

COAL TAX SUBSIDIES: **A BOON FOR KEMPER**



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Friends of the Earth U.S., founded by David Brower in 1969, is the U.S. voice of the world’s largest federation of grassroots environmental groups, with a presence in 74 countries. Friends of the Earth works to defend the environment and champion a more healthy and just world. Through our 45-year history, we have provided crucial leadership in campaigns resulting in landmark environmental laws, precedent-setting legal victories and groundbreaking reforms of domestic and international regulatory, corporate and financial institution policies. Our current campaigns focus on promoting clean energy and solutions to climate change, ensuring the food we eat and products we use are safe and sustainable, and protecting marine ecosystems and the people who live and work near them.

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Founded in 1995, Taxpayers for Common Sense (TCS) is a national, independent budget watchdog and advocate for taxpayers dedicated to cutting wasteful programs and eliminating corruption in federal spending. TCS believes that spending decisions must be transparent and that government should always be accountable to taxpayers. TCS keeps a close watch on issues involving energy, natural resources, transportation and infrastructure, national security, and agriculture. www.taxpayer.net.



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Introduction

Lawmakers in Washington are weighing a series of proposals that would extend and expand a tax credit for facilities that capture and store carbon dioxide. While this process, known as carbon capture and sequestration (CCS), has been sold as an environmentally friendly policy, it is expensive, unproven, and potentially dangerous.

One CCS project that has received significant attention is Southern Company's Kemper coal plant in De Kalb, Mississippi. No stranger to controversy, the project is already billions of dollars over budget and years behind schedule. If the tax credit is extended, Kemper could receive a windfall of between \$695 million and \$4.5 billion.

CCS Tax Credit

The Emergency Economic Stabilization Act of 2008—better known as the Wall Street bailout – created one of the biggest tax breaks for CCS. The sprawling bill included a section on energy policy, with a tax subsidy for CCS¹ that would become known as 45Q, named for the section of the tax code where it can be found.

The original intent of 45Q was to create a commercial CCS industry in the U.S. and to mitigate climate change by keeping CO₂ out of the atmosphere. The provision allows power plant owners like Southern Company and other industrial emitters to claim a tax credit for every ton of CO₂ they capture. The credit is

worth \$20 if the CO₂ is captured and stored underground, and \$10 if the CO₂ is captured for enhanced oil recovery (EOR), a practice that involves pumping injectants like CO₂ underground to unlock oil reserves. Congress never intended the subsidy to be permanent and timed it to expire after 75 million credits. As of September 2016, credits have been claimed for nearly 45 million tons of captured CO₂,² and the U.S. Treasury Department estimates the current subsidy will expire by 2019.³

Since February 2016, there have been three proposals to extend and expand the Section 45Q CCS tax credit—one in the House and two in the Senate:

H.R. 4622	S. Amdt. 3645	S. 3179
Sponsor: Rep. Mike Conaway (R-TX)	Sponsor: Sen. Heidi Heitkamp (D-ND)	Sponsor: Sen. Heitkamp with Sen. Sheldon Whitehouse (D-RI)
<ul style="list-style-type: none"> Makes the tax credit permanent Lifts the 75-million-ton cap for existing facilities Steadily increases the credit for new facilities to \$30 for both enhanced oil recovery and underground storage between 2016 and 2025 Defines a new facility as coming online after 2015 	<ul style="list-style-type: none"> Leaves intact the 75-million-ton cap, but only for existing facilities Steadily increases the credit for new facilities to \$30 for both enhanced oil recovery and underground storage between 2016 and 2025 Allows new facilities to claim the credit for the first 10 years after coming online Defines a new facility as coming online after the act becomes law 	<ul style="list-style-type: none"> Leaves intact the 75-million-ton cap, but only for existing facilities Steadily increases the credit for new facilities to \$35 for enhanced oil recovery and \$50 for underground storage between 2016 and 2025 Allows new facilities to claim the credit for the first 12 years after coming online Defines a new facility as coming online after the act becomes law





After eight years on the books, it is fair to judge 45Q on its merits, including as a strategy for reducing CO₂ emissions—and the results are not good.

Instead of keeping CO₂ out of the atmosphere through permanent underground storage, 45Q has primarily served as a subsidy for oil production. Most of the credits have been claimed for CO₂ collected at natural gas processing facilities and then used by oil producers for enhanced oil recovery.⁴ Any expansion of the provision would only serve as an additional oil subsidy on top of the billions of dollars in subsidies the industry already receives each year.

The resulting increase in oil recovery can sometimes translate into even *greater* emissions than if the CO₂ were never captured.⁵ A related concern is that when CO₂ is used for enhanced oil recovery, there is no guarantee that it remains underground. Denbury Resources, a company under contract to buy CO₂ from Kemper, was hit with one of the largest environmental fines in recent Mississippi history because of a CO₂ blowout that took place as a result of an enhanced oil recovery operation. The leak was so significant that nearby wildlife

suffocated.⁶

The 45Q tax credit should also be judged by whether it has achieved its other intended purpose – fostering a domestic commercial CCS industry. Since the 45Q tax credit was created, no new commercial power plants have come online with CCS capabilities.⁷ Despite billions in subsidies, numerous facilities – such as FutureGen, the Hydrogen Energy California project, and the Texas Clean Energy Project – have failed. The Kemper Project will become the first new plant with CCS to be placed in service. But rather than proving the technology's success, Kemper only further demonstrates the infeasibility of CCS.

Kemper County Energy Facility and 45Q

Southern Company is one of the largest investor-owned utilities in the country. When its wholly-owned subsidiary, Mississippi Power, embarked on the Kemper project, it was billed as a way to protect the climate by capturing the CO₂ emissions from burning coal. Once captured, the emissions would be piped to nearby oil fields and pumped underground to help stimulate production. The project, quite

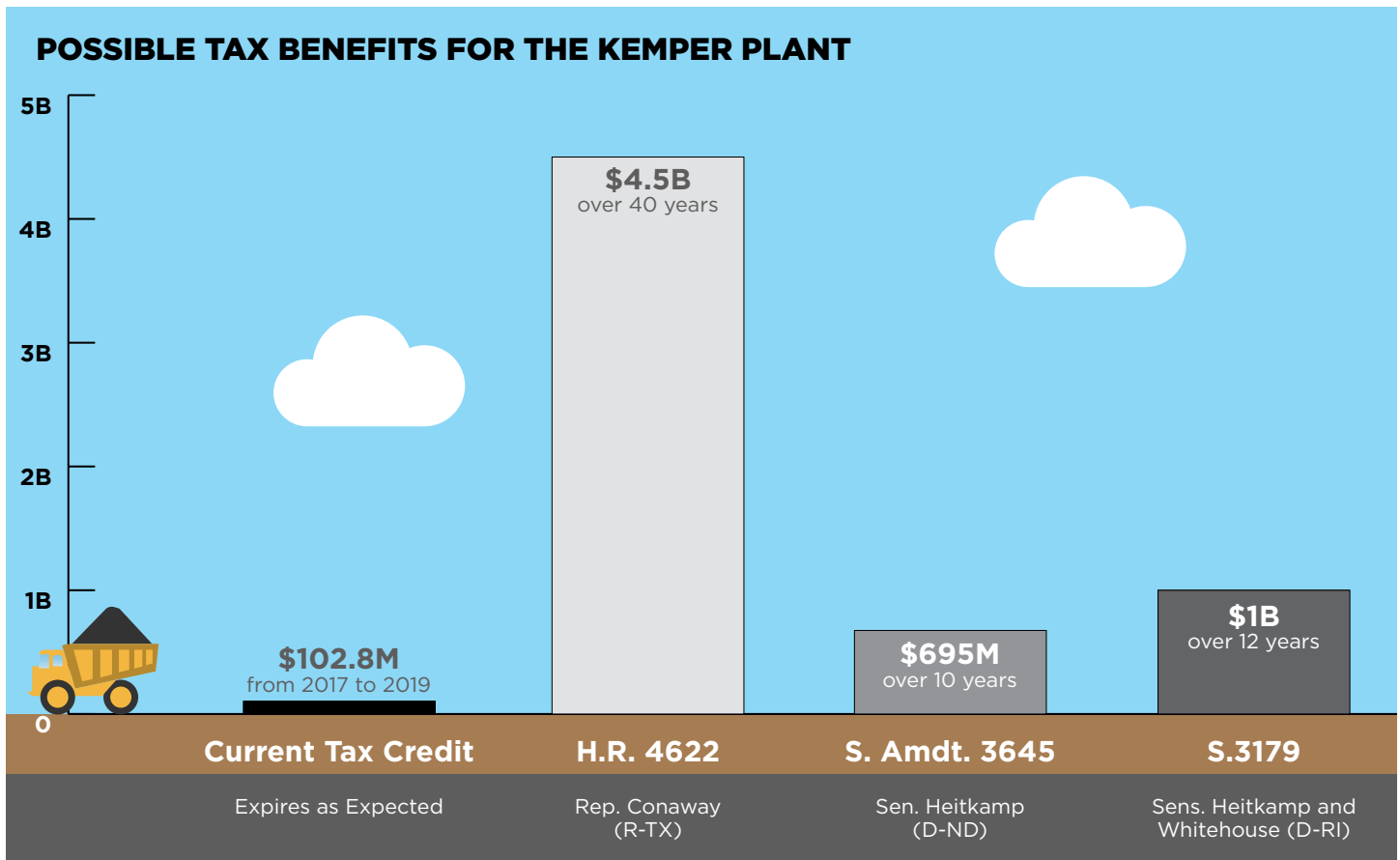
simply, has not gone according to plan.

Kemper was originally projected to cost \$2.4 billion and to come online in 2014, but the price tag now stands at \$6.9 billion—and after repeated delays, the latest online date has been pushed to December 31, 2016.⁸ Although the partially finished plant has been burning natural gas since 2014, Southern Company disclosed to investors that it operated at a loss of \$868 million in 2014 and \$365 million in 2015.⁹ The Securities and Exchange Commission (SEC) has launched an investigation to determine if investors were misled about the cost and progress of the plant.¹⁰

Nevertheless, Kemper may still receive more federal subsidies. If the House bill sponsored by Rep. Mike Conaway (R-TX) becomes law, Kemper would count as a new facility regardless of when it comes online and would qualify for the increased value of the credit. Based on the amount of CO2 Kemper projects it will capture, this would mean \$789 million more in tax

credits over the next decade and in excess of **\$4.5 billion** more if 45Q were to remain on the books throughout the 40-year life of the plant—a reasonable assumption since permanent additions to the tax code are notoriously difficult to remove.

If either of the Senate bills becomes law, the situation for Kemper is murkier. Although the plant is scheduled to come online on December 31, it was delayed most recently in November and could easily be delayed again. If the plant comes online before either bill becomes law, then it is eligible for the expiring credit only up to the 75-million-ton cap. This amounts to an estimated **\$102.8 million** between now and the anticipated expiration in 2019. However, if either bill becomes law before Kemper officially begins operations, it would net **in excess of \$695 million** in additional credits under the proposal by Sen. Heitkamp and **more than \$1 billion** in tax credits over 12 years under the proposal from Sens. Whitehouse and Heitkamp.





More Subsidies?

Even if special interests fail to push through a more expensive version of the CCS tax credit, the Kemper project will already have benefitted from millions in subsidies courtesy of federal taxpayers and regular electricity consumers.

Last December, Congress allocated \$160 million in previously unspent funds to “clean coal” projects that had secured private financing. Kemper was never mentioned by name, but the language was tailored so that Southern Company received the lion’s share--\$136 million.¹¹ This is in addition to the \$270 million grant the project received in 2008 under the Department of Energy’s Clean Coal Power Initiative, a federal cost-sharing program established during the second Bush administration.¹²

Created under the Energy Policy Act of 2005, Kemper originally received a series of investment tax credits for “Advanced Coal Projects” set up under section 48A of the tax code. In 2006, the plant was awarded \$133 million in Phase I 48A credits by the Department of Energy. In 2010, the project was

awarded an additional \$279 million in Phase II 48A credits. The tax credits, however, were conditioned on the plant beginning operations by certain dates. When the Kemper plant failed to go into service by May 11, 2014, the company lost the \$133 million in Phase I credits. After further delays and cost overruns, Southern Company relinquished the \$279 million in Phase II credits when it failed to come online by April 19, 2016.¹³

Another subsidy came from electricity consumers footing the bill for Southern Company’s cost overruns. This happened when the Mississippi Public Service Commission approved a 15 percent rate increase in December 2015, translating to an average of \$18 more per month for residential ratepayers.¹⁴ Because of a Mississippi law signed in 2008, utilities are allowed to send customers the bill for “prudently” incurred costs for power plants like Kemper that haven’t even been finished yet.¹⁵

Although the final agreement with regulators puts a \$2.88 billion cap on the amount that Southern Company can recover from its Mississippi customers, there is an additional \$1.4 billion in “uncapped” costs, such as the coal mine supplying the plant and pipelines to transfer CO₂, that could qualify for additional rate increases in the future.¹⁶

The Economics of CCS

The Energy Information Agency (EIA) estimates that an advanced coal plant with CCS is one of the most expensive sources of electricity available. On average, a new project coming online in 2022 is expected to cost \$139.5 per megawatt hour, while new installations of onshore wind and solar are expected to cost \$66.30 and \$56.90 per megawatt hour, respectively.¹⁷ A separate study drawing on similar EIA data estimates that when it comes to the cost of avoiding CO₂ emissions, a coal gasification plant with CCS technology like Kemper is more than three times as expensive as geothermal and twice as expensive as wind.¹⁸

Even if CCS could become an affordable source of electricity, it would still require as much as 30 percent more fuel to generate the same amount of power. This “efficiency penalty” is one of the reasons CCS is expected to worsen co-pollutants like particulate matter and nitrogen oxides for communities near facilities, as more coal is burned to compensate for the energy difference.¹⁹ If CCS technology were ever widely adopted, it would also increase fossil fuel extraction—and subsequently worsen the damage that practices like mountaintop removal mining already inflict on air, water, and livelihoods in frontline communities.

Conclusion

As Kemper struggles to come online, the wrongheadedness of subsidizing CCS is obvious. Instead of pushing for an even bigger, more expensive version of 45Q, Congress should turn off the spigot before another Kemper is subsidized into existence.

Recommendations:

- Exclude any expansion or extension of the 45Q credit from any year-end deal on taxes.
- Allow the 45Q credit in its current form to expire.
- End federal R&D for CCS and related coal technologies, which is expected to cost taxpayers \$207 million this year alone.²⁰
- Repeal existing investment tax credits for CCS and related clean coal technologies, which are expected to cost taxpayers \$1 billion between 2014 and 2018.²¹

Methodology

Southern Company estimates that once Kemper comes online, it will capture three million metric tons of CO₂ annually. The cost of the different scenarios for 45Q renewal were calculated based on the assumption that the facility would come online after any such renewal, capture that amount and sell it as planned to oil companies for EOR. The amount of the credit under each scenario was adjusted for

inflation when called for in legislative text using the Congressional Budget Office’s (CBO’s) estimates of the growth of the GDP price index in its July 2016 Long Term Budget Projections. The credit amount that Kemper could claim per metric ton without a renewal was adjusted for inflation according to the IRS’ methodology using projections for the Gross National Product in the CBO’s August 2016 10-Year Economic Projections.



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