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When solar panel manufacturer Solyndra went bankrupt after receiving millions in federal loan guarantees, some said that the government should stop interfering in energy markets. Nancy Pfund and Ben Healey show that the U.S. government has a long history of subsidizing emerging forms of energy, dating back to the 19th century.

The bankruptcy filing by solar panel manufacturer Solyndra, which received \$535 million in loan guarantees from the federal government, is grist for many controversies. While some of them are narrowly political, others involve legitimate policy questions that deserve a full airing. It's fair to ask, for example, why the government is subsidizing alternate energy sources in the first place. Shouldn't that be better left to the free market?

As it happens, the Obama administration is not the first to have the idea of giving the economy a boost by helping out a promising new energy source. Energy subsidies have been a constant in American history, literally going back to the country's earliest days, and these subsidies have been crucial in America's overall economic development.

Although it is not at all apparent from the political discourse these days, the inflation-adjusted support for new energy sources is much lower today than it's been at any previous point in our history. That's the rather startling conclusion that we came to when we analyzed the actual data on government intervention in the energy marketplace since the United States first slapped a tariff on British coal imports in 1789 (read our [full report \(http://www.dblinvestors.com/documents/What-Would-Jefferson-Do-Final-Version.pdf\)](http://www.dblinvestors.com/documents/What-Would-Jefferson-Do-Final-Version.pdf)).

We found, first, as the chart below illustrates, that growing supplies of new energy sources have been key to the continuous expansion of the American economy over time.

Now, others have documented this relationship between energy supplies and economic growth before, but what we uncovered is the fact that these new energy sources did not simply emerge as the result of free-market forces. Rather, the government heavily subsidized each new energy source, often at both the federal and state level. In our study, we looked at those subsidies in their historical context, in order to compare the relative levels of federal support for each new energy source—something that, as far as we know, no one had ever attempted. On an inflation-adjusted basis, we learned, the subsidies for "traditional" energy sources in their early growth days—coal, oil, gas, and nuclear—were many, many times what we are spending on renewables today.

We quantified this disparity in several ways. For example, during the key growth years of what would become our oil and gas industries, tax expenditures on behalf of producers averaged the equivalent of 5 percent of the federal budget. By contrast, the current support for renewables is barely a fifth that size, comprising less than one percent of federal spending. When you add the numbers up, you discover that, again factoring in inflation, \$1.8 billion per year was spent on subsidies during the early years of the modern oil and gas industries, compared to just \$400 million annually for renewables. In short, rather than being some sort of sinkhole for federal subsidies, renewables have been getting significantly less public support than other new energy sources did upon their introduction into the United States.

As for energy subsidies relative to the amount of power generated, here again, the historical data suggest that today's renewables subsidies are having just about the same level of success in promoting growth as earlier U.S. subsidies did, even with less support. In our paper, we looked at the effectiveness of historical subsidies, in terms of annual increases in millions of BTUs (MMBTU) produced per dollar of subsidy given. We found that, on an inflation-adjusted basis, each dollar of early oil subsidies produced less than a tenth of an MMBTU more than renewables subsidies do today—a tiny amount in light of the fact that modern renewable energy sources are competing against enormous entrenched infrastructure. That is to say, today's renewables subsidies are performing the same task as yesterday's oil and gas subsidies: driving the sector's growth in order to further innovation, lower costs, and deliver a diverse and secure energy portfolio for future generations. This suggests to us that even if our political leaders are unwilling to increase incentives for renewable energy generation, they certainly should not demolish the modest framework we have in place now.

Just as critically, our study also revealed that many early energy subsidies were never phased out, even as the energy source became ubiquitous and ostensibly "profitable." Put more bluntly, coal, oil, and gas aren't running in this race unaided; much of the time, as taxpayers, we continue to carry these industries on our backs. The best example of an industry with a massive, if largely hidden, history of special treatment is coal, which has gotten help for centuries—from an import tariff levied in 1789 to preferential tax treatment established during the Korean War and still in effect today.

Our aim here is not to criticize historic support for coal, or other traditional energy sources. On the contrary, as a new industry, renewable energy developers appreciate how important early federal investments have been in developing new energy sources, and the fact that most of them have paid society back many times over for that early assistance. But it is simply false when other energy industries describe renewables as sops of federal money; in fact, renewables get relatively less government help, not more, than their traditional competitors ever did.

Many players in the renewable energy space might look at this historical data and argue that we should increase current subsidies to the clean energy sector. While we are sympathetic to that argument, which makes sense from a historical equity perspective, we are nonetheless aware that current political and budgetary constraints make such increases highly unlikely. Given that reality, we simply suggest that Congress maintain the existing clean energy investment and production tax credits, and make them permanent—as is the case with nearly every major subsidy to fossil fuel companies. This kind of stable government policy would provide certainty to the private sector and ensure that investment dollars keep flowing to drive clean energy technologies down the cost curve.

It is well chronicled that we are witnessing an exponential decline in the cost of renewables, with a 70% decline in the cost of solar and a 40% decline in the cost of wind in just the last three years. Meanwhile, the long-term cost of coal and oil is headed upward as we finally address the environmental, health, and energy-security consequences that we previously externalized. True, the political headwinds currently facing the renewables sector are immense. But the fundamental economics of the industry are incredibly positive, with clean energy companies cutting costs as they achieve better economies of scale, commercialize more efficient power conversion technologies, and gain access to capital that is more appropriately priced for the declining risk of the sector. In our view, the bottom line is that our political leaders are making a huge mistake if they cut off support for renewable energy sources just as the sector is reaching this critical inflection point.

We need to understand disappointments like Solyndra in an appropriate context. For every successful 19th-century coal operation, there were dozens if not hundreds of bankruptcies. And, today, several other solar companies have received the same loan guarantees as Solyndra did. By and large, they are solidly managed companies poised for robust growth and significant job creation. There is nothing at all unusual about giving them a little help. It is, in fact, the American way.

Disclosure: Nancy Pfund is a managing partner of DBL Investors, a venture capital firm that invests in solar companies.

[INNOVATION \(/category/primary-categories/innovation\)](#) [ONLINE FEATURE \(/category/qn-issue/online-feature\)](#)