3.

Tax Policy

SMART TAX REFORM WILL HELP THE ECONOMY AND THE ENVIRONMENT

Key Takeaways:

- Pro-growth tax reform will incentivize more investment and innovation, creating American jobs and strengthening the U.S. economy. Competitive tax policies will empower energy companies to supply families with affordable, dependable, and cleaner power.
- Removing biases against investment and lowering rates broadly would drive investments in newer, more efficient technologies. Reforming the research and development tax credit would spur more groundbreaking discoveries and increase opportunities for small businesses to conduct R&D.
- Targeted tax subsidies for various energy sources have often been costly and inefficient. Congress should phase out tax credits for all forms of mature energy technologies. At the very least, simplifying the energy tax provisions would improve competition among technologies.

The tax code has been a popular mechanism to bolster support for specific energy sources. These include, but are not limited to, electricity generation and transportation fuels. Different tax treatments provide specific benefits to coal, oil, natural gas, renewables, biofuels, energy efficiency, and nuclear power. Decades of laws have entrenched specific tax credits and exemptions. Some credits, initially designed to be temporary provisions to jumpstart nascent technologies, have become near permanent fixtures in the tax code. Some rules, including the percentage depletion allowance for oil and gas producers, have been around for nearly a century.[1] The result is a complicated web of preferential tax provisions including production tax credits, investment tax credits, deductions for passive trade or business activities, and many other tax advantages.

CONCERNS WITH USING THE TAX CODE TO PICK WINNERS AND LOSERS

There are many problems with using the tax code to boost specific technologies. One problem is that subsidies enable cronyism and dependence. Mature, cost-competitive energy sources do not need help from the taxpayer. Yet, even if a technology is financially viable, businesses that benefit will lobby to extend the preferential treatment, and politicians, whose districts benefit from this treatment, will work to make it happen. In the instances that targeted tax credits incentivize more fossil fuel extraction and generation, such preferences have increased pollution and greenhouse gas emissions.

In many cases, energy subsidies have been an expensive, inefficient policy when it comes to reducing emissions. For instance, several programs and targeted tax credits have had high per-dollar costs per amount of carbon dioxide reduced. Economic analysis shows that subsidies routinely have abatement costs reaching several hundred dollars per ton. In some instances, including solar PV subsidies, the costs were projected to be as high as $2,100 per ton of CO2 (in 2017 dollars).[2] Other tax credits, like the electric vehicle tax credit, have gone to wealthy consumers who did not need the tax credit in the first place.[3]

Although not a tax credit, "cash for clunkers" was another woefully inefficient and expensive climate program because it merely shifted the timeline when a car buyer would purchase a new vehicle. Economist Jeffrey Sachs called it a "clunker of a policy."[4]

"There are many problems with using the tax code to boost specific technologies. One problem is that subsidies enable cronyism and dependence."

Another problem with targeted tax credits and subsidies is that they could have the perverse effect of impeding energy innovation by disadvantaging breakthrough technologies that do not receive government support. Because private capital is limited, when tax credits steer investment toward specific resources and technologies, other promising entrepreneurs and innovators that do not enjoy tax credits may miss out. Not only do these programs create substantial opportunity costs, companies that do not receive support will spend resources lobbying to expand the subsidy pool. Devin Hartman, director of Energy and Environmental Policy at the R Street Institute notes: "The legacy of green industrial policy consists of unnecessary costs, modest pollution reductions and deepened political tensions. This led to calls for counter-industrial policy that seeks

preferential treatment for technologies excluded from the initial green industrial policy agenda."[5] Regardless of the efficacy of the policy, special interests will spend resources to protect the status quo and, if successful, extend and expand the preferential treatment. The benefits concentrate to the politically connected few, while the costs disperse among all taxpayers and energy consumers.

Yet another problem is the uncertainty created by temporary provisions expiring or threatening to expire. Future investments may hinge on end-of-the-year tax extender packages. Certainty could come in the form of allowing temporary provisions to permanently expire, but it has proven difficult for policymakers to exercise such restraint.

PRO-GROWTH TAX POLICY WILL BENEFIT THE ECONOMY AND THE ENVIRONMENT

Congress should, in fact, provide certainty to businesses and investors and should do so through pro-growth, technology-neutral tax reform. Simplifying the energy tax provisions would improve competition among technologies. Removing biases against investment and lowering rates broadly would drive investments in newer, more efficient technologies – supplying affordable power, growing the economy, and reducing emissions. To spur energy innovation and drive decarbonization, Congress should phase out the costly, ineffective tax subsidies and equalize the beneficial ones.
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POLICY RECOMMENDATIONS FOR SMART TAX REFORM

To move toward a pro-growth, simplified, and technology-neutral tax code, Congress and the administration should:

- **Make immediate expensing permanent and apply it to longer asset class lives and research and development (R&D).** Immediate expensing allows companies to deduct the cost of capital purchases at the time they occur rather than deducting that cost over many years based on cumbersome depreciation schedules. Without expensing, the tax code is biased against new investment; however, full and immediate expensing would incentivize investments in cleaner, more efficient technologies. Immediate expensing increases capital stock turnover in energy systems, manufacturing equipment, retrofits and new equipment that saves energy and reduces emissions.[6] Immediate expensing would also improve energy efficiency in homes, buildings, vehicles, and equipment, one of the most cost-effective ways to reduce emissions. However, businesses have many needs and may forego energy-efficient investments (knowing the energy savings would pay off) to hire more workers or invest in the business elsewhere. Immediate expensing is a way to incentivize energy efficiency without subsidizing or mandating it. As emphasized by the Alliance to Save Energy and the Clean Energy Business Network, immediate expensing enables more businesses to replace rather than repair, resulting in more cost and emissions saving equipment installations, such as HVACs and roofs.[7]

  > ***"Congress should provide certainty to businesses and investors and should do so through pro-growth, technology-neutral tax reform."***

  The Tax Cuts and Jobs Act of 2017 allowed for immediate expensing for assets with lives of 20 years or less, and the expensing begins phasing out by 20 percent from 2023 through 2026. Philip Rossetti, senior research fellow at the R Street Institute, found that the implementation of research and development expensing through the 2017 tax reform bill had significant positive effects on private sector energy and environment research and development (E&E R&D). Rossetti found that: "Prior to the tax reform, private sector E&E R&D was relatively stagnant, only increasing by 2 percent from 2012-2017. After the tax reform, E&E R&D jumped by $3.3 billion, or 11.8 percent. Private sector E&E R&D is roughly seven times as large as public sector R&D and fulfills a fundamentally different role in the innovation life cycle than public sector R&D, so the increase in private sector innovation may mark a win for investment in technologies that are key in the pursuit of global climate objectives."[8] In the long-run businesses may adjust R&D expenditures as they adjust to the per-

manency of immediate expensing, however, the option to deduct costs immediately rather than amortized over five years would likely generate more R&D.[9]

Congress should remove the phase out and make immediate expensing available for short-lived and long-lived assets, including for research and development (R&D).

- **Reform the research and development tax credit.** The United States is one of the most innovative countries in the world.[10] The private sector is a clear leader on R&D investment. According to the National Science Foundation's 2020 report on research and development trends, R&D conducted in the U.S. in 2017 (the most recent year available) totaled $547.9 billion. The report notes that "[b]usinesses continue as the predominant performers and funders of U.S. R&D (73% and 70%, respectively, in 2017)."[11] Businesses spent $400 billion on R&D while higher education spent $71 billion, and the federal government spent $53 billion.[12]

  Public investments in research and development at the federal government and at higher education institutions contribute to the general knowledge base and scientific inquiry but also lead to groundbreaking discoveries and attract the brightest minds to America.

  Recognizing the positive economic and knowledge spillovers of R&D (as well as the private sector's leadership role), Congress passed an R&D tax credit in 1981. The credit initially "equaled 25 percent of a corporation's research spending in excess of its average research spending in the preceding three years, or alternatively, 50 percent of its current-year spending."[13] After expiring in 1985, Congress reinstated an R&D tax credit that included four different types of credits: regular research, alternative simplified research, basic research, and energy research.[14] Section 174 of the tax code also allows immediate expensing of qualified research activities.[15] Businesses can expense R&D costs or use the tax credit but not both.

  Economic research has generally shown that the tax credit increased R&D spending, though to varying degrees.[16] Several documented problems have reduced the efficacy of the R&D tax credit, most notably the high compliance costs, which disproportionately affects smaller companies.[17] In fact, the beneficiaries of the tax credit have largely been big businesses, though changes through the PATH Act made the credit more accessible to small businesses by allowing "businesses with less than five years of revenues and less than $5 million in current year revenues to use the R&D tax credit to offset up to $250,000 in payroll tax liability."[18] Tax Foundation economists Alex Muresianu and Garrett Watson have highlighted several ways to simplify and improve the R&D tax credit, including ways to expand R&D for small businesses (some of which are in proposed legislation).[19] These include:

  - Harmonizing the definition of research expenditures for the R&D tax credit and for R&D expensing.
  - Eliminating the regular credit and replacing it with a modified alternative simplified credit.[20]
  - Raising the payroll tax liability that can be offset from the R&D credit to benefit small businesses and startups.
  - Expanding eligibility for startups and new businesses by raising the gross receipts threshold.[21]

"Targeted tax credits distort the market and often result in costly, inefficient ways to reduce emissions."

- **Phase out targeted energy tax credits for mature technologies. Targeted tax credits distort the market and often result in costly, inefficient ways to reduce emissions.**[22] In addition, there are opportunity costs if the subsidies allocate public and private money to less cost-effective clean technologies and crowd out investment in technologies that do not receive federal or state support. Furthermore, if the subsidies displace other clean energy sources (ie, wind or solar replacing nuclear or hydro), there is little change in the emissions portfolio. Consequently, the value of a subsidy measured by carbon dioxide and other greenhouse gas emissions avoided can vary greatly. The best policy outcome would be to eliminate all preferential tax treatment, broadly lower corporate rates, and make immediate cost recovery available to all firms.

  Short of that, however, Congress should replace the 44 energy tax provisions[23] with a technology-neutral, emissions-based credit that focuses on the most efficient abatement cost. One more simplified option offered by Senator Ron Wyden (D-OR) would lump the 44 tax provisions into three categories: electricity, transportation, and conservation. The bill would:

  - Provide a technology-neutral credit to electricity facilities that are at least 35 percent cleaner than average.
  - Allow clean electricity facilities to take either a production tax credit of up to 2.4 cents per kilowatt hour or an investment tax credit of up to 30 percent.
  - Provide a technology-neutral credit to all transportation fuels, available to fuels that are at least 25 percent cleaner than average.
  - Provide a production tax credit of up to $1 per gallon.
  - Provide a performance-based tax credit for energy efficiency.
  - Phase out the tax credits once greenhouse gas emissions have been reduced 50 percent.

  "A bottom-up, private sector-led approach to ushering in and scaling up technologies of the future will be much more effective than a top-down, centrally planned approach."

- The legislation offers a much cleaner, efficient alternative than the current energy tax policy that benefits entrenched interests. One way to improve the bill would be to ensure that alternative fuels are on the same playing field as electric vehicles. Policy improvements should concentrate on how to get the best bang for the taxpayers' buck: the greatest emissions savings at the lowest possible cost. One additional mechanism for policymakers to explore is a reverse auction to improve the efficiency of the subsidy, reward the most economically viable and lowest-priced energy sources and technologies, and therefore increase clean energy generation at a lower cost to taxpayers.

- **Ensure any emerging energy technology tax credit is limited.** A bottom-up, private sector-led approach to ushering in and scaling up technologies of the future will be much more effective than a top-down, centrally planned approach. The development and global deployment of low-carbon and carbon-free technologies may come from technologies in early stages of development or ones that may have not been invented yet. As such, policymakers have historically sought to help infant industries scale up, either through subsidies or through protection from international competition. While well-intended, infant industry protectionism can be problematic in that it is subjective for the government to determine when a technology is mature and when the subsidies or tariffs should end. Another concern is that companies become dependent on preferential treatment. As economist Milton Friedman said, "The so-called infants never grow up" even though the technology is in fact mature.[24] Policy design can assuage these concerns by making it more difficult for more mature technologies to take advantage of a tax advantage or subsidy.

  For instance, the Energy Sector Innovation Credit Act (ESIC):

  - Offers an investment tax credit or protection tax credit to emerging technologies with less than a three percent market penetration level.
  - Includes all U.S. generation (ITC or PTC), energy storage (ITC), carbon capture (ITC), and

hydrogen production (PTC).
    - Phases down as the emerging technology reaches a higher market penetration until its fully phased out at three percent market penetration.
    - Allows Congress, upon recommendations from the Department of Energy, to include additional qualifying technologies every five years.
    - Prevents against backsliding if market penetration falls below three percent.[25]

- Granted, legislators could always change the market penetration percentage to four percent or five percent to extend the subsidy (for example, the discussion draft of ESIC initially had market penetration at two percent). Moreover, given the rapid pace and promise of energy innovation, five years can be a long time to exclude certain technologies from taking advantage of the credit. One potential way to improve the legislation would be to have a more responsive vetting system through the Department of Energy to examine other technologies that may qualify. Nevertheless, ESIC is a preferred alternative to subsidizing mature technologies and welcomingly limits the scope of the credit.

"One fundamental way for policymakers to maintain American economic competitiveness and spur innovation is to ensure that U.S. corporate tax rates are among the lowest in the world."

- **Maintain competitive corporate tax rates.** Tax rates matter for innovation. A May 2021 research paper from a team of Harvard economists examined how corporate taxes and personal income taxes affected the quantity of innovation, the quality of innovation, and the location of innovation. The researchers found that: "At the macro state level, personal and corporate income taxes have significant negative effects on the quantity of innovation, as captured by the number of patents, and on the number of inventors residing in the state."[26] The paper also found that higher corporate taxes adversely affect corporate inventors' innovation production and cross-state mobility while personal income taxes "significantly affect the quantity of innovation overall and the mobility of inventors."[27] Similarly, a 2020 article in the *Journal of Financial and Quantitative Analysis* found that large corporate income tax cuts increase corporate innovation, particularly among financially constrained companies with fewer tangible assets.[28]

  One fundamental way for policymakers to maintain American economic competitiveness and spur innovation is to ensure that U.S. corporate tax rates are among the lowest in the world. Before the 2017 Tax Cuts and Jobs Act, the U.S. had the fourth-highest corporate tax rate in the world; it now ranks in the middle of the pack globally (85th with a combined federal and state statutory rate of 25.77 percent).[29] Including federal and state (national and subnational) corporate tax rates, the U.S. has the 13th highest out of the 38 OECD countries.[30] At the very least, Congress and the administration should maintain the 21 percent corporate tax rate at the federal level.

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