 cents per kilowatt-hour, that would result in a bill to federal taxpayers of \$22 billion.

Therefore, if the big three sources of domestic electricity generation—coal, natural gas, and nuclear, which provide 85 percent of all U.S. electricity—got the same level of subsidy as the wind industry, the cost to taxpayers would be \$76.7 billion per year. That would amount to an annual bill of about \$246 for every man, woman, and child in the United States.<sup>12</sup>

Again, there's no way that federal policymakers would agree to extend those subsidies to such large electricity producers. But the numbers expose the scale of the subsidies being given to the wind-energy sector.

Which leads to another point: wind energy is being undercut by an onslaught of market forces. T. Boone Pickens, the Dallas-based billionaire who began promoting wind energy back in 2008, says that wind energy isn't viable unless natural gas prices are above \$6 per thousand cubic feet.<sup>13</sup> Other industry analysts are saying the same thing. In January, Travis Miller, a utility analyst at Morningstar Inc., declared that “wind on its own without incentives is far from economic unless gas is north of \$6.50.”<sup>14</sup>

That's a troublesome analysis given that the current spot price for natural gas at Henry Hub is about \$2.20.<sup>15</sup> Indeed, those low prices are hampering the construction of new wind-energy projects because the developers of those projects are often unable—even with the production tax credit—to find utilities willing to enter into long-term electricity-purchase agreements.

In a recent interview, AWEA's chief executive, Denise Bode, said that the wind industry doesn't “need tax incentives forever.”<sup>16</sup> That's good. The production tax credit for wind energy expires on December 31. Congress should let it do so.

## ENDNOTES

<sup>1</sup> See <http://www.api.org/policy-and-issues/policy-items/taxes/api-key-tax-issues.aspx>

<sup>2</sup> See [http://www.eia.gov/totalenergy/data/monthly/pdf/sec7\\_5.pdf](http://www.eia.gov/totalenergy/data/monthly/pdf/sec7_5.pdf)

<sup>3</sup> See [http://www.cbo.gov/sites/default/files/cbofiles/attachments/03-06-FuelsandEnergy\\_Brief.pdf](http://www.cbo.gov/sites/default/files/cbofiles/attachments/03-06-FuelsandEnergy_Brief.pdf)

<sup>4</sup> See [http://www.awea.org/newsroom/pressreleases/120524Obama\\_prebrief.cfm](http://www.awea.org/newsroom/pressreleases/120524Obama_prebrief.cfm)

<sup>5</sup> See [http://www.awea.org/blog/index.cfm?customel\\_dataPageID\\_1699=16730](http://www.awea.org/blog/index.cfm?customel_dataPageID_1699=16730)

<sup>6</sup> See [http://www.api.org/newsroom/upload/industry\\_economic\\_contributions\\_report.pdf](http://www.api.org/newsroom/upload/industry_economic_contributions_report.pdf)

<sup>7</sup> See <http://www.iea.org/newsroomandevents/news/2012/may/name,27216,en.html>

<sup>8</sup> See <http://www.eia.gov/dnav/ng/hist/n9070us2a.htm>

<sup>9</sup> See <http://www.eia.gov/tools/faqs/faq.cfm?id=667&t=8>

<sup>10</sup> Multiply 23 billion times 100.

<sup>11</sup> See [http://www.eia.gov/totalenergy/data/monthly/pdf/sec7\\_5.pdf](http://www.eia.gov/totalenergy/data/monthly/pdf/sec7_5.pdf)

<sup>12</sup> U.S. population is 311 million. See [http://www.google.com/#hl=en&client=psy-ab&q=population+of+the+US&oq=population+of+the+US&aq=f&aq=g4&aql=&gs\\_l=hp.3..014.851.3248.0.3443.20.10.0.6.6.1.258.1289.2j7j1.10.0...0.0.SvFrom3F-R4&pbx=1&bav=on.2,or.r\\_gc.r\\_pw.r\\_cf.,cf.osb&fp=54e8d133f9d77479&biw=1092&bih=1334](http://www.google.com/#hl=en&client=psy-ab&q=population+of+the+US&oq=population+of+the+US&aq=f&aq=g4&aql=&gs_l=hp.3..014.851.3248.0.3443.20.10.0.6.6.1.258.1289.2j7j1.10.0...0.0.SvFrom3F-R4&pbx=1&bav=on.2,or.r_gc.r_pw.r_cf.,cf.osb&fp=54e8d133f9d77479&biw=1092&bih=1334)

<sup>13</sup> See [http://www.tulsaworld.com/site/printerfriendlystory.aspx?articleid=20120201\\_49\\_E1CUTLIN986616&PrintComments=1](http://www.tulsaworld.com/site/printerfriendlystory.aspx?articleid=20120201_49_E1CUTLIN986616&PrintComments=1)

<sup>14</sup> See <http://www.bloomberg.com/news/2012-01-17/electricity-declines-50-in-u-s-as-shale-brings-natural-gas-glut-energy.html>

<sup>15</sup> See <http://www.bloomberg.com/energy>

<sup>16</sup> See <http://www.windpowermonthly.com/news/1128501/Interview—AWEA-chief-executive-Denise-Bode>