What Would Jefferson Do?
The Historical Role of Federal Subsidies in Shaping America’s Energy Future

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Executive Summary

This paper frames the ongoing debate about the appropriate size and scope of federal subsidies to the energy sector within the rich historical context of U.S. energy transitions, in order to help illuminate how current energy subsidies compare to past government support for the sector. From land grants for timber and coal in the 1800s to tax expenditures for oil and gas in the early 20th century, from federal investment in hydroelectric power to research and development funding for nuclear energy and today’s incentives for alternative energy sources, America’s support for energy innovation has helped drive our country’s growth for more than 200 years.

Using data culled from the academic literature, government documents, and NGO sources, in this paper we examine the extent of federal support (as well as support from the various states in pre-Civil War America) for emerging energy technologies in their early days. We then analyze discrete periods in history when the federal government enacted specific subsidies. While other scholars have suggested that the scope of earlier subsidies was quite large, we are— as far as we know—the first to quantify exactly how the current federal commitment to renewables compares to support for earlier energy transitions. Our findings suggest that current renewable energy subsidies do not constitute an over-subsidized outlier when compared to the historical norm for emerging sources of energy. For example:

- As a percentage of inflation-adjusted federal spending (eliminating increases in new programmatic spending since the introduction of early oil and gas subsidies in 1918), nuclear subsidies comprised more than 10% of this normalized federal budget over their first 15 years, and oil and gas subsidies constituted 5% percent of the total budget. Measured on a similar scale, renewables constituted only about one percent. That is to say, in an apples-to-apples comparison, the federal commitment to O&G was five times greater than the federal commitment to renewables during the first 15 years of each subsidies’ life, and it was more than 10 times greater for nuclear.

- In inflation-adjusted dollars, nuclear spending averaged $3.3 billion over the first 15 years of subsidy life, and O&G subsidies averaged $1.8 billion, while renewables averaged less than $0.4 billion.

The charts below clearly demonstrate that federal incentives for early fossil fuel production and the nascent nuclear industry were much more robust than the support provided to renewables today.
Executive Summary

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- As a percentage of inflation-adjusted federal spending, nuclear subsidies accounted for more than 1% of the federal budget over their first 15 years, and oil and gas subsidies made up half a percent of the total budget, while renewables have constituted only about a tenth of a percent. That is to say, the federal commitment to O&G was five times greater than the federal commitment to renewables during the first 15 years of each subsidies' life, and it was more than 10 times greater for nuclear.

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Energy Subsidies as Percentage of Federal Budget

![Energy Subsidies as Percentage of Federal Budget](image)

- O&G
- Nuclear
- Biofuels
- Renewables

Years of Subsidy Life (Year 1 equivalent to inflation-adjusted 1918 Federal Budget)