

1 OPEN EXECUTIVE SESSION TO CONSIDER AN ORIGINAL BILL
2 ENTITLED "THE CLEAN ENERGY FOR AMERICA ACT"
3 WEDNESDAY, MAY 26, 2021
4 U.S. Senate,
5 Committee on Finance,
6 Washington, DC.

7 The meeting was convened, pursuant to notice, at
8 2:30 p.m., in Room SH-216, Hart Senate Office Building,
9 Hon. Ron Wyden (chairman of the committee) presiding.

10 Present: Senators Stabenow, Cantwell, Menendez,
11 Carper, Cardin, Brown, Bennet, Casey, Warner,
12 Whitehouse, Hassan, Cortez Masto, Warren, Crapo,
13 Grassley, Cornyn, Thune, Portman, Toomey, Cassidy,
14 Lankford, Daines, Young, Sasse, and Barrasso.

15 Also present: Democratic staff: Robert Andres,
16 Professional Staff Member; Michael Evans, Deputy Staff
17 Director and Chief Counsel; Joshua Sheinkman, Staff
18 Director; and Tiffany Smith, Chief Tax Counsel.

19 Republican staff: Andre Barnett, Senior Tax Counsel;
20 Joseph Boddicker, Tax Counsel; Courtney Connell, Senior
21 Tax Counsel; Gregg Richard, Staff Director; Kristen
22 Siegele, Policy Advisor for Senator Crapo; and Jeffrey
23 Wrase, Deputy Staff Director and Chief Economist.

24 Non-designated staff: Joshua LeVasseur, Chief Clerk and
25 Historian.

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1 OPENING STATEMENT OF HON. RON WYDEN, A U.S. SENATOR FROM
2 OREGON, CHAIRMAN, COMMITTEE ON FINANCE

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4 The Chairman. The Finance Committee will come to
5 order. We are convening this afternoon to consider the
6 Clean Energy for America Act. For the information of
7 committee members and staff, we are going to begin with
8 opening statements. After Senator Crapo and I have made
9 our statements, all members will have the opportunity to
10 make statements if they wish to do so for up to three
11 minutes.

12 Once opening statements have concluded, we will ask
13 Mr. Tom Barthold of the Joint Committee, to briefly
14 describe the Chairman's mark and modification. After
15 that, members will be able to ask questions of Mr.
16 Barthold and other staff. Once we are done with
17 questions, we will turn to amendments. And with that, I
18 will make my opening remarks, and then call on our
19 friend, Ranking Member Crapo.

20 Colleagues, on the federal tax books today is a
21 hodgepodge of 44 different energy tax breaks for a host
22 of fuel sources and technologies. These tax breaks have
23 stacked up over the decades by dusty old papers on the
24 messiest desks in the office. This system is
25 anti-competitive and anti-innovation. It puts the

1 government in the role of picking winners and losers by
2 giving some fuels and some technologies big and
3 permanent tax breaks, while others have short-term,
4 temporary extensions. Now this has survived in this
5 form for one reason only: The Congress has long found
6 it easier to pile on so-called short-term tax extenders,
7 rather than clean things up once and for all.

8 Now the Clean Energy for America Act throws the old
9 system in the waste bin. It replaces the old rules with
10 a free market, technology-neutral system in which
11 reducing carbon emissions becomes the lodestar of
12 America's energy future. It can spark a wave of
13 carbon-cutting, job-creating ingenuity across the
14 country.

15 Now here is how the bill works. Instead of those 44
16 tax breaks from yesteryear, the new system creates
17 incentives for three goals: clean energy, clean
18 transportation, and energy efficiency. It levels the
19 playing field because the same rules are going to apply
20 to any and all who want to compete, from the biggest
21 fossil fuel company on down to the smallest renewable
22 startup.

23 So let's say two utilities build new power plants in
24 neighboring states. One goes with full carbon capture.
25 The other goes with wind. Both get the tax incentive.

1 The company makes clean transportation fuel, like green
2 hydrogen or renewable diesel, that company gets a tax
3 credit. If a homeowner or a builder puts up an
4 efficient new home or office, or if they add to the
5 efficiency of one that already exists, they get the tax
6 credit. The more carbon you cut, the cleaner and more
7 efficient you are, the larger the tax break.

8 Now the system on the books today, colleagues, is
9 bad for competition. It is bad for innovation. And it
10 is bad for climate. So what I want to do is take a
11 classic American approach and use policy to set a big
12 goal, and then just get out of the way. American
13 entrepreneurs and inventors, under what we are going to
14 discuss today, can do what they do best. That is what
15 the Clean Energy for America Act is all about. It is
16 big on the proposition that everybody is going to have
17 an interest in new incentives to cut carbon and create
18 high-skill, high-wage jobs at the same time.

19 A recent independent analysis looked at this
20 approach to clean electricity. It considered the
21 changes that we make to be a cornerstone of policy that
22 will put America on a path to zero net emissions powered
23 by 2035, while creating a net gain of more than 600,000
24 new jobs. That does not account for the job gains from
25 the incentives for clean transportation and energy

1 efficiency where other innovative companies will come
2 and create new jobs of their own.

3 The reality is that countries around the world have
4 no choice but to turn away from carbon. Clean energy
5 and transportation jobs are coming. It is simply a
6 question of when. If Congress sticks with the 44 tax
7 breaks of yesteryear, those jobs are going to go to
8 China, India, Germany, and elsewhere.

9 The committee and the Senate cannot pass up the
10 opportunity to change that. I released my first version
11 of this bill back in 2015. Over the years I have heard
12 from Democrats and Republicans about the virtues of a
13 tech-neutral approach that puts the free market to work.
14 That is what this bill does.

15 Several members have brought forward ideas that have
16 improved it. The bill has now been formally endorsed by
17 the country's leading environmental groups, the leading
18 groups representing labor, and by the Edison Electric
19 Institute, not exactly renowned as a left-wing
20 organization. The fact is, the Finance Committee has
21 never had a markup that looked carefully at the issues
22 on the table today, the outdated Energy Tax Code and the
23 job-creating potential of reducing carbon and addressing
24 climate. That is what today is all about. It only came
25 about as a result of hard work by members and staff on

1 their amendments, and particularly the almost
2 around-the-clock efforts over the last few days.

3 I also want to give a special thanks to Dr. Tom
4 Barthold, the hardest working man in the tax policy
5 business, for joining the committee today.

6 With that, I am going to turn it over to Senator
7 Crapo. He and I intend to keep this going. We had
8 hoped to begin this morning, but there was a lot of
9 business in the Senate this morning. So we are going to
10 keep this going, and, Senator Crapo, please proceed.

11

1 OPENING STATEMENT OF HON. MIKE CRAPO, A U.S. SENATOR
2 FROM IDAHO

3

4 Senator Crapo. Thank you, Mr. Chairman. I
5 appreciate your holding this markup on something that we
6 can all agree needs reform: our energy tax laws.

7 Senator Wyden and I agree, and I think there is
8 bipartisan support for modifying and cleaning up our
9 energy tax provisions in the Code.

10 Senator Wyden and I also agree, and there is broad
11 bipartisan support for the concept of a
12 technology-neutral approach for investments in our clean
13 energy sectors. There is also bipartisan agreement that
14 Congress should not continue to pick energy tax winners
15 and losers through the annual tax extenders process.

16 When considering both my Energy Sector Innovation
17 Credit Act, or what I call ESIC, and Senator Wyden's
18 Clean Energy for America Act, there also appears to be
19 consensus that energy tax credits should be market
20 based. ESIC proposes a credit phase-down system based
21 on market penetration, systematically reducing credits
22 as technologies increase their market share.

23 My proposal is tech-neutral. I am not prohibiting
24 any technology from qualifying so long as it is not over
25 a certain level of market penetration. Most, if not

1 all, of the members on my side of the dais cannot
2 support a bill that eliminates all provisions related to
3 fossil fuels, and essentially prevents bipartisan
4 technologies like carbon capture from qualifying.

5 Energy incentives have the potential to spur the
6 economic growth and create jobs if executed properly.
7 The oil and natural gas industries employ over 10
8 million Americans, paying on average seven times the
9 federal minimum wage.

10 I am willing to work on constructive proposals to
11 modernize and innovate our Nation's energy production,
12 but not at the expense of millions of good-paying
13 American jobs. Furthermore, I cannot support attaching
14 labor requirements to energy tax policy. Linking labor
15 policy to energy-related tax credits is unprecedented
16 and I have concerns not only about the policy, but also
17 about the dangerous precedent it sets for amending the
18 Tax Code.

19 Finally, in order to maximize taxpayer dollars, we
20 have to take a close look at those technologies that are
21 market mature and end their government subsidization.
22 Our Tax Code should encourage technology-wide clean
23 energy innovation, helping to bring breakthrough power
24 generation to deployment, until new technologies can
25 compete independently in the market.

1 My technology-inclusive bipartisan energy tax
2 proposal, ESIC, would accomplish this by working with
3 experts at the Department of Energy, National Labs, and
4 other stakeholders to target tax credits for innovative
5 clean energy technologies. As these technologies become
6 mature, the credits systematically decrease to ensure
7 taxpayer dollars do not subsidize cost-competitive
8 technologies.

9 I want to thank Senator Whitehouse for leading this
10 proposal with me in the Senate. We will be introducing
11 it sometime in the near future.

12 In addition, Mr. Chairman, Senate Republicans are
13 currently negotiating an infrastructure package with the
14 White House. Infrastructure has always been an area
15 where we have had broad bipartisan agreement. Our goal
16 in these negotiations is to make a deal on things we can
17 agree on, and continue to work on the rest.

18 Mr. Chairman, we have a shared goal to bolster
19 effective clean energy investment and strengthen U.S.
20 energy independence. However, I expect a robust debate
21 today about how this proposal could result in job losses
22 and negatively impact states from members on both sides
23 of the aisle. The likely effect on gas prices at the
24 pump for consumers. Concerns about adding Davis Bacon
25 labor and prevailing wage requirements into the Tax

1 Code. And finally, the need to assess whether certain
2 energy tax credits continue to be necessary, or whether
3 they have served their intended purpose of incentivizing
4 growth and investment.

5 Going forward, we should work together to get a deal
6 on things we can agree on, and keep working on the rest.
7 Thank you, Mr. Chairman.

8 The Chairman. Thank you, Senator Crapo. We are
9 going to recognize all senators in order of appearance.
10 Senator Whitehouse is next.

11

1 OPENING STATEMENT OF HON. SHELDON WHITEHOUSE, A U.S.
2 SENATOR FROM RHODE ISLAND

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4 Senator Whitehouse. What an amazing jump up the
5 queue. I am very grateful for Chairman Wyden's proposal
6 to put our Tax Code squarely on the side of clean
7 energy. We will encourage direct air capture and
8 cutting-edge technology needed to hit our climate goals.
9 It will speed development of sustainable aviation fuels
10 to decarbonize that heavy polluting industry.

11 Clean hydrogen could help decarbonize hard-to-reach
12 corners of our economy. I thank Ranking Member Crapo
13 and Senator Young for working with me on those and other
14 provisions. But let's not kid ourselves. We need cuts
15 in emissions deep enough to stay within nature's
16 tolerable zone of 1.5 degrees Celsius warming. The
17 difference between 1.5 and 2 degrees is vast. At 2
18 degrees, storms worsen markedly. Sea levels climb far
19 higher. More than twice as many people experience
20 extreme heat. Fisheries and crop yields crash. Habitat
21 and species loss doubles. Virtually all coral reefs
22 die.

23 And we are not on track for 2 degrees or on track
24 for 3 degrees, or more. To get on track to a safe
25 future, we must reverse the economic incentives to

1 pollute. The IMF reckons a \$650 billion annual subsidy
2 for fossil fuels in the United States alone. To fix
3 that, we need a price on carbon to correct this market
4 failure.

5 With a boarder adjustment, we can export
6 decarbonization beyond our borders, and protect home
7 industries. Chairman Wyden is working on robust carbon
8 pricing, and I will do everything I can to support him.
9 While we are pricing carbon, we should also price
10 methane, a greenhouse gas 30 times as powerful as CO2's
11 leakage creates massive harm. We have a bill for that.

12 We should impose a fee on plastic production
13 sufficient to stop the 8 million metric tons of plastic
14 dumped in the oceans each year. By 2050, there will be
15 more plastic by weight than fish in our oceans. We will
16 have a bill for that.

17 Conservative market principles direct that the cost
18 of pollution and waste be in the price of a product.
19 There is no economic exception to that principle for
20 politically powerful industries, and we should stop the
21 polluter subsidies.

22 Mr. Chairman, I know this markup is the beginning,
23 not the end, of our committee work on climate, and I am
24 glad it gets us off to a good start.

25 The Chairman. I thank my colleague who has such a

1 long history of working in these critical areas.

2 My neighbor in DC, Senator Barrasso.

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1 OPENING STATEMENT OF HON. JOHN BARRASSO, A U.S. SENATOR
2 FROM WYOMING

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4 Senator Barrasso. I thank you very much, Mr.
5 Chairman. As we all agree, energy is the backbone of
6 America. Energy keeps our country moving. It powers
7 our daily lives. It keeps the lights in our houses on,
8 heating our homes during the winter, and powering
9 American manufacturing. It is a part of our daily life.

10 Now who can we thank for powering America? Hundreds
11 of thousands of American workers. We are an energy
12 independent nation as a result of those workers. Why
13 then is this committee considering legislation to
14 destroy American energy industries? I continue to ask
15 myself that. The legislation would not only destroy
16 America's energy independence and raise energy costs for
17 all Americans, but also destroy the jobs of thousands of
18 American workers. Oil rig, coal mine, pipeline workers
19 make up a large part of my home state's workforce.

20 This bill puts a target on the backs of them and
21 their jobs. America needs all the energy -- the oil,
22 the gas, the coal, the uranium, the wind, the solar --
23 we need all of it. That is how we maintain our economic
24 strength and our energy independence. Picking winners
25 and losers is not good tax policy, especially when the

1 winners are America's rivals, and the losers are
2 hard-working Americans who lose their jobs, their
3 financial security, and pay more to heat their homes and
4 cool their homes. This is not the direction in which we
5 should head.

6 Last weekend, Mr. Chairman, the Wall Street Journal
7 published an article highlighting the massive
8 investments being made in wind and solar. The front
9 page, Wall Street Journal, weekend edition, "Wall
10 Street's new mantra. Green is good. Billions pour into
11 green finance." Not government money, personal, private
12 money, investors' money, companies' money. The article
13 states that the total investment in renewable energy
14 projects, electric vehicles, and other green efforts
15 exceeded \$520 billion last year, a record.

16 This represents a 12 percent increase from the year
17 earlier, and almost a 60 percent increase from 2015.
18 Why then are we increasing subsidies to these industries
19 at the expense of America's fossil fuel industry and
20 America's energy independence?

21 Choosing to use the Tax Code to intentionally
22 destroy America's fossil energy industries to hurt our
23 economy, to force our American workers to lose their
24 jobs and to strengthen the economic power of the
25 governments of China, Venezuela, Iran, and Russia is not

1 the path that I want to go down, Mr. Chairman.

2 I will continue to support American energy
3 independence, continue to be on the side of and support
4 American fossil industry and energy workers, their
5 families, and their communities. I will not vote to
6 abandon our allies and open the door for our adversaries
7 to use energy as a geopolitical weapon against us.

8 For me, the choice is clear. Thank you, Mr.
9 Chairman.

10 The Chairman. Thank you, Senator Barrasso. We are
11 going to just keep on going through the votes. And next
12 is Senator Cortez Masto, and then would be Senator
13 Stabenow.

14

1 OPENING STATEMENT OF HON. CATHERINE CORTEZ MASTO, A U.S.
2 SENATOR FROM NEVADA

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4 Senator Cortez Masto. Thank you, Chairman Wyden and
5 Ranking Member Crapo for committing this first markup in
6 Senate Finance to build on the work that my home State
7 of Nevada already does so well, building a clean energy
8 future that creates good-paying jobs for workers, builds
9 new innovative industries, produces cutting edge
10 technology, and combats climate change.

11 Nevada is at the forefront of clean energy
12 technology and innovation. We have the largest
13 geothermal and solar potential in the country, as well
14 as the Nation's only lithium mine which is creating good
15 jobs and fueling America's transition to electric
16 vehicles.

17 Our state has already committed to a target of 50
18 percent renewable energy by 2030, and a goal of zero
19 carbon electricity generation by 2050. And we are
20 working to build the clean energy workforce to do so.

21 To keep Nevada at the forefront of clean energy
22 innovation, I have been working through my Innovation
23 State Initiative to help build clean energy
24 infrastructure in Nevada and across the country, and to
25 help workers learn skills for these in-demand

1 industries.

2 In 2020, I worked to secure two additional years of
3 solar tax credits to support the solar industry and its
4 workers. I have also introduced the Solar and
5 Geothermal Tax Credit Expansion Act to help ensure these
6 critical emerging renewable resources can help support
7 and sustain the growing clean energy economy and the
8 jobs it produces. And I have worked to support the
9 transition to electric vehicles through legislation that
10 will aid our local school districts and communities in
11 transitioning to safer, cleaner electric buses.

12 This markup today allows us on this committee to
13 help the Nation move beyond outdated technology that
14 threatens the health and security of communities, to
15 create more jobs for Nevadans and the country, and to
16 build a clean energy future that prioritizes our
17 workers, our communities, and our environment.

18 Thank you, Mr. Chair.

19 The Chairman. I thank my colleague for her passion
20 for this cause. And I would also note that the former
21 leader of the Senate, Senator Harry Reid, was a
22 tremendous champion of clean energy and renewables. So
23 it is only fitting that the Nevada tradition be
24 maintained.

25 Senator Stabenow?

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1 OPENING STATEMENT OF HON. DEBBIE STABENOW, A U.S.
2 SENATOR FROM MICHIGAN

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4 Senator Stabenow. Well, thank you very much, Mr.
5 Chairman and Ranking Member, for this important markup.
6 And I really appreciate, Senator Wyden, your vision on
7 moving forward in a tech-neutral way. This is a very
8 important time, and we are going to put America in the
9 driver's seat of our new clean energy future.

10 And I do want to indicate and tell a little story I
11 have mentioned to colleagues before, when we hear about
12 how this is picking winners and losers. Henry Ford,
13 Thomas Edison, 1914, were doing the first vehicle and
14 they wanted it to be battery operated. There were
15 stories in the paper about how they were having
16 difficulty being able to get the range -- which sounds
17 very familiar -- to be able to do it by batteries.

18 Two years later, Congress puts in place the first
19 oil and gas incentives, the first break that was
20 basically a no-interest loan for oil and gas embedded in
21 the Tax Code and never changed. No deadline on it. We
22 picked the winner, and they won, 100 years ago.

23 So now we are just trying to level the playing
24 field. Mr. Chairman, I know that is what you are trying
25 to do. For too long, countries on the other side of the

1 world have been investing to win the global clean energy
2 race. They have been outpacing us on funding new
3 technologies, making critical components Americans rely
4 on, and building electric vehicles.

5 We are now at a critical moment in our competition
6 to win the clean energy manufacturing future for
7 America, and eliminate the real vulnerabilities we are
8 seeing in our supply chains which, unfortunately, were
9 put on full display under COVID-19.

10 Now you can imagine I want to speak to the
11 transportation sector. We know that the transportation
12 sector is the largest source of greenhouse gas
13 emissions, and it is clear that electric vehicles are a
14 major part of our transportation future. The question
15 is not whether they will be built, it is where they will
16 be built -- in Asia? Or America?

17 That is why investing in the electrification of our
18 vehicles, including our pickup trucks and SUVs, and
19 heavy and medium duty vehicles, is critical to building
20 a competitive American auto industry and combatting the
21 climate crisis.

22 I am very proud to have led the original passage
23 years ago of the original electric vehicle consumer tax
24 credit. Mr. Chairman, I so appreciate your including a
25 robust, strengthened tax credit that both Senator

1 Schumer and I have been working on. Thank you for
2 including it in the mark.

3 We know our automakers and workers are the best in
4 the world. They are making the private sector
5 investments needed to electrify our industry so that we
6 can compete and win, but they cannot do it alone. And,
7 frankly, China has hundreds of companies making electric
8 vehicles, and they have help, over \$100 billion of help
9 so far from the Chinese Government. The Clean Energy
10 for America Act will also help Michigan in our country
11 partner with the private sector to advance the next
12 generation of American manufacturing.

13 Thank you, Mr. Chairman, for including my bipartisan
14 legislation with Senator Manchin and Senator Steve
15 Daines to help companies invest in new manufacturing
16 facilities and expand existing factories to provide
17 clean energy technologies. Importantly, it is going to
18 help our manufacturers build the parts like
19 semi-conductors, so we do not see the shortages we are
20 seeing today.

21 In conclusion, we are taking a giant step out of the
22 past and into a better future today, Mr. Chairman.
23 Instead of continuing century-old oil and gas subsidies,
24 this legislation will invest in good paying jobs that
25 tackle the climate crisis and build a future that is

1 made in America.

2 The Chairman. Thank you, Senator Stabenow. And of
3 course, your leadership is well known with respect to
4 electric vehicles. It is also important to note you
5 have been the point person on the key manufacturing
6 issues, and certainly the events of the last couple of
7 days which indicate some of our manufacturing challenges
8 make that so important.

9 Next in terms of appearance, our friend from
10 Montana, Senator Daines.

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1 OPENING STATEMENT OF HON. STEVE DAINES, A U.S. SENATOR
2 FROM MONTANA

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4 Senator Daines. Mr. Chairman, thank you. We could
5 be having a bipartisan markup today. There is plenty of
6 agreement in the renewable energy space I think to see a
7 good side of a bipartisan markup. I am just reminded,
8 too, that the difference in having a gavel in Chairman
9 Wyden's hands or Ranking Member Crapo's hands was 14,000
10 votes in Georgia. We have a 50-50 Senate. Out of over
11 100 million votes cast in U.S. Senate races, these
12 14,000 votes in Georgia, we wound up with a 50-50
13 Senate. And I would sure hope we could find more common
14 ground that would get a good, strong bipartisan vote out
15 of a markup here in committee.

16 But I can tell you what is going to happen. We are
17 going to go through this process. It will be likely a
18 14-14 vote when we are all done. You can predict it
19 right now, if anyone wants to put a wager on it, I would
20 be happy to wager. And we could do a lot better than
21 that.

22 So I just want to vent a bit on that. We have a
23 50-50 Senate, and I think we ought to try to strike
24 something here that could accommodate both sides of the
25 aisle.

1 Unfortunately, my colleagues have decided to plow
2 forward on the other side of the aisle with a deeply
3 flawed partisan bill. Republicans were cut out of the
4 process on the front end, making this a left-wing
5 proposal, which is the foundation of this markup. It is
6 simply unacceptable. It is going to ensure gridlock.

7 And I do not throw these terms around loosely, but I
8 say "left-wing" because portions of this proposal, such
9 as eliminating tax provisions relating to oil, gas, and
10 coal comes straight out of the budget of the
11 Congressional Progressive Caucus. The Republicans truly
12 have always loved energy. I do. But recognizing the
13 need for a reliable power grid, energy independence from
14 other nations, and protecting working Americans from
15 massive increases in energy costs. I am very thankful I
16 come from a state like Montana. We have hydro. We have
17 got wind. We have got solar. We have got other forms
18 of renewable energy -- geothermal, bio, all of which I
19 support.

20 However, I also support oil, gas, coal, and the jobs
21 and prosperity that those forms of energy deliver to
22 Americans every day. Simply put, this is a very
23 partisan, far-left bill that is going to kill jobs. It
24 is going to cause energy prices to dramatically
25 increase, and it is going to make it more difficult for

1 American families and small businesses to prosper. But
2 I do look forward to having this debate.

3 Thank you.

4 The Chairman. Just very quickly, before we go to
5 Senator Cassidy, first of all with respect to
6 bipartisanship, hope springs eternal because we already
7 heard Senator Crapo say that he, like me, favors a free
8 market, tech-neutral kind of approach. And then apropos
9 of the politics of it, last time I looked the Edison
10 Electric Institute, which strongly endorses this bill,
11 does not exactly meet the textbook definition of a
12 left-wing socialist operation.

13 Senator Cassidy?

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1 OPENING STATEMENT OF HON. BILL CASSIDY, A U.S. SENATOR
2 FROM LOUISIANA

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4 Senator Daines. I doubt I am a socialist,

5 Mr. Chairman --

6 The Chairman. Let's stick with the "left wing."

7 Senator Daines. Okay, I did say that.

8 The Chairman. Senator Cassidy.

9 Senator Cassidy. Thank you, Mr. Chairman. I do
10 see, though, a disconnect between the intended goals of
11 this legislation, which I agree are well intended, and
12 what it actually does. And I say this because we have
13 got to actually make a difference. It is hard to
14 govern, we know that. We have to have a nuanced
15 position. But we are talking complex energy policy that
16 if it fits on a bumper sticker, it is probably not a
17 good idea, and so therefore I have concerns about the
18 legislation before us and the consequences that it
19 creates.

20 I will point out that the proposal will destroy
21 well-paying middle-class jobs in my state, but it also
22 exacerbates dire humanitarian situations worldwide.
23 Because not only does this bill promote, at the expense
24 of others, what are sourced from countries with long
25 histories of both forced labor and child labor. As

1 regards electric vehicle batteries, the New Yorker
2 reports that in the Congo children as young as 3 learn
3 to pick out the purest ore from rock slabs, and children
4 who work in the mines are often drugged in order to
5 suppress hunger.

6 The news recently reported on slave labor in the
7 cobalt mines in the Congo and quoted a mother saying,
8 "our children are dying like dogs." Ken Wilson, the
9 co-founder of Hope for Justice asks: Is your electric
10 car the new blood diamond?

11 Meanwhile, the BBC reports that solar panels being
12 imported into the U.S. from China were the results of
13 forced labor by an imprisoned Uyghur population. The
14 problem? This bill does not address it. It turns a
15 blind eye to issues of slave labor, and indeed increases
16 our dependence on the very nations so perpetrating.

17 I do not think I have to say that transitioning to
18 an economy with a significant component of child slave
19 labor overseas is Un-American So I plan to enter this
20 amendment to address this blind spot and encourage
21 colleagues to support it.

22 Personally, I love the energy tax base. Climate
23 change is an issue we should consider. The Louisiana
24 Coast Line has an emerging sea level rise, and
25 increasingly erratic weather hammering my state, and I

1 am all for addressing this. But when I look at some of
2 the policies in this bill -- which destroys jobs in
3 Louisiana, but sends them to China, which uses coal for
4 50 percent of its feed stock, and now has more
5 greenhouse gas emissions than the rest of the OECD put
6 together, I am not sure we are making it better.
7 Indeed, we are making it worse.

8 We should not govern with talking points. We need
9 real solutions that accomplish the goals we say we wish
10 to. We need a set of proposals that reduce emissions,
11 expand U.S. jobs across the Nation not just in some
12 places, and eliminate incentives to offshore greenhouse
13 gas emissions to human rights' violators.

14 I hope to work across the aisle with my colleagues
15 to achieve these goals, but to be successful the
16 legislation which eliminates U.S. jobs and encourages
17 human rights violations in offshoring of carbon
18 emissions needs to be stopped.

19 Thank you. I yield back.

20 Senator Crapo [presiding]. Thank you, Senator
21 Cassidy. And next is Senator Bennet.

22

1 OPENING STATEMENT OF HON. MICHAEL F. BENNET, A U.S.
2 SENATOR FROM COLORADO

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4 Senator Bennet. Thank you very much, Mr. Chairman,
5 for holding -- well, for carrying this markup in the
6 absence of the other chairman. But I want to thank
7 Chairman Wyden for holding this markup.

8 And I want to just say, from the perspective of
9 Colorado, this discussion cannot come soon enough.
10 Climate change is already causing enormous harm to my
11 state. Three of the worst wildfires in our history were
12 all in the last year. Our ski seasons are growing
13 shorter, and the drought is becoming more and more
14 intense, giving our farmers and ranchers a real question
15 about whether or not they are going to be able to pass
16 their farm or their ranch on to the next generation of
17 Coloradans.

18 And I know there are different views about how to
19 respond to climate change, as there should be, as I
20 would expect there would be, but I hope we can all agree
21 that clean energy has to be part of the solution. Our
22 experience in Colorado shows that we can transition to
23 clean energy and grow the economy, and that is what we
24 are doing in my state. This is not something to
25 promise. It is actually happening in the State of

1 Colorado.

2 Our biggest electric utility, Excel Energy, has
3 committed to going carbon-free by 2050. Our rural
4 co-ops are making similar commitments to deliver the
5 cheapest energy they can to their communities. They are
6 proving that we can cut emissions, keep prices low, and
7 do right by our workers.

8 We have actually done a lot over the past decade
9 while Washington has really not. We should learn from
10 Colorado's example as we craft an infrastructure package
11 which is our best opportunity in years to jumpstart the
12 transition to clean energy and lay an enduring
13 foundation for the economy. The Chairman's mark is an
14 excellent start. The long-term technology-neutral
15 extensions of this Clean Energy Tax Credit are
16 especially important. But here are a few ideas that I
17 think would make our effort even stronger.

18 First, we should make these tax incentives
19 accessible to electric cars, public power companies, and
20 tribes. They are doing much work to transition to clean
21 energy and driving opportunity in rural America, and we
22 should support them.

23 Second, we should make it easier to finance carbon
24 capture projects. Senator Portman and I have a bill to
25 support these efforts in our power and industrial

1 sectors along with direct air capture projects to remove
2 carbon dioxide from the atmosphere. I thank Senator
3 Portman for his leadership.

4 Third, we need a clear policy framework to hold us
5 accountable for progress. In my view, at a minimum that
6 should include economy-wide limits in the price of
7 carbon, and an ambitious standard to reduce emissions in
8 the power sector to levels in line with our commitment
9 in Colorado. I do not think we have a right not to be
10 that ambitious. And given what we are already doing in
11 Colorado, I think we can be that ambitious. Although we
12 are not debating these issues today in today's markup, I
13 hope we will take them up soon as part of the broader
14 infrastructure discussions.

15 And finally, we have to be honest, that while the
16 transition to clean energy will be overwhelmingly good
17 for the economy, it will not be painless. We have to
18 support people, like the people of Craig, Colorado, who
19 are dedicated-- who were dislocated by the transition,
20 who have worked for decades to power our economy. And we
21 have to make sure that they directly benefit from our
22 investments in clean energy.

23 I look forward to working with Chairman Wyden and
24 every member of this committee to get this done so we
25 can seize this historic opportunity for the economy and

1 to fulfill our moral obligation to the next generation
2 of Americans.

3 Thank you, Mr. Chairman.

4 Senator Crapo. Thank you, Senator Bennet.

5 Senator Cornyn?

6

1 OPENING STATEMENT OF HON. JOHN CORNYN, A U.S. SENATOR
2 FROM TEXAS

3

4 Senator Cornyn. Thank you, Mr. Chairman.

5 Texas has always been a proud supporter of an
6 all-of-the-above energy strategy. We of course get a
7 lot of attention because we are a robust oil and gas
8 industry, but we also are the number one producer of
9 electricity from wind. And I think that surprises a
10 number of people.

11 But there are also some wonderful innovations taking
12 place even without government mandates, higher taxes,
13 and more regulation. For example, ExxonMobil recently
14 announced a \$100 billion carbon capture and storage
15 project in Houston, known as the energy capital of the
16 world.

17 This would create a carbon capture innovation zone
18 to significantly reduce carbon emissions. I find this
19 kind of innovation incredibly exciting. If we are able
20 to reduce emissions without harming our energy security,
21 raising taxes, killing high-paying jobs, or driving up
22 consumer costs, why in the world would we not want to do
23 that?

24 Unfortunately, the bill before the committee takes
25 another path. This bill is nothing more and nothing

1 less than an anti-oil, anti-gas, anti-jobs,
2 anti-national security, pro-Putin, pro-Saudi Arabia, fit
3 in a nutshell.

4 First, it raises gas prices at the pump for American
5 consumers, including seniors and those on fixed incomes,
6 as well as our small businesses that we are depending on
7 to grow us out of this pandemic-induced recession.

8 Second, it will increase taxes and increase the
9 costs of production, putting a squeeze on American
10 producers who are in the business of meeting the energy
11 needs of their neighbors. Of course, that would also
12 put American producers at a competitive disadvantage
13 with other energy producers around the world like
14 Vladimir Putin, like the Kingdom of Saudi Arabia. This
15 move would kill countless American jobs, weaken our
16 global competitiveness, as I said, and reverse the key
17 economic gains we have made because of the thriving oil
18 and gas industry and the innovations that it has
19 brought. Think about, for example, the shale
20 revolution.

21 Third, this will make us more dependent, once again,
22 on countries like Iran, Venezuela, Russia, Saudi Arabia,
23 and in fact you can almost hear the leaders of those
24 countries popping their champagne corks once they saw
25 what is contained in this mark. And it would make U.S.

1 energy companies less competitive against state-owned
2 energy companies. And it would also reinstate what
3 Jimmy Carter called -- it was called the Carter
4 Doctrine, when he said: When America was so reliant on
5 imported oil that flowed through the Strait of Hormuz in
6 the Middle East, he said: Any nation that blocked our
7 access to that energy was committing an act of war.

8 Well, there are many dangers here that I think we
9 need to be very careful about. After years of building
10 our energy independence and our energy security, this is
11 not the time to turn back the clock. We should not put
12 ourselves in the position of being reliant on other
13 countries, let along our adversaries.

14 Mr. Chairman, I support efforts to reduce carbon
15 emissions to preserve our air, land, and water for
16 future generations, but those efforts do not have to
17 come at an outrageous cost. You can support an
18 all-of-the-above strategy when it comes to energy and
19 innovation, and conservation. Those are not mutually
20 exclusive goals. Thank you.

21 Senator Crapo. Thank you very much, Senator Cornyn.
22 I do not see another senator on the committee who has
23 not yet spoken here. Is there any senator I am missing?
24 It has probably already been announced that we are in
25 the middle of this two-vote series, and we are actually

1 getting close to the end of the first vote. So I
2 suspect that -- I know Senator Wyden is there waiting
3 for that second vote to start, and I suspect most of the
4 other senators are, as well.

5 So until we have a senator return who has not yet
6 had an opportunity to give his or her opening statement,
7 we will go in recess.

8 [Brief recess.]

9 Senator Crapo. The committee will come to order.
10 Senator Grassley is here and present and is ready to
11 give his opening statement.

12

1 OPENING STATEMENT OF HON. CHUCK GRASSLEY, A U.S. SENATOR
2 FROM IOWA

3

4 Senator Grassley. I appreciate the Chairman's
5 interest in updating our energy tax policy. I agree
6 that reforming our current policies so that they avoid
7 picking winners and losers is a worthy goal. However,
8 the devil is in the details, like it is with my pieces
9 of legislation.

10 I have concerns that the approach that we are
11 considering today is less about tech-neutral than
12 advancing a liberal agenda. I have always understood
13 that to sufficiently meet America's energy needs we need
14 an all-the-above approach. And everybody -- I do not
15 know whether 100 senators always say I am for energy,
16 all of the above. The trouble is, half of that group is
17 for everything above the ground, and against everything
18 below the ground. For the other half, they are for
19 everything under the ground but for nothing above the
20 ground. So I always question the legitimacy of
21 everybody saying all of the above. But the chairman's
22 proposal is for all that is above and none that is
23 below, and kind of sort of for those that grow.

24 This is due to the bill's focus on carbon
25 elimination over carbon reduction. This preoccupation

1 with achieving a green dream disfavors technology that
2 significantly reduces carbon emissions but cannot
3 achieve net zero on the aggressive time scale required
4 here.

5 At the same time, the mark provides a windfall to
6 certain technologies that would be eligible for
7 subsidies long after they achieve significant market
8 penetration and economies of scale.

9 I also have concerns about the IRS's ability to
10 administer the proposal. It leans heavily on the IRS to
11 write and enforce rules and regulations that determine
12 what technologies qualify for subsidies. It is unclear
13 that the IRS presently has the expertise or resources to
14 do either. The IRS has already been charged within the
15 last two or three months with an increasing role as a
16 social welfare agency under the Majority's Advanced
17 Child Tax Credit Program.

18 This proposal further -- the bill before us further
19 expands IRS's role as a regulator of carbon emissions,
20 and enforcer of labor rules. And none of these things
21 were intended or could be handled with where the
22 expertise is of the IRS, which of course is to collect
23 revenue.

24 So this makes me wonder if recent proposals to
25 increase IRS's budget are about tackling the tax gap, or

1 part of a larger agenda to lean on the agency to
2 administer a wide-ranging progressive agenda. Due to
3 these and other concerns, I am unable to support the
4 chairman's proposal as written. However, I remain ready
5 and willing to work with colleagues on both sides of the
6 aisle to increase America's energy independence and
7 reduce carbon emissions. I yield the floor.

8 The Chairman. Thank you, Senator Grassley. We will
9 go with Senator Cardin, and then Senator Cantwell.

10

1 OPENING STATEMENT OF HON. BENJAMIN L. CARDIN, A U.S.
2 SENATOR FROM MARYLAND

3
4 Senator Cardin. Thank you very much, Mr. Chairman.
5 First, I want to thank you for the proposal that you
6 have brought forward. I think it is a rational tax
7 policy for energy production and use. I think it is
8 fair. It is consistent. It is tied to the reduction of
9 greenhouse gases, which is our global responsibility,
10 and our domestic need on climate change. It recognizes
11 that clean energy will create more jobs. Clean
12 transportation will create more jobs. And it puts a
13 reward on energy conservation, which is something we all
14 should agree with as far as energy use is concerned.

15 I want to thank him specifically for including the
16 improvements on the 179D, the Commercial Buildings
17 Energy Efficiency issue. Last year, with the help of
18 Senator Crapo, we were able to make that particular
19 provision permanent. Under the Chairman's mark, we will
20 have a more effective 179D program with higher
21 deductions, and the allocation provision for nonprofits
22 and tribal governments allow them to take advantage of
23 this 179D program.

24 We have also made it possible to take full advantage
25 of the deduction, which has gone further than that, and

1 I am pleased that you also took another one of our
2 recommendations that they can fully take advantage of
3 the energy credit, including the Direct Payment Program.

4 When we get to the markup itself, I am going to
5 offer an amendment -- I will not ask for a vote -- along
6 with Senator Whitehouse and Casey that would provide for
7 a nuclear production tax credit so that we are
8 consistent with all forms of energy.

9 Obviously, many of our states have nuclear power
10 plants. I have reactors at Calvert Cliffs. It is an
11 emissions-free energy source and furthers our climate
12 objective. Twenty percent of all of our electricity is
13 produced through nuclear energy. Fifty percent of our
14 carbon-free electricity. So it is a critical source of
15 energy, and a critical source of emissions-free energy.

16 The Production Tax Credit would apply to merchant
17 nuclear power plants, and it would be similar to the
18 formulas in the chairman's remarks in regard to the
19 other production tax credits, including the Direct Pay
20 Option.

21 We are in danger of seeing the premature closing of
22 nuclear reactors in this country. We have already lost
23 11 reactors in 10 different states, and there are other
24 nuclear reactors that are in peril of closing.

25 So, Mr. Chairman, I hope that as we go through this

1 process, we will find a way that we can include a
2 nuclear production tax credit. I also want to thank
3 Senator Burr, who has raised this issue before our
4 committee, and Senator Cramer who joined me in the last
5 Congress in regard to nuclear power. This is
6 bipartisan, and I hope ultimately will be added to the
7 package.

8 Thank you, Mr. Chairman.

9 The Chairman. I thank my colleague. And I want to
10 thank my colleague for his leadership on energy
11 conservation, and also for clean nuclear energy. Two
12 very important points.

13 I think now, with the graciousness of colleagues, we
14 will go to Senator Cantwell, and then we will go to
15 Senator Carper.

16

1 OPENING STATEMENT OF HON. MARIA CANTWELL, A U.S. SENATOR
2 FROM WASHINGTON

3

4 Senator Cantwell. Thank you, Mr. Chairman.

5 I wanted to say thank you so much for this markup
6 and the work that your team has done, incredibly, in
7 putting all of this together. And taken together, I
8 think this is one of the biggest measures we have had
9 before us, to ensure that America continues to lead in
10 the manufacturing sector particularly with clean energy.

11 I was proud to support the first \$7,500 federal 30-D
12 incentives with Senator hatch. We did that in 2007,
13 maybe even in this room, I don't know, but when we did
14 the 30-D credit it became law in 2008, there were no
15 electric vehicles in the market. So Tesla only had a
16 prototype. The GM, Chevy Volt was still a blueprint.

17 So fast forward to today, and we have a tax
18 incentive that has helped to develop lots of different
19 models, and hundreds of electric vehicle models in the
20 future. So I am very excited to continue to look at
21 this investment, and I am sure we will end up talking
22 about the F-150 and trucks for the future.

23 But today I wanted to point out a couple of things
24 in the underlying legislation that I think continues to
25 help us and to move forward. We need to tackle other

1 areas of our transportation infrastructure that will
2 help us be competitive, and to tackle climate issues.

3 Many of the issues that I think we will hear about
4 today, people are going to claim that these are costly
5 investments. But I would say that they return to the
6 taxpayer a very strong economy, a very strong
7 innovation, and certainly high-wage jobs. So they are
8 worth the investment.

9 There are many provisions that I support, but I
10 would like to highlight two. The first, I would like to
11 thank the Chair for including my proposal to establish a
12 landmark 30 percent credit for electrified vehicles
13 beyond passenger cars. This is an opportunity for us to
14 look at everything from buses to trucks, to the maritime
15 community with boats, even lanes, and other industrial
16 equipment like electric-powered forklifts, tractors, and
17 port equipment. Because our ports obviously are under
18 many challenges have lots of issues, but if we could
19 help them move forward on transition ports to cleaner
20 sources of energy, that would be helpful.

21 Americans run on freight but moving goods around the
22 country account for one-sixth of U.S. greenhouse
23 emissions. But these heavier vehicles are particularly
24 difficult to decarbonize, so I believe time-limited
25 incentives are needed to warrant -- are warranted to

1 help scale and commercialize these promising
2 technologies.

3 These incentives will not only drive adoption of
4 cleaner vehicles, they will help ensure the cleaner
5 vehicles the world wants to buy are built here in the
6 United States.

7 Electrifying freight, which includes batteries,
8 green hydrogen, renewable natural gas, also could reduce
9 local air pollution, lower transportation costs,
10 facilitate international trade, and provide us with a
11 competitive edge.

12 I want to thank Senator Stabenow and Cortez Masto
13 for co-sponsoring the amendment, and we have the support
14 of the Zero Emissions Transportation Association, the
15 Electric Drive Transportation Association, the National
16 Marine Manufacturers Association-- can you imagine
17 fishing in an electric boat? We have had some stories
18 of people winning fishing derbies just because they had
19 an electric boat. So I like that. The Truck Engine
20 Manufacturers Association, the Fuel Cell and Hydrogen
21 Energy Association, the Business Council for Sustainable
22 Energy, and lots of other environmental groups like
23 Earth Justice.

24 So the second measure -- I will go quickly, Mr.
25 Chairman -- is about a proposal that would help maintain

1 baseload hydropower facilities, and remove obsolete
2 river obstructions.

3 So I thank you again, Mr. Chairman, for the fine job
4 in pulling all this together.

5 The Chairman. I thank my colleague for her
6 leadership, and particularly in areas like freight, and
7 ports, and the like. As you mentioned, we are only
8 trapping a tiny fraction of the potential, and we need
9 more incentives to reduce carbon that can really make a
10 difference. And I thank you for your leadership as the
11 Chair of the Commerce Committee, as well.

12 Again, colleagues are being very gracious, and I
13 think we will have Senator Carper next. And is Senator
14 Thune available? We will have Senator Carper next, and
15 then Senator Thune. Senator Carper?
16

1 OPENING STATEMENT OF HON. THOMAS R. CARPER, A U.S.
2 SENATOR FROM DELAWARE

3

4 Senator Carper. Thank you, Mr. Chairman. I want to
5 thank you, Mr. Chairman, for bringing us together, and I
6 thank you for your kind words about these collective
7 efforts and leadership. Thanks for having this markup
8 to update our federal energy tax system.

9 I just want to align myself with the words of
10 Senator Cardin with respect to nuclear energy. I spent
11 some years of my life in the Navy. We started with
12 nuclear power in the Navy 7 years ago, and in those 7
13 years the total number of people who people who died in
14 the Navy who were exposed to nuclear radiation is zero.
15 And I just want us to keep that in mind as we try to
16 figure out whether or not to save nuclear power plants,
17 I think we should.

18 But as Chairman of the Senate Committee on
19 Environment and Public Works, this is an issue that we
20 are considering today that is close to my heart. I want
21 to thank several members of this committee, Mr.
22 Chairman, who are also members of the Environment and
23 public Works Committee. I want to especially thank
24 Senator Cardin, Senator Whitehouse, Senator Stabenow,
25 for helping us to report out the unanimous Surface

1 Transportation legislation. Thank you, Debbie, very
2 much. And on I had to repeat that, Mr. Chairman, three
3 times. I kept asking, would you say that again?
4 Finally, we had to shut it down.

5 But seriously, we know that climate change is the
6 greatest crisis facing our planet, a crisis that demands
7 action. Here on this committee, we must work to ensure
8 that our Tax Code is helping our Nation combat this
9 challenge, and doing so to create good-paying American
10 jobs and strengthening our economy at the same time.

11 I am glad to join Chairman Wyden in co-sponsoring
12 the Creating Energy for America Act, which will do just
13 that, putting our tax system on track to help protect
14 our planet. Passing this measure will support American
15 innovation, reduce pollution, foster economic growth,
16 and create good-paying jobs in our country at a time
17 when we really need them.

18 This legislation draws in a number of comments to
19 discuss the policies that I helped to author or
20 co-author to move us toward a clean energy future.

21 First, I am delighted we could build bipartisan
22 legislation I have introduced with Senator Burr of this
23 committee, the Security America's Clean Fuels
24 Infrastructure Act. This measure improves and extends
25 the existing 30C alternative fuel vehicle investment tax

1 credit to encourage private investments in clean vehicle
2 infrastructure with the clean cars of the future.

3 I am also grateful that the bill before us includes
4 the Save America's Clean Energy Jobs Act that I penned
5 to help make clean energy credits this year, and into
6 the future refundable. This provision will allow
7 companies to more easily use clean energy tax credits,
8 and help unleash capital for clean energy investments
9 and deployment.

10 The legislation also includes something new that we
11 have -- I have thought about it for a while, but it
12 really has done something with it this week. The
13 legislation also includes my Clean Hydrogen Production
14 Act, which incentivizes U.S. production of clean
15 hydrogen through production and investment tax credits.

16 This could be the start of something big, Mr.
17 Chairman. I think hydrogen can be used as a
18 zero-emitting fuel for a whole host of things, as
19 electricity, as transportation fuel, as energy storage
20 and industrial processes. The provisions in today's
21 bill will accelerate the production of clean hydrogen
22 and a piece to cleaning up our industrial sector, and as
23 an important tool in meeting our climate goals.

24 In addition, the Chairman has adopted an amendment
25 of mine which extends the existing 30 percent investment

1 tax credit under Section 48, and in doing so the
2 Chairman's mark gives an additional year of certainty to
3 the clean energy sector as we transition to the
4 technology-neutral approach.

5 And one more, thank you, Mr. Chairman, thank you and
6 your staff for -- I know I am out of time, but thank you
7 to you and your staff for your leadership and hard work
8 that went into today's bill. Thank you for adopting so
9 many provisions that are important to my constituents
10 and to me and to the Americans across the country.
11 Today's bill is imperfect. None of my bills are
12 perfect, but it is a wonderful start toward a clean
13 energy future. And my hope is that all of your
14 colleagues will join us in supporting this excellent
15 piece of legislation before us today.

16 The Chairman. Well let me stay in the thank-you
17 caucus and tell you I very much appreciate that
18 unanimous vote that you got today. It is pretty hard to
19 get 21 votes on ordering 7-Ups, let alone a major bill.
20 So thank you.

21 Senator Thune is next.

22

1 OPENING STATEMENT OF HON. JOHN THUNE, A U.S. SENATOR
2 FROM SOUTH DAKOTA

3

4 Senator Thune. Thank you, Mr. Chairman, and Ranking
5 Member Crapo. And, yeah, I do not think the Chairman
6 ever gets tired of thank-yous.

7 Like my colleagues, I understand the importance of
8 protecting our environment. And I believe it is in our
9 Nation's long-term interest to embrace cleaner energy
10 sources to reduce greenhouse gases, especially as other
11 countries around the world become more industrialized.

12 Since being elected to Congress, I have worked to
13 increase the availability and use of alternative energy
14 sources. I believe this is important not only because
15 it can reduce our dangerous dependence upon foreign
16 sources of energy, but also because the environmental
17 benefits of using cleaner sources of energy.

18 So alternative energy resources, including wind,
19 hydropower, and a strong agriculture sector that allows
20 for the production of renewable fuels such as ethanol
21 and biodiesel, South Dakota is leading the way toward
22 cleaner and more efficient energy technologies. My
23 colleagues may be surprised to learn that, due to robust
24 hydroelectric and wind energy, approximately 70 percent
25 of South Dakota's energy production is renewable.

1 As a member of the Senate Finance Committee, I
2 promoted the responsible use of energy tax credits to
3 bring technologies to a point of competitive maturity,
4 notably wind energy which has seen expansive growth on
5 the Great Plains. In fact, the fourth quarter of 2020
6 saw more wind projects come online nationally than in
7 any previous year other than 2012.

8 As a member of the Senate Agriculture Committee, I
9 have also promoted the use of home-grown biofuels to
10 lower carbon emissions from the transportation section.
11 Biofuels like ethanol have on average 46 percent lower
12 carbon emissions than conventional gasoline. Ethanol
13 and biodiesel are readily available carbon solutions
14 that can leverage the existing vehicle fleet and
15 majority of existing fueling infrastructure across the
16 country.

17 And even as more electric vehicles hit the road, we
18 must not forget that millions of Americans will continue
19 to drive liquid fuel vehicles for years to come.
20 Biofuels can make each American driver part of our
21 climate solution. Congress and this Administration
22 should not overlook American agriculture and the immense
23 opportunities the ag sector brings to the table.

24 This starts with accurate data and modeling to fully
25 recognize the emissions contributions of biofuels, and I

1 have an amendment to address this. I encourage domestic
2 energy production, increasing America's renewable energy
3 applying, and reducing consumption we can ultimately
4 achieve lower energy costs, lower emissions, energy
5 independence, and a strong economy.

6 Unfortunately, provisions in this \$260 billion
7 energy tax bill missed the mark, and it will impose new
8 costs on American families at a time when many can ill
9 afford them. My colleagues will characterize this bill
10 as tech-neutral, but right out of the gate they strip
11 energy programs that help deliver affordable and
12 reliable energy to Americans every day, and support
13 good-paying jobs across the country.

14 Just three weeks ago, the Colonial Pipeline hack was
15 a wake-up call to the importance of American energy
16 security and energy independence. American consumers
17 should never have to question whether they will have
18 reliable and affordable access to energy and fuel. And
19 I have concerns that this bill will undercut the great
20 strides we have made in America's recent energy
21 renaissance, particularly through natural gas and
22 hydraulic fracking.

23 In order for America to maintain its competitive
24 energy posture, we cannot hamstring our energy
25 industries that have reduced our dependence on foreign

1 sources of energy, nor should we overlook the readily
2 available technologies that have made America the leader
3 in clean energy.

4 If we are to make meaningful fiscal responsible
5 investments in American energy, delivering affordable
6 and reliable energy to consumers, growing good-paying
7 jobs for American workers, all while lowering our
8 emissions, it will require a truly all-of-the-above
9 approach.

10 And so, I welcome, Mr. Chairman, the robust
11 discussion here today.

12 The Chairman. I thank my colleague.

13 Senator Casey?

14

1 OPENING STATEMENT OF HON. ROBERT P. CASEY, JR., A U.S.
2 SENATOR FROM PENNSYLVANIA

3

4 Senator Casey. Thank you, Mr. Chairman.

5 [Pause.]

6 I don't know why this isn't going on. Okay.

7 -- passing --

8 The Chairman. There you are.

9 Senator Casey. Mr. Chairman, thanks for your
10 leadership on this bill and the work we are doing in
11 this markup. I appreciate all the work you have done
12 with me and others to come together on this bill.

13 The science is very clear. I do not think anyone
14 doubts, at least not many people doubt the science that
15 climate change is real, and it is a threat to human
16 life, and it is caused by human activity. Of course,
17 that compels us to do something.

18 We have got to take bold and decisive action to
19 tackle this crisis by dramatically reducing greenhouse
20 gas emissions. Climate change not only threatens the
21 health of the environment, it is of course a direct
22 threat to God's creation. And certainly, it is a threat
23 to future generations.

24 But it is already having a devastating impact on our
25 communities today. I see it in Pennsylvania all the

1 time, rising temperatures, heavy rain events, higher
2 tides, water levels that are presenting new and serious
3 threats to our public health, threats to our
4 agriculture, our economy, and our environment.

5 These impacts will only intensify in my home state
6 and across the country if we fail to take action that
7 the climate crisis demands. It is imperative that our
8 climate mitigation strategy focus on making investments
9 that can increase our economic, energy, and
10 environmental security, while protecting and creating
11 good-paying jobs.

12 This Clean Energy for America Act makes these vital
13 investments, while also keeping our Nation's energy
14 workers at the forefront. Taking advantage of the
15 well-trained, dedicated, and skilled workforce that has
16 grown out of our industrial past and present, because of
17 this I was very proud to work with Senators Brown and
18 Bennet to include a measure that prioritizes industrial
19 and manufacturing communities for expanded incentives
20 for renewable energy projects.

21 We will revitalize our economy by increasing federal
22 efforts in the areas of energy efficiency and
23 conservation, by developing and adopting new cleaner
24 ways of producing electricity, and by creating jobs for
25 today and for future generations. Senator Brown and I

1 have worked to ensure the legislation assures strong
2 domestic content standards for renewable energy
3 investments, ensuring America is a leader in renewable
4 energy innovation, manufacturing, and supporting our
5 energy independence is all critical.

6 I want to thank Chairman Wyden and his staff for
7 their work on this measure, as I said at the outset.
8 Not only will this be investment in the green jobs of
9 the future, the clean energy jobs that will grow our
10 economy, it will also reverse the hazardous effects of
11 climate change.

12 Clean energy jobs will help alleviate rising energy
13 prices, transform the world's economy, and protect our
14 national security by reducing our dependence on foreign
15 sources of energy. The health of our children and our
16 communities depends on a commitment to invest in
17 meaningful climate action now, not later, now, and the
18 Clean Energy for America Act takes these first critical
19 steps.

20 Thanks, Mr. Chairman.

21 The Chairman. I thank my colleague, and
22 particularly appreciate the fact that he has been
23 consistently pushing a modern energy policy for working
24 families. And that is a vital part of this bill. I
25 think Senator Portman is next.

26

1 OPENING STATEMENT OF HON. RON PORTMAN, A U.S. SENATOR
2 FROM OHIO

3
4 Senator Portman. Thank you, Mr. Chairman. And
5 thanks for indulging us, because we have got so many
6 things going on at the same time this afternoon. I
7 support, as so many of us do, an all-of-the-above
8 approach energy policy. And there is a reason for that.
9 It is important that we have a different mix of power
10 sources for our energy portfolio for our economy, and
11 that includes fossil fuels, but it also includes
12 renewables.

13 So Ohio is a classic example. We have 21 percent
14 coal, still, probably less than 21 percent by the time I
15 finish talking because natural gas has displaced a lot
16 of our coal power. Natural gas is about 42 percent,
17 renewables 2.7 percent including hydropower on the Ohio
18 River, solar, wind, as well as nuclear power up to 13
19 percent in Ohio.

20 So we have got it all. We also have a strong energy
21 development and manufacturing sector that is supported
22 by these energy industries. We will continue to need
23 this diverse energy portfolio, which includes fossil
24 fuels in my view, to help keep costs low and have
25 reliable energy, and to assure that our grid reliability

1 is there as we work toward a cleaner energy economy.

2 However, this approach does not mean that we have an
3 increase in emissions. In fact, we have had a reduction
4 of emissions, as you know. As you know, since 2005 our
5 national emissions have fallen by 10 percent,
6 specifically power sector emissions have fallen by 27
7 percent. It is pretty amazing, and it really goes to
8 the natural gas revolution that we have seen in Ohio and
9 elsewhere.

10 Over this time frame, our Nation experienced rapid
11 growth, by the way, and yet we had these numbers. And
12 we also had rapid growth in our domestic energy
13 production, particularly natural gas. Working on
14 solutions to help reduce our emissions while supporting
15 the economy is an important conversation. My concern is
16 that it may not be a bipartisan one today. I have been
17 able to work with a lot of my colleagues on the other
18 side of the aisle, and our side of the aisle, to put
19 forward energy bills, some of which are actually under
20 the jurisdiction of this committee.

21 One example is the bill that Senator Michael Bennet
22 and I have introduced for several Congresses now. We
23 are about ready to get it done. It is a smart thing.
24 It is the private Credit Activity Bonds, which brings in
25 a lot more private sector funding. And it would help to

1 finance the purchase of the installation of carbon
2 capture and sequestration, which again using fossil fuel
3 is capturing that carbon, and now we have added to it
4 direct air capture equipment, given the technology
5 improvements there.

6 I understand, just as I walked in here, that it is
7 included in the Chairman's mark. Is that true, Mr.
8 Chairman? Thank you, very much. I did not know that.
9 I think it makes sense, and I think it is one where we
10 should be able to find a way forward.

11 We did this, by the way, with scrubbers back in the
12 '70s, using private activity bonds, and I think it
13 should be a use for those bonds. I actually have the
14 Lanier Parity Generator Act with Senator Brown. This is
15 about a specific technical correction to allow
16 high-efficiency linear generators to access an
17 investment tax credit, and again understand from Senator
18 Brown that has also been included in the bill today.
19 And I think it is appropriate. Again, it is a small
20 change but important to keep up with the technologies.

21 These bipartisan bills I have worked on to help
22 improve emissions and the environment, while creating
23 jobs include energy efficiency legislation with Senator
24 Shaheen. As I told the Chairman, this is not about tax
25 incentives. We have never focused on the tax side.

1 Instead, we have focused on other incentives but no
2 mandates, and it is pretty significant in the sense that
3 it would save consumers about \$51 billion on energy
4 bills through more efficiency, but also reduce carbon
5 emissions by about 1.3 billion tons, and add more than
6 100,000 jobs to the economy. So all without putting any
7 new mandates again on the private sector.

8 That bill has passed the Senate before. It did not
9 pass the House the last time it passed the Senate, and
10 pieces of it have been signed into law, but there is
11 still more to be done there.

12 So, I hope, Mr. Chairman, that we will have a
13 spirited discussion today about these different
14 approaches, but at the end figure out some way to come
15 together on some of these ideas that make sense for jobs
16 and the economy, but also for reducing emissions and
17 helping the environment.

18 Thank you, Mr. Chairman.

19 The Chairman. I thank my colleague and thank him
20 for good work particularly in the energy efficiency
21 field. First, as I touched on earlier, there are no
22 mandates in this bill. Repeat. No mandates in the
23 bill. This is all about incentives to reduce carbon.
24 And I know my colleagues had good idea in this area, and
25 I hope you will want to expand on some of them as we go

1 forward with this discussion.

2 Let's see. Our next -- Senator Lankford?

3

1 OPENING STATEMENT OF HON. JAMES LANKFORD, A U.S. SENATOR
2 FROM OKLAHOMA

3
4 Senator Lankford. I will just walk right in and get
5 a chance to be able to go. I could not have timed that
6 any better. It has been interesting. The children and
7 I have had this conversation before, and several of us
8 have. If I am going to pull the crystal ball out and
9 fast-forward five hours from now or so, we are going to
10 have a 14-to-14 vote. And we will be locked up on this
11 issue.

12 I think it is good that we can talk about it. I
13 have to tell you, from a state like mine that is a truly
14 all-the-above state with a diverse energy portfolio,
15 this kind of dialogue makes us nervous. Not because we
16 are an oil and gas state and we are enslaved to oil and
17 gas folks, and the dark money is rushing at us and we
18 are unrestrained, it is that we had in February 14
19 degrees below zero at my house. And we were below zero,
20 well below zero, for two weeks.

21 Well, that may be normal at some of your homes; that
22 is not normal at ours. And in that situation, our wind
23 towers froze up. Condensate coming out of natural gas
24 wells froze up. We have a lot of hydro. We accelerated
25 the use of hydro. Our solar panels were covered in

1 snow, and we were in a situation that is very unusual
2 for us in the Southwest Power Pool to be using a
3 majority of coal. That is not normal for us. We use
4 the majority of wind.

5 Unlike some other states, we use a lot of wind in
6 our state. And while other states talk about it, we
7 actually do it. And that is a major part of our
8 portfolio. The fear for this is, in those peak moments
9 we are about to disincentivize creating fuels and
10 maintaining facilities that will carry us through those
11 moments. And on the most dangerous days when it is
12 hottest, when it is coldest, what we will be dependent
13 on is intermittent because the investments are not
14 there.

15 Now it is not just restrictions or mandates. We all
16 know around this group, because we track it all the
17 time, if you disincentivize certain areas, capital stops
18 flowing to those areas. So you stop getting capital to
19 maintain pipelines. You stop getting capital to be able
20 to build new natural gas facilities.

21 And in this dialogue for a while we have talked
22 about natural gas as a bridge fuel. Now suddenly
23 natural gas is evil. I have to tell you, I am trying to
24 track where we go in this dialogue and I am hopeful for
25 a positive dialogue, but my fear is that at the end of

1 the day I will be called the climate change denier and
2 you will be called the reality denier because when we
3 are driving vehicles 98 percent of them right now are
4 running on gas, not running on electricity. And if we
5 shut off all that flow towards that, that is going to
6 continue to raise prices on those that cannot afford it
7 the most. And if the push is going to be towards
8 electric vehicles, to just say everybody needs to shift
9 to electric, I would love for you to tell the folks that
10 are working every day because the electric vehicles in
11 the manufacturing location are not being driven by the
12 folks working on the line. They are being driven by the
13 folks in the office at the corner. And so they are not
14 available to everyone.

15 So, I hope we can have a realistic conversation
16 about what is really happening, and about how we can
17 deal with fuel options, and keep diverse fuel options
18 and not try to disincentivize us from actually
19 maintaining what we are going to need as a country.

20 The Chairman. I thank my colleague for our
21 conversations, and I hope what will come out of here --
22 and we have certainly seen it for the first hour and a
23 half -- is nobody is calling anybody any names here.
24 This is about the new system using voluntary incentives
25 to cut carbon on a level playing field, where there are

1 no winners, no losers, and everybody in your part of the
2 world in the fossil fuel part of the country can take
3 advantage of carbon capture and the like.

4 Senator Brown?

5

1 OPENING STATEMENT OF HON. SHERROD BROWN, A U.S. SENATOR
2 FROM OHIO

3

4 Senator Brown. Thank you, Mr. Chairman.

5 Mr. Chairman and Senators Casey and Stabenow,
6 especially, thank you for the work, was it the last
7 weekend or the weekend before, whenever that frenetic
8 outburst of activity, thank you, in the same weekend
9 that Senator Crapo had his 70th birthday party, or
10 birthday, I do not know about a party, but if I could
11 add that in, thank you.

12 The Chairman has listened to our concerns. We
13 worked to address them in the bill that we will pass out
14 of committee today. We have a forward-looking bill
15 where we begin to protect our communities and our
16 economy from climate change, while creating jobs and
17 boosting domestic manufacturing in the auto industry.

18 We know the tremendous potential of electric
19 vehicles. We need to ensure that we are getting the tax
20 policy right. I appreciate again the work of the
21 Chairman and Senator Stabenow to provide the additional
22 credit for EVs built in the U.S. And, equally
23 importantly, by union workers and good-paying jobs.

24 This bill takes an important step forward in
25 ensuring in the coming years only cars made in this

1 country by this country's workers will be eligible for
2 the credit. The bill includes provisions to spur
3 domestic clean tech manufacturing to make sure we get
4 that investment. In my part of the country and other
5 regions, it has seen old or insufficient power plants
6 retired. We have an opportunity to align our Tax Code
7 in a way that rewards investment in good-paying jobs for
8 American workers, whether they are building solar
9 installations in western Ohio, or making batteries in
10 northeastern Ohio.

11 I want to briefly mention three amendments that are
12 included. First is Brown-Whitehouse. I thank my
13 colleague from Rhode Island. It promotes the use of
14 sustainable aviation fuels and reduction of emissions
15 across the aviation sector. America is already a leader
16 in sustainable transportation fuels.

17 Ohio has been a leader in aviation innovation really
18 since the Wright Brothers 125 years ago. This amendment
19 ensures we will continue to develop the next generation
20 of fuel to power that industry.

21 The second amendment will make it easier for farmers
22 to invest in biodigesters and renewable gas generation.
23 In Ohio we know that by working with farmers and
24 livestock producers we increase on-farm income, while
25 reducing runoff. Promoting water quality especially

1 important to Senator Portman and me with Lake Erie.

2 The third amendment provides a tax credit to spur
3 the development of linear generators of new clean
4 technology that supports jobs in Appalachian Ohio and
5 Athens, an area of the state that has been hit for
6 decades by lost industrial jobs. So, Mr. Chairman, I
7 appreciate the time. Thank you.

8 The Chairman. Thank you, Senator Brown, and for
9 coming through on all those key issues for workers. I
10 think now a quorum is present, and we are in a position
11 to begin the formal markup. The modification is hereby
12 incorporated into the mark, and I would ask that the
13 Chief of Staff of the Joint Committee, Mr. Thomas
14 Barthold, summarize the mark and modification.

15 After Mr. Barthold has done it, then we will be able
16 to have questions to the staff.

17 Mr. Barthold. Thank you, Mr. Chairman. The members
18 have available to them three Joint Committee documents,
19 JCX-26, -28, and -29. The first two documents describe
20 the Chairman's mark and the modification to it, and
21 JCX-29 is the -- provides our revenue estimates of the
22 provisions in the Chairman's mark, as modified.

23 By way of a brief background, the underlying mark
24 makes substantial changes to the present law, the
25 Electricity Production Tax Credit, the Energy Investment

1 Tax Credit, various proposals that provide incentives
2 for residential conservation products and production of
3 alternative power or heat in the home, and provisions
4 that encourage alternative fuels for transportation.

5 What the mark does is, rather than identify specific
6 products or technologies, the mark would qualify any
7 expenditure that meets specific reductions in greenhouse
8 gas emissions. It generally revises what we have in
9 present law Sections 45, 48, 25C, 25D, and the fuels
10 credits, to move to this test based on greenhouse gas
11 emissions, with the flip over from present law to the
12 new regime generally commencing in calendar year 2023.

13 Now JCX-28 describes the modifications that were
14 released a little bit earlier today, some of which have
15 been referenced in the discussion here of the past 90
16 minutes. I will highlight just a few of them.

17 Regarding the production tax credit and the
18 investment tax credit provisions in the Chairman's mark,
19 the modification provides that there is a 10 percent
20 bonus to the production tax credit, and a 10-percentage
21 point bonus to the investment tax credit for three
22 different qualifying events. One is in the case of
23 nascent technologies -- and those are technologies where
24 the facility, the product has a less than 3 percent
25 market penetration -- could receive this bonus under the

1 PTC or the ITC.

2 Another event is if the qualifying facility is
3 located in an impacted energy community -- and that is
4 generally a community where there has been a loss of a
5 coal-fired power plant, or coal mining and the jobs have
6 been lost in that community.

7 And then finally, the bonuses may apply if the
8 facility meets certain domestic content requirements. I
9 should also note that within the mark, which provides
10 for direct pay elections for many, most all of these
11 technologies, the modification would limit the direct
12 pay option with respect to the amounts of domestic
13 content in the facility.

14 The modification would extend Code Section 25-D
15 through 2023 at a 30 percent -- and restore the 30
16 percent tax credit rate. It would extend present law
17 Section 48, the investment tax credit, through 2023 at
18 30 percent rate, and also expand qualifying facilities
19 under Section 48 to include biodigesters and manure
20 resource systems, and in addition add clean hydrogen
21 production facilities.

22 Regarding fuel production, the Chairman's
23 modification makes a modification to provide a base
24 credit amount of \$2 per gallon in the case of
25 sustainable aviation fuel. Regarding electric vehicles,

1 the Chairman's modification again provides two levels of
2 additional bonuses for our passenger vehicles, a bonus
3 of \$2,500 if the final assembly occurs in a facility
4 manned by organized labor organizations. It provides
5 another \$2,500 bonus based on domestic assembly. This
6 would mean that the maximum amount of credit that could
7 be claimed for an electric passenger vehicle would be
8 \$12,500, which is an increase from the maximum amount of
9 \$7,500 available under present law.

10 However, the modification also provides that these
11 credits would only be available for vehicles at the
12 manufacturer's suggested retail price, of which I less
13 than or equal to \$80,000.

14 As noted in some of the discussion earlier, the
15 modification also expands the commercial vehicle credit
16 and expands it by including commercial vehicles beyond
17 trucks. So, for example, electric buses. The
18 modification strikes the clean energy bonds provisions
19 that were in the underlying mark, but adds, as was noted
20 a moment ago, a new category of qualified facility
21 private activity bonds for carbon capture, storage, and
22 direct air capture facilities.

23 The modification also creates a production tax
24 credit for clean hydrogen. Then lastly, the
25 modification includes a hold-harmless from tax increase

1 for small businesses and taxpayers whose incomes are
2 less than \$400,000 annually,

3 That concludes my brief walk through. I would be
4 happy to answer any questions that the members might
5 have.

6 The Chairman. Thank you, Mr. Barthold. And before
7 we go to questions, I think Senator Sasse got here in
8 this short window. Does my colleague want to ask --
9 make a statement now? Or what is your pleasure.

10 Senator Sasse. Thank you, Mr. Chairman. I will
11 comment as we go, but let's push on now. Thank you for
12 the offer.

13 The Chairman. Very good. All right, we are now in
14 the period for Senators to ask questions of Mr.
15 Barthold, and we will go as we did before, in the order
16 of appearance. So, on our side, Senator Carper, you
17 would be next for purposes of asking questions. Are
18 there any questions that you would care to ask Mr.
19 Barthold?

20 Senator Carper. If I could, I would like to pass
21 for now.

22 The Chairman. Okay.

23 Senator Carper. Thank you.

24 The Chairman. Senator Crapo, questions?

25 Senator Crapo. Thank you, Mr. Chairman.

1 Mr. Barthold, as Congress continues to discuss ways
2 to address the insolvency of the Highway Trust Fund, we
3 see that receipts going into the Fund continue to
4 decline, making it increasingly difficult to maintain
5 our existing infrastructure, let alone modernize and
6 make improvements.

7 And a big reason for that is the increased number of
8 electric vehicles on the road. Could you tell me what
9 that statistic is right now, in terms of what usage of
10 our roads is being accomplished by electric vehicles
11 versus what we expect it to be moving forward, and what
12 we can expect the revenue going into the Trust Fund to
13 be?

14 Mr. Barthold. Mr. Crapo, I will have to respond
15 later with precise statistics. As you had noted,
16 electric vehicles represent less than 2 percent of the
17 passenger fleet, and a smaller amount of trucks and more
18 heavy transportation fleet.

19 The declining revenues in the Highway Trust Fund are
20 a result of where there are more vehicles on the road,
21 not just electric vehicles, but there has been
22 substantial improvements in the fuel efficiency of the
23 rest of the fleet both in terms of larger vehicles,
24 tractor trailers and passenger automobiles.

25 I can provide to the members later the Congressional

1 Budget Office's projections of the projected balances
2 and the receipts that are going into the Highway Trust
3 Fund. I will ask my colleagues to prepare that material
4 and we will get it out to all the members.

5 The Chairman. If my colleague just would yield
6 without losing his time, Mr. Andres, I remember the
7 Congressional Budget Office at our hearing on
8 infrastructure essentially giving us an analysis
9 indicating that the impact on the Highway Trust Fund
10 would be very modest. Can you recall what the Congress
11 Budget Office said? And I want Senator Crapo to know he
12 is not going to lose his time.

13 Mr. Andres. That is correct. At last week's
14 hearing on infrastructure the Congressional Budget
15 Office estimated that if electric vehicles faced a tax
16 roughly equal to what an average gas taxpayer would pay,
17 it would collect roughly \$200 million a year, or \$2
18 billion over the budget window, which is significantly
19 smaller than the nearly \$200 billion Highway Trust Fund.

20 The Chairman. Somewhere in the vicinity of perhaps
21 1.6 percent, or 2 percent? Somewhere along those lines?

22 Mr. Andres. That is correct.

23 The Chairman. Thank you. Senator Crapo?

24 Senator Crapo. Thank you, Mr. Chairman. So if I
25 understand that right, you are talking about a tax on

1 electric vehicles in that answer?

2 Mr. Andres. That's correct. The Congressional
3 Budget Office looked at an option that would provide a
4 fee on electric vehicles that was roughly equivalent to
5 the average amount paid by gas taxpayers of internal
6 combustion vehicles.

7 Senator Crapo. All right. And then just quickly,
8 to any of you who may be able to answer this question,
9 do you have some analysis as to what increased usage of
10 the road would be if the electric vehicle incentives are
11 enacted -- that are in this legislation are enacted into
12 law? Will that not increase the utilization of our
13 highways, or at least the mix of cars and whatever other
14 vehicles are on the highway, as a result of these
15 incentives?

16 Mr. Barthold. Senator Crapo, the Chairman's mark
17 provides that the credits provided to electric vehicles
18 remain in place up to a point where annual market sales
19 exceed 50 percent of the annual sales. Our estimates,
20 as you can see from the table in JCX-29, are projecting
21 that a number of electric vehicles will be purchased.
22 That is the basis of the revenue loss.

23 We do not project that will reach 50 percent market
24 penetration in any year in the budget window.

25 Senator Crapo. All right, thank you. I do not know

1 how much time I have. I have some extra questions, but
2 I can wait and do them after.

3 The Chairman. Why don't we just see if we can go
4 back and forth. Senator Stabenow --

5 Senator Crapo. Okay.

6 Senator Stabenow. Thank you, Mr. Chairman. I just
7 wanted to clarify what I thought was in the mark, Mr.
8 Barthold. It is my understanding that it is not 50
9 percent of market share, although I would love that,
10 frankly, but that what is in the mark is that it would
11 remain -- the credit would remain in place up to 10
12 years, or when carbon emissions from the transportation
13 sector was cut by 50 percent. So if the carbon
14 emissions were cut by 50 percent, or 10 years, whichever
15 came first. That is what I understand it is. And of
16 course, the transportation sector is the leading source
17 of carbon emissions. So, we would love to have that 50
18 percent in emissions cut certainly come sooner than 10
19 years, that is for sure.

20 Mr. Barthold. The mark provides that the credit is
21 in place for fuel cell vehicles and plug-in electric
22 vehicles until such time as the combined total sales of
23 those vehicles in any one year exceeds 50 percent of the
24 annual passenger vehicle sales for that year. And then
25 it phases it out.

1 Since the fleet has older vintage cars, it is not a
2 target of hitting 50 percent of the overall fleet, but
3 it is up to 50 percent of the sales in any one year
4 would then trigger a phase-out over the subsequent three
5 years.

6 Senator Stabenow. Thank you.

7 The Chairman. We are going back and forth and
8 making an exception for members who have come in.
9 Senator Warren, we have been allowing three minutes for
10 any kind of open -- okay, very good. Senator Grassley?

11 Senator Grassley. I want to ask Mr. Boddicker
12 something that sounds funny about this thing doing away
13 with all of these special credits. In his opening
14 statement, the Chairman made the claim that we were
15 throwing out a patchwork of different credits, with a
16 streamlined tech-neutral approach. He had his modified
17 mark as a series of new one-off for special treatment.
18 We started out with a single tech-neutral clean fuels
19 credit. I now count at least three separate credits.
20 There is now one for clean fuels generally, a special
21 credit for aviation fuels, and another for clean
22 hydrogen production.

23 At this rate, we will be back to 40 separate
24 credits. So this bill is not quite as pure as it was
25 referenced to begin with. Would that be a fair

1 conclusion on my part?

2 Mr. Boddicker. Senator Grassley, thank you for that
3 question. Yeah, I think what happened in the Chairman's
4 bill and the lead up to this markup is we see the
5 tension inherent when you undertake energy tax changes,
6 right? You can speak of consolidation. You can work
7 towards that consolidation. But inevitably it grows the
8 minute you get into a setting and have to account for
9 everyone's priorities.

10 So, I think it is fair to say, you know, while we
11 may have three now, who knows how many we will have.
12 And it probably will not be long before we get back to
13 40-plus.

14 Senator Grassley. I yield, Mr. Chairman.

15 The Chairman. I would only say we are going to go
16 to colleagues. As you saw in my opening statement,
17 there were really three goals. That is what we are
18 doing, is we are putting everybody on level playing
19 field with voluntary incentives to reduce carbon wrapped
20 tightly in the three goals.

21 Colleagues, Senator Grassley has completed his
22 questions. So on our side, Senator Carper, did you want
23 to ask anything? Okay, then next on our side would be
24 Senator Bennet. Do you wish to ask any questions?

25 Senator Bennet. No.

1 The Chairman. Okay, Senator Barrasso?

2 Senator Barrasso. Thank you very much, Mr.

3 Chairman. Mr. Barthold, I have just a few questions
4 regarding the percent depletion allowance for oil and
5 gas and coal operations. The allowance has been in the
6 Tax Code since 1926, so 95 years. The percentage
7 depletion allowance is available to businesses engaged
8 in extraction operations, which includes sand, gravel,
9 granite, marble, mollusk shells, coal, borax, sulfur,
10 gold copper, silver, and oil and gas. It applies to a
11 lot of things for the last 95 years.

12 I am curious about the size of the companies that
13 use this percentage depletion. Is this available to
14 large, integrated companies? Or is this something more
15 for the small mom and pop organizations?

16 Mr. Barthold. Senator Barrasso, under present law
17 there is differential treatment on the size of the
18 companies. Large -- the large, integrated oil companies
19 under present law have to amortize 30 percent of the
20 IDCs over 60 months. The proposal in the mark is that
21 all taxpayers would itemize IDCs over 60 months. But
22 under present law, nonintegrated companies may expense
23 the IDCs, and the large integrated half to amortize part
24 of the IDCs.

25 Senator Barrasso. So it is fair to say that a

1 repeal of this percent depletion for oil, gas, and coal
2 would result in a tax hike on small businesses? The
3 impact would be felt there?

4 Mr. Barthold. It slows the recovery of the cost by
5 amortization. It is not denying a deduction, but it
6 slows it. And so, in present value terms, yes, it does
7 reduce a tax benefit.

8 Senator Barrasso. So, for thousands of my
9 constituents in Wyoming who are royalty owners,
10 landowners, retirees on a fixed income, children of
11 families who have been in the state for generations, and
12 there may be some oil or resources on their land, it is
13 correct that the individual royalty owners can claim a
14 deduction for percent depletion right now?

15 Mr. Barthold. That is correct, sir.

16 Senator Barrasso. So, is it accurate, then, to say
17 that if a percent depletion deduction was repealed, as
18 being proposed here, then those royalty owners that
19 claim the deduction in their annual tax returns would in
20 fact then pay more in taxes, assuming everything else on
21 their tax returns is unchanged?

22 Mr. Barthold. Senator, again with the nuance that I
23 explained is it is not a total denial of the deduction.
24 It is amortization. So it is recovered over time. But
25 the short answer is, yes, there would be a smaller

1 deduction in the initial -- in initial years, and that
2 would mean more reportable income and a higher tax.

3 Senator Barrasso. Thank you, Mr. Chairman.

4 The Chairman. I thank my colleague. I am going to
5 put into the record now, by unanimous consent, the
6 analysis done by the Rhodium Group. And what they found
7 is, as a result of our emphasis on free market
8 competition where we have everybody on a level playing
9 field to reduce carbon, 600,000 jobs would be created.
10 And by unanimous consent, we will put it in the record
11 in connection with Senator Barrasso's question.

12 [The Rhodium Group analysis appears at the end of
13 the transcript.]

14 The Chairman. On our side, do any colleagues wish
15 to ask questions at this point? Senator Cortez Masto?

16 Senator Cortez Masto. Thank you. Mr. Barthold,
17 this clarification, you mentioned something about credit
18 score buses. Did I hear that correctly?

19 Mr. Barthold. The Chairman's -- the underlying mark
20 provides an expanded credit for electric cargo vehicles.
21 The modification expands this to alternative electric
22 vehicles of all sorts. And that would include electric
23 buses, for example. And I believe Senator Cantwell
24 mentioned electric boats. Other potential uses with
25 claims to the credit could be a forklift, or heavy

1 machinery, road-building machinery that was powered by
2 electricity.

3 Senator Cortez Masto. So just to clarify, what I am
4 hearing is that there is a potential for a tax credit
5 for the production, for manufacture of electric buses?

6 Mr. Barthold. Yes.

7 Senator Cortez Masto. Okay. Thank you.

8 The Chairman. My colleague has completed her
9 questions. Any senators on the Republican side seek to
10 ask Mr. Barthold any questions? We will go to Senators
11 Cornyn next, and then Senator Whitehouse. Senator
12 Cornyn?

13 Senator Cornyn. Mr. Barthold, the Chairman's
14 Modified mark included a modified version of to
15 amendments I filed with the bill to make sure that
16 President Biden's commitment not to raise taxes on
17 individuals who make less than \$400,000 could be kept.

18 So the Chairman's mark directs the Treasury
19 Secretary to review the returns of any individual
20 taxpayer whose gross income is less than \$400,000. I
21 cannot imagine how many that might be or a business with
22 fewer than 500 employees. And if the taxpayer or
23 business would have had a year-over-year tax increase as
24 a result of the Act, they will receive a tax rebate.

25 Could you speak to the administrability -- that is a

1 hard word to say -- how that would be administered by
2 the IRS?

3 Mr. Barthold. Senator Cornyn, I will offer a couple
4 of thoughts, but I will note that we have a
5 representative from the Treasury here who might want to
6 address that question.

7 You had noted that there are a lot of taxpayers with
8 incomes less than \$400,000. The provisions in the mark
9 that would potentially give rise to a tax increase,
10 absent this provision in the modification, are those
11 such as that noted by Senator Barrasso a moment ago, the
12 change to IDCs, amortization of GNG expenses, a
13 relatively limited number of provisions. So a person
14 such as myself who has primarily wage income and some
15 investment income is easily ignored in the Treasury
16 Secretary's review of returns earning less than
17 \$400,000.

18 The Chairman's modification I believe also directs
19 that the Secretary may require some additional
20 reporting, but as a base amount IDCs, royalty payments,
21 a number of the provisions in question here, are
22 reported as part of tax return information that is filed
23 and provided to both the Internal Revenue Service and
24 the taxpayer through the K-1, for example, in the case
25 of partnership or an S Corporation.

1 And so it may require a change in administration on
2 the part of my colleagues from the Treasury, but this is
3 possible to trace through. And as I have noted, there
4 was additional authority for information reporting that
5 might be necessary to pick up some additional gaps in
6 that.

7 But it will be a new administrative challenge that
8 cannot be denied.

9 Senator Cornyn. I think I heard you say that the
10 maximum subsidy for an electric vehicle would go from
11 \$7,500 to \$12,500 under the mark.

12 Mr. Barthold. That is correct, Senator.

13 Senator Cornyn. So if I wanted to buy an \$80,000
14 electric Hummer, the taxpayers would subsidize that to
15 the extent of \$12,500 under the Chairman's mark?

16 Mr. Barthold. It could, if it met with the --
17 remember, to get to the \$12,500 there were sort of two
18 additional criteria. But assuming that it met the
19 criteria, yes.

20 Senator Cornyn. Or the F-150 electric truck that
21 President Biden was driving the other day? That would
22 be eligible for a tax credit?

23 Mr. Barthold. Well it is a 30 percent credit
24 against the price up to a maximum of \$12,500.

25 Senator Cornyn. Fair enough. Just let me follow up

1 briefly on Senator Barrasso's point -- or, I'm sorry,
2 Senator Crapo's point. Do electric vehicles contribute
3 anything to the Highway Trust Fund?

4 Mr. Barthold. At present, not -- not directly.

5 Senator Cornyn. And there is nothing in the mark
6 which would change that, correct? Is that correct?

7 Mr. Barthold. That is correct, sir.

8 Senator Cornyn. Finally, if the goal here is to
9 reduce carbon emissions, is there anything in the
10 Chairman's mark that would price carbon? In other
11 words, would it be possible for us to evaluate maybe
12 alternatives that would reduce carbon -- the same amount
13 of carbon, let's say, at a reduced cost?

14 Mr. Barthold. Senator, in the mark there is no
15 direct tax on carbon or price on carbon. Conceptually,
16 you could look at the amount of credit paid, for
17 example, to produce carbon-free fuel, and you could
18 calculate the cost of reducing the carbon in that fuel.
19 So in concept, this has been done in terms of just
20 energy efficiency of different appliances. What is the
21 cost of achieving that efficiency gain? That is sort of
22 what economists would call a shadow price on carbon.

23 Senator Cornyn. And one last question along these
24 lines. For example, if you are looking at the public
25 investment in carbon capture technology by some form of

1 taxpayer subsidy versus the subsidy that we would be
2 providing for the purchase of electric vehicles, is
3 there anything in the mark which would allow us to
4 compare the efficiency of one form of tax subsidy
5 compared to another?

6 Mr. Barthold. Senator Cornyn, that was -- that was
7 the concept that I was trying and did not do a very good
8 job of explaining in the answer to the last question.
9 Yes, you could try to calculate what is the value of
10 what dollar amount of credit is being spent to achieve a
11 carbon reduction by one means in the bill compared to
12 another means in the bill.

13 Senator Cornyn. Okay. If we --

14 Mr. Barthold. It would require some extra analysis
15 that my colleagues and I have not done.

16 Senator Cornyn. Finally, I noticed that from the
17 revenue table that JTC is unable to score how much
18 higher taxes would be to these taxpayers -- and I am
19 talking now, let me back up a minute.

20 We originally were talking about the rebate proposal
21 in the mark for taxpayers earning less than \$400,000.
22 JTC says, I believe, from the tables that it is unable
23 to score the savings from those amendments now
24 incorporated in the mark. Do you know when JTC might be
25 able to do that?

1 Mr. Barthold. Well, we will get to work on it.

2 This is--

3 Senator Cornyn. Well, you can make a list --

4 Mr. Barthold. I mean, the difficulty is that in
5 making, in looking at the underlying estimates for the
6 proposals such as the change to recovery of geological
7 and geophysical expenses intangible drilling costs, and
8 the like, we did not work from a sort of
9 return-by-return basis. And so, as was noted earlier in
10 the discussion, some of these deductions are claimed by
11 corporations. And so, they would not be subject to
12 this. And so that is why there is no estimate there at
13 present, but we will work on it.

14 Senator Cornyn. Thank you.

15 The Chairman. I thank my colleague. And with
16 respect to my colleague's first point -- and then,
17 Senator Stabenow, who is our authority on Hummers, among
18 other things that Senator Cornyn talked about, just so
19 we are clear with respect to protecting working class
20 people. Because a number of my colleagues have said,
21 correctly, how important this is. So the language is
22 very explicit in the bill. And the language in the bill
23 says that anybody with an AGI of under \$400,000 is
24 expressly barred from any tax hikes under this bill.
25 Thanks.

1 The Senator from Michigan.

2 Senator Stabenow. Well thank you very much, Mr.
3 Chairman. I just wanted, in case anyone was interested
4 in buying one of the cool new electric Hummers, which is
5 great. I just walked through the plant a couple of
6 weeks ago. They call it "Factory Hill." But it starts
7 at \$112,000 and will not be eligible for this credit.
8 Just a FYI.

9 You still should consider buying it, but it does not
10 qualify for the credit.

11 Senator Cornyn. And if I could just respond, I
12 believe that they also said they expect to get the price
13 down to about \$80,000 --

14 Senator Stabenow. I don't know -- it would be great
15 if they did, but right now it comes about next year at
16 \$112,000. It is a very cool vehicle and, Senator
17 Cornyn, I would love to have you come visit it.

18 The Chairman. The Hummer debate will continue. I
19 thank my colleagues. So we had Senator Cornyn, and
20 Senator Stabenow. Other colleagues on the Republican
21 side? Senator Thune next, I think, and then Senator
22 Portman. Senator Thune?

23 Senator Thune. Thank you, Mr. Chairman.

24 Mr. Barthold, how would the Joint Committee on
25 Taxation score the allowance of direct pay for energy

1 tax credits versus the way it is handled in the status
2 quo?

3 Mr. Barthold. Well, actually we have estimated
4 that, Senator Thune, and it is reported in the footnotes
5 to the tables. How, we are looking at it somewhat based
6 on the past experience from 2008-2009 from the recession
7 when we allowed people to elect in. That provided some
8 of the behavioral analysis that went into our estimate.
9 Also, looking at it in terms of the effect of up-front
10 payment in proving after-tax rate of return over the
11 life of a project, motivated some of our estimate of the
12 amount of take up that there would be for direct pay.

13 So that is kind of the revenue modeling aspect. But
14 as I noted, the footnotes, the outlay amounts is in
15 footnote 1 of JCX-29. So that is at the bottom of page
16 3. And it shows our estimates of essentially the direct
17 pay effects for the production credit, the investment
18 credit.

19 Senator Thune. So a total of about \$50 billion over
20 ten--

21 Mr. Barthold. Yes. That's correct, sir.

22 Senator Thune. Okay. What is the Joint Committee's
23 prediction on how long it would take for electric
24 vehicles to reach that 50 percent threshold of annual
25 sales?

1 Mr. Barthold. Well as I noted earlier, we do not --
2 we do not think the incentives are great enough that
3 they will exceed 50 percent within the budget window. We
4 did not make a projection outside the budget window.
5 It's -- well, it is 10 years in the future and a lot of
6 things would change. But we do not think we hit 50
7 percent of annual sales within the budget window.

8 Senator Thune. All right, but you did not have an
9 estimate of beyond the budget window --

10 Mr. Barthold. We did not.

11 Senator Thune. All right. That's all for now.
12 Thanks, Mr. Chairman.

13 The Chairman. Thank you, Senator Thune. I missed
14 Senator Whitehouse, and he has been waiting for his
15 questions.

16 Senator Whitehouse. No problem, Chairman. I am
17 fine. I just wanted to ask Mr. Andres. We have seen
18 pretty forceful economic crash warnings out of a lot of
19 groups that are not traditional green groups, like
20 Freddie Mac, like Sovereign and National Banks,
21 including our own Federal Reserve Banks, like the
22 insurance industry, Nobel Prize winning economists, and
23 institutional investors like Goldman and Bacharach. The
24 warnings include coastal property values, co-ops,
25 cascading through the economy like 2008, an insurance

1 crisis based on unpredictability of the risk, and a
2 carbon bubble global economic crash.

3 Is there any reason we should be scoffing at or
4 ignoring those risks? And what do you think the
5 committee should know about the cost of doing nothing?

6 Mr. Andres. As you alluded to, in most of those
7 reports and studies from independent experts, the cost
8 of inaction often runs into the trillions, which warps
9 the cost of the investments which run to, as Mr.
10 Barthold noted, about \$260 billion.

11 Senator Whitehouse. Thank you.

12 The Chairman. Did my colleague get to finish his
13 questions?

14 Senator Whitehouse. Not only did I finish my
15 question, I got an answer to it.

16 The Chairman. Wonderful. Colleagues on the
17 Republican side, questions? Senator Portman?

18 Senator Portman. Thank you, Senator Wyden. So with
19 regard to Title IV of the legislation, specifically the
20 provisions on removing the capital cost recovery
21 provisions, as I said I think carbon capture time is
22 here. And so I have also said I think fossil fuels are
23 going to be needed for a long time, and that sort of
24 base power in Ohio has become a big natural gas
25 producing state and oil. We have oil and natural gas,

1 thanks to Marcellus and Utica mines, and thanks to new
2 technology.

3 We now have over 500,000 jobs in Ohio, both direct
4 and indirect, based on this industry, and relatively
5 good paying jobs, good benefits. Producers in my state
6 have told me they are concerned about Title IV and the
7 cost recovery provisions because it is going to result
8 in significant job loss. And again, particularly in our
9 natural gas industry and oil, et cetera.

10 Mr. Barthold, do you know, have you done any
11 analysis of the jobs on this, how many jobs would be
12 lost as a result of specifically the Title IV provisions
13 on capital cost recovery?

14 Mr. Barthold. Senator Portman, we have not analyzed
15 the employment effects by sector. Within the bill, and
16 then within kind of the economic modeling that we do,
17 within the bill there are some provisions that provide
18 incentives to increase investments in some sectors.

19 So, for example, by encouraging purchase of electric
20 vehicles it should encourage investment in the
21 automotive sector. As you note, by removing some tax
22 benefits in other sectors, it would discourage more --
23 it would, you know, it would dampen investment in those
24 sectors.

25 So you would expect employment gains in some

1 sectors, employment losses in other sectors. In terms
2 of estimating conventions, we are working against the
3 Congressional Budget Office baseline. We are basically
4 assuming that, partly because they are up in some
5 sectors and down in other sectors, that overall national
6 employment remains the same, and overall labor income
7 remains the same.

8 So that is a long way of saying, no, I do not have
9 projections of losses, potentially let's say the oil
10 industry from eliminating some of the tax benefits that
11 are identified in Title IV.

12 Senator Portman. And as you say, some sectors are
13 going to lose jobs. Some may gain jobs. Some will gain
14 jobs by some of the things we have talked about here,
15 and it will have a disproportionate impact on certain
16 parts of the country.

17 A quick one on the ITC phase-out issue. Title One
18 creates a 30 percent investment credit for certain
19 qualified zero-emission energy generation investments.
20 And the phase-out is triggered only when the annual
21 greenhouse gas emissions from energy production are
22 reduced by 75 percent compared to 2021 levels.

23 What assumptions were made as you looked at this
24 regarding the power sector's emission reductions? And
25 what is the expected timeframe to each this threshold?

1 Mr. Barthold. I will have to defer responding on
2 that in terms of the basis of our estimate. I will get
3 back to you and the rest of the committee and explain
4 our estimate.

5 Senator Portman. I just think, you know, I do not
6 know if you have the information necessary to make a
7 prediction on that, but that is a huge issue. It is
8 about -- it is over a third of the cost. The ITC alone
9 is \$95.9 billion, and the phase-out of the credit is,
10 you know, somewhat worrisome because you could have
11 established industries that maybe do not need the credit
12 to continue doing what they are doing, and yet it would
13 not phase out for some time. And Congress would not be
14 in a position to have to reevaluate it.

15 Thank you, Mr. Barthold.

16 The Chairman. I thank my colleague. Senator
17 Toomey, what we have been doing -- Senator Toomey, we
18 finished opening statement, but we are happy, if you
19 would like to take three minutes or so to give an
20 opening statement. Or you can ask questions, either one
21 at this point.

22 Senator Toomey. I will pass, Mr. Chairman, and have
23 some remarks about an amendment that I intend to offer.

24 The Chairman. Very good. Thank you. Other
25 colleagues have questions? Senator Cassidy?

1 Senator Cassidy. Mr. Barthold, [audio malfunction]
2 involves the ability -- have lost the ability of carbon
3 capture technologies to strip them from small businesses
4 in Louisiana that might be more fossil fuel intensive.
5 On average, how much do you estimate the price of oil
6 and gas and products derived from these will increase in
7 the next year as a result of this bill?

8 Mr. Barthold. Senator Cassidy, as in the case of
9 employment changes, as part of our analysis to come up
10 with a revenue analysis we did not make a projection of
11 price changes in sectors on downstream products.

12 Senator Cassidy. Then let me ask, intuitively then
13 the existing credits for fossil energy will impact small
14 independent producers more, or the larger companies
15 more, the super majors, if you will?

16 Mr. Barthold. When you look at Title IV, certain of
17 the benefits that are included in Title IV are already
18 limited to, in the case of major oil companies. For
19 example, a percentage depletion has not been available
20 to the major integrated oil companies since 1969.

21 On the other hand, if you look at the provision
22 relating to the repeal of the dual capacity status for
23 taxpayers, that is really pretty much solely the large
24 companies that operate multi-nationally.

25 Senator Cassidy. So the percentage of their income

1 and the net operating costs would probably be greater on
2 the smaller producer, looking at the importance of I
3 guess intangible drilling costs and depletion allowance
4 for the smaller companies?

5 Mr. Barthold. Again, depletion IDCs are already
6 limited to the majors. So in --

7 Senator Cassidy. None to the minors?

8 Mr. Barthold. I know, I was saying things are
9 already limited to the majors, the change here would
10 have, intuitively, a relative larger impact on the
11 smaller companies.

12 Senator Cassidy. On the smaller guys.

13 Mr. Barthold. The smaller companies.

14 Senator Cassidy. And you would decrease
15 competition, potentially. Let me ask about the supply
16 chain. I truly think we need to lower our carbon
17 intensity. My concern is carbon leakage and that some
18 policies would encourage the offshoring of
19 carbon-intensive jobs to China, where they use coal as a
20 feedstock 50 percent of the time versus here, we use
21 renewables and natural gas and others with smaller
22 intensities.

23 So along these lines, does the bill contain any
24 provisions that ensure the large companies -- say Nike -
25 - in the Chairman's state, does not benefit from tax

1 credits here in the United States, while still emitting
2 heavily internationally?

3 Mr. Barthold. There is nothing in the legislation
4 that prohibits trader investment across borders. There
5 are provisions in the mark that would encourage domestic
6 content to be eligible for a number of the incentives
7 that are in the mark.

8 Senator Cassidy. But if a company would then shift
9 into international markets, we could have carbon leakage
10 while they selectively build their manufacture of their
11 products for other markets besides the U.S. in a country
12 like China, which again by itself has more greenhouse
13 gas emissions than the rest of OECD put together.

14 So there is nothing to stop that from occurring in
15 this bill, correct?

16 Mr. Barthold. Again, as I said, there is nothing
17 that prohibits investment abroad, which is --

18 Senator Cassidy. Is it possible that Nike could use
19 tax credits to decarbonize domestically while still
20 increasing emissions globally? In a sense, if you will,
21 that we are just paying Nike to emit elsewhere as
22 opposed to the U.S.?

23 Mr. Barthold. Well, I do not like to pick on any
24 taxpayer by name. If you are saying, is it possible for
25 a U.S. company, which operates both in the United States

1 and abroad, to undertake carbon capture activities that
2 would qualify under the bill in the United States, while
3 also expanding their operations abroad and not do
4 anything with respect to carbon capture abroad, yes,
5 that is possible. That is not precluded by the bill.

6 Senator Cassidy. And is there anything in the bill
7 that would encourage companies to decarbonize globally,
8 as opposed to that which we have just described which
9 would support, if you will, carbon leakage?

10 Mr. Barthold. The measures in terms of phase-outs
11 of incentives are all based on domestic outcomes in
12 terms of greenhouse gas emissions.

13 Senator Cassidy. So specifically, they could still
14 emit globally even more so than they do company-wide,
15 but they would just have carbon leakage of those
16 emissions. I think that is a fair analysis of what you
17 just said.

18 Let me ask one more question. This partial credit,
19 I gather, for carbon intensity improvements. The 116th
20 Congress version -- Congressional version of this bill
21 offered partial credits for carbon intensity
22 improvements based on carbon capture retrofits.

23 How does this change limit the ability of carbon
24 capture to gain credit? So, without the ability to have
25 a partial credit, so I am emitting here, I cannot go to

1 zero, but I can go to halfway down towards zero, or a
2 quarter of a way down to zero, it is my understand the
3 current bill does not allow that partial credit,
4 although in previous versions of this legislation it was
5 allowed.

6 Mr. Barthold. The Chairman's mark, Code Section 45
7 Q, which creates a credit for carbon capture, the
8 Chairman's mark modifies present law so that there is
9 not -- it is not on a tonnage basis, but on a percentage
10 basis. So I think the point that you are getting at,
11 Senator, is at least partially achieved in the
12 Chairman's mark.

13 Senator Cassidy. I will look at that. Thank you,
14 sir, very much. Thank you, Mr. Chairman.

15 The Chairman. Colleagues, we are doing some
16 speculating about kind of international economics. Here
17 are a couple of hard facts. The 2017 bill made it
18 attractive for American oil companies to do business
19 overseas. That is a fact.

20 The mark that we are going to be considering here
21 also in fact gives incentives to anybody, renewable
22 companies, fossil fuel companies, anybody to reduce
23 carbon in the United States. So those are the facts.

24 Other questions? We had questions from the
25 Republican side. Let's go to the Democratic side, and

1 then we will go to Senator Lankford in a moment.

2 Colleagues on the Democratic side?

3 [No response.]

4 The Chairman. Okay, Senator Lankford.

5 Senator Lankford. Thank you, Mr. Chairman. Mr.
6 Chairman, you had put a study into the record earlier.
7 Could I ask unanimous consent to put in the EIAP study
8 on the effects of percentage depletion being eliminated?

9 The Chairman. Without objection, so ordered.

10 [The study appears at the end of the transcript.]

11 Senator Lankford. Thank you. Let me ask you a
12 couple of questions. I am just trying to be able to
13 track through. You had mentioned earlier that you are
14 currently not looking at, in any sector, job losses in
15 that sector, or job gains. You just have a general
16 statement of more of a macro sense.

17 Is there any look at all in Title IV of the bill in
18 what this would mean to jobs? Is there any glance even,
19 trying to figure out what that would mean to jobs?

20 Mr. Barthold. We have not undertaken that analysis,
21 Senator --

22 Senator Lankford. There is no analysis on how many
23 companies would be affected?

24 Mr. Barthold. I have not done that, sir.

25 Senator Lankford. Is there any analysis on the cost

1 to consumers for the cost of gasoline, natural gas, or
2 home heating oil if the price would increase, decrease,
3 or stay the same under this bill?

4 Mr. Barthold. As I noted earlier, we have not done
5 an analysis of prices for products in different sectors,
6 so, no. The short answer is, no.

7 Senator Lankford. Has there been any examination
8 whether this would increase, if this would decrease
9 production of oil and gas in the United States, would
10 that increase imports into the United States of oil and
11 gas?

12 Mr. Barthold. I have not done that, although I will
13 note that that analysis is a little bit more complex
14 because of the changes in potential fuel mix and fuel
15 demand. If there are more electric vehicles, there is
16 less demand for -- potentially less demand for motor
17 fuel gasoline, maybe more demand for electricity. So
18 even if you produced less oil domestically, depending on
19 that mix in terms of highway usage, it is not obvious
20 that there is more imports.

21 Senator Lankford. Has there been a study of how
22 many electric vehicles would come into the American
23 market based on these tax changes, and how quickly?

24 Mr. Barthold. You mean imported electric vehicles?

25 Senator Lankford. No, just produced, used, and

1 driven by the American taxpayer. Less than 2 percent of
2 the American people drive an electric vehicle at this
3 point. Ten years from now, what percentage do you
4 estimate will use an electric vehicle under this bill?

5 Mr. Barthold. Well as I noted, we do project that
6 there will be increasing purchases of electric vehicles.
7 So let me talk about that --

8 Senator Lankford. -- and I will --

9 Mr. Barthold. -- and I will follow up with what
10 that would mean in terms of the impact on the passenger
11 fleet.

12 Senator Lankford. So at this point, you do not have
13 that number?

14 Mr. Barthold. I do not have that available at this
15 time.

16 Senator Lankford. Is there a means test for the
17 \$12,500, for that credit to come? Is that under a
18 certain income?

19 Mr. Barthold. Again, the \$12,500 is the maximum.
20 The underlying credit is at 30 percent of price of the
21 vehicle. There is not a means test. The test in the
22 Chairman's modification is that the vehicle is
23 ineligible for the credit if its manufacturer's
24 suggested retail price exceeds \$80,000.

25 Senator Lankford. Right. But not -- Warren Buffett

1 could get this credit to get his new vehicle, the same
2 as I could?

3 Mr. Barthold. That's correct.

4 Senator Lankford. Actually, I could not afford an
5 \$80,000 vehicle, but that is a whole different issue.

6 Mr. Barthold. That is correct, Senator.

7 Senator Lankford. So, under this criteria, could
8 you get a tax credit -- it would not be the \$12,500,
9 obviously, because there is another \$2,500, if I
10 recognize this correctly, there is an additional \$2,500
11 credit if it is produced in a union facility rather than
12 a non-union facility?

13 Mr. Barthold. The \$2,500 -- that \$2,500 is what can
14 bid you up to the \$12,500.

15 Senator Lankford. Correct. But it is \$2,500 if it
16 is produced in the union facility? Is that correct?

17 Mr. Barthold. There is an extra bonus amount of
18 \$2,500 if it is produced in that facility, yes.

19 Senator Lankford. Was there any analysis on the
20 effect of worldwide carbon output if it is in a union
21 facility or a non-union facility?

22 Mr. Barthold. No, sir, it did not undertake that
23 analysis.

24 Senator Lankford. So we are not sure why a
25 non-union facility produces more carbon than a union

1 facility, I guess, on that one? Let me ask, would you
2 get the \$7,500 tax credit if the vehicle was produced in
3 China and shipped to the United States?

4 Mr. Barthold. Under the terms of the mark, yes.
5 There is a -- the maximum amount of credit under present
6 law is \$7,500. And that can apply on any electric
7 vehicle. There are bonus amounts in the mark for, as
8 you noted, labor organization facilities and domestic
9 content.

10 So the \$7,500 in present law is available for any
11 vehicle regardless of where it is manufactured. Also,
12 under the mark, the credit changes after 2025 to require
13 domestic content. And I would have to go back and
14 double check what the maximum of the credit is after
15 2025.

16 Senator Lankford. Okay --

17 Mr. Barthold. for the next couple of years, yes,
18 you could buy a vehicle that was manufactured abroad,
19 and it would qualify.

20 Senator Lankford. How much of the new wind
21 generation that has come online in let's say the last
22 five years or so is attributed to the availability of
23 incentives?

24 Mr. Barthold. I do not have an answer to your
25 specific question about the last five years. There have

1 been a number of economic studies that have looked at
2 the effect of the wind production credit in encouraging
3 increased investment at the margin. So that is the
4 extra amount that you are talking about. We are
5 projecting that because of the value of the credit, that
6 over the budget -- over the budget window -- I have it
7 here in one of these notes -- that approximately between
8 75 and 100 gigawatts of new wind capacity will come
9 online due to the proposal, compared to baseline. So
10 that the induced effect of the proposal would be an
11 additional 75 to 100 gigawatts.

12 Senator Lankford. Do you have an estimate of how
13 many acres of land that is?

14 Mr. Barthold. I have not been asked that question
15 before, and no, I do not. Sorry.

16 Senator Lankford. Maybe wind will try to be able to
17 track that down to find out how large that would be, how
18 much land that would take to be able to do that.

19 Let me ask just a couple more questions. Intangible
20 drilling costs I see eliminated in this. Is that right
21 now considered in the Tax Code ordinary business
22 expense?

23 Mr. Barthold. Yes, it is. And, again, just to
24 clarify, the current deduction for our intangible
25 drilling costs, the costs are still recoverable under

1 the Chairman's mark. They would be amortized and
2 recovered over 60 months.

3 Senator Lankford. Thank you.

4 The Chairman. Colleagues, I think we would like to
5 get to amendments pretty soon. Is there -- Senator
6 Sasse, who passed on an opening statement. Go ahead.

7 Senator Sasse. Thank you, Chairman.

8 Mr. Barthold, thank you for your work. I just want
9 to clarify a few things. You answered some sub-pieces
10 of this in response to Senator Lankford just now, and
11 Senator Thune, but more broadly I do not think I
12 understand the supply side of the electric vehicles
13 market as you are predicting it.

14 So you said that in the 10th year you do not expect
15 us to be at 50 percent of current-year sales. But I do
16 not think you told us what share of the market you do
17 expect to be electric vehicles in the 10th year.

18 Mr. Barthold. And I do not have that at my
19 fingertips, and I will work with my colleagues, and I
20 will provide that information to all the members.

21 Senator Sasse. Okay. Can you tell us the domestic
22 manufacturers of EVs today, and foreign manufacturers of
23 EVs today, and how you see that changing over the course
24 of the 10 years?

25 Mr. Barthold. Well, there is relative encouragement

1 for domestic final assembly. So I think that we would
2 anticipate that, compared to baseline activity, absent
3 the Chairman's mark as modified, we will see more
4 production of U.S.-based electric vehicles. I do not
5 have a projection of the amount that would come from
6 Europe as opposed to Japan or Korea or anywhere else.

7 Senator Sasse. Will your model tell us eventually
8 how much you think -- how much of the tax expenditure
9 goes to China?

10 Mr. Barthold. I cannot answer that right now. I
11 will have to get back to you, and I will explain to the
12 members our projections and what we think about domestic
13 as opposed to foreign production.

14 Senator Sasse. Thanks. I am new to the committee,
15 but I do not understand how we know what the cap is on
16 the tax expenditure in total if we do not know these
17 numbers. So how do we -- I am interested in the pieces
18 of the tax expenditure that end up in the U.S. versus
19 abroad in general, but China in particular. But I am
20 also obviously interested in entitlements funding for
21 the taxpayers of tomorrow.

22 What am I missing? How do you know how to score how
23 big the expenditure line is here, if we do not have a
24 theory of how big the market is?

25 Mr. Barthold. Well, there is what some of my

1 colleagues know, and what I have been able to retain and
2 bring as sort of a point of contact, which is why I said
3 I would get back and talk to my colleagues.

4 In terms of the basics, in terms of electric
5 vehicles, I mean we have looked at what the growth of
6 electric vehicles is. We have consulted with private
7 sources in terms of projection is vehicle growth,
8 vehicle pricing, what manufacturers claim they have on
9 the drawing boards as opposed to near-engineering, as
10 opposed to starting to bring online.

11 And then we look at, well, if we make it even
12 cheaper, what has been consumer response to buying
13 vehicles of this sort when they are cheaper? And so we
14 are looking at projections of when, who is doing what,
15 when it might be available in the market, what has been
16 past experience when it has been in the market, and how
17 might the value of the credit change the pricing and so
18 change my demand choice between an electric vehicle and
19 some other vehicle.

20 That is the basis of the modeling. So embedded in
21 that is an assessment of the point you are asking about,
22 domestic versus foreign. I do not know if we have
23 details broken down by different country of origin. But
24 we will respond and provide the response to all the
25 members on the committee.

1 Senator Sasse. And the last one for me. When will
2 we know the top-line expenditure number, tax expenditure
3 number in your model? You said you are going to get
4 back to us? When would that be?

5 Mr. Barthold. Well, we have -- the estimate that is
6 on the table, which is in JCX-29, which you have before
7 you, is the top line. That is our estimate of how it
8 will affect receipts.

9 What I do not have available right now, which is
10 reflective of my inadequacy, is I do not have a detailed
11 breakdown to answer some of the questions that you have
12 just addressed, and I will try to get some of that
13 detail, as much as I can, to you and the other members
14 on the committee.

15 Senator Sasse. Thank you, sir.

16 The Chairman. We will have Senator Stabenow with
17 questions, and Senator Carper asked for three minutes to
18 speak, and then we will see if there are any additional
19 on the other side.

20 Senator Stabenow. Well thank you very much, Mr.
21 Chairman. I want to clarify the credit, because this is
22 I think important to understand the consumer tax credit.
23 And I also just want to clarify. To our knowledge --
24 and I follow this very, very closely -- there are
25 currently no Chinese vehicles being shipped to the

1 United States for sale, nor would I support that. Zero.

2 So now on the -- other places, but not China. But
3 on the EV tax credit, the first five years -- and as the
4 person who wrote this, I want to clarify this -- we are
5 talking about the basic \$7,500 credit, plus an
6 additional \$2,500 if it is a final assembly in the
7 United States, an additional \$2,500 if in fact it is in
8 a union facility.

9 The second five years, no credit for anything that
10 is not having final assembly in the United States during
11 the second five years. So, it would be \$10,000 if it is
12 in the United States, assembled in the United States, an
13 additional \$2,500 for a union facility on top of it.

14 So, an as much as I would love to have most of the
15 facilities being a union shop, right now it is about 15
16 percent. So just for members. But I do think it is
17 important to make it clear that after the first five
18 years the only vehicles that would be able to get any
19 credit would be those with final assembly in the United
20 States.

21 Then the other thing I would just comment, because I
22 think it is important in the discussion, is that I
23 personally believe that the 10-year window is enough.
24 And, you know, if I am here at that that time to phase
25 this out, I do not believe it should be extended. We

1 have about 2 percent of the market right now. The
2 market analysis says that we need to get to about 10
3 percent before the market begins to drive down the price
4 on its own.

5 And so, from my perspective, you know, this is a
6 onetime investment. And as much as I would love to get
7 to the 50 percent in the bill, you know, if we do not
8 get there, I think we will be far enough along for the
9 market to drive it after that point.

10 So, thank you, Mr. Chairman.

11 The Chairman. I thank my colleague. Next will be
12 Senator Carper, and then will be Senator Young.

13 Senator Carper. Thanks very much. Mr. Chairman, I
14 mentioned earlier today that this morning, thanks to the
15 good work of people like Ben Cardin, Sheldon Whitehouse,
16 Shelley Capito, Debbie Stabenow, and other members of
17 the Environment and Public Works Committee, we reported
18 out unanimously surface transportation legislation for a
19 five-year bill, and we are excited about that. It has a
20 carbon title, as well, of some significance.

21 And we did it on a bipartisan basis. We did it on a
22 bipartisan basis. This committee has the opportunity to
23 do the same thing. This committee has the opportunity
24 to do the same thing, and that is my hope and my goal to
25 do that. A lot of people thought we could not report a

1 bill out of our EPW Committee.

2 I see Senator Barrasso sitting over there. He is
3 the former chairman of our committee in the last
4 Congress. He provided the leadership that enabled us to
5 do the same thing, reported out a bill unanimously, a
6 five-year reauthorization with a climate title. The
7 first time ever a climate title. And I just want to
8 say, my hope is that we can sort of use that as an
9 example of what we can accomplish when we work together
10 on these difficult issues.

11 I just got news today, like 30 minutes ago, talking
12 about GM is doing and what other auto companies are
13 doing. Ford has just announced today that they expect
14 by 2030 40 percent of their vehicles will be
15 electric-powered vehicles. And GM is already on record
16 -- in fact, they are not going to be selling or building
17 gas-fired vehicles by 2035, which reminded me that I
18 love to use music lyrics to lead into our statements,
19 and he has heard me say a million times, "Something's
20 happening here, just what it is ain't exactly clear."

21 And that was when I was talking about what is
22 happening in Iowa when half the crops were flattening
23 and losing a football field of land every 100 minutes to
24 the Gulf of Mexico. But something else is happening
25 here. Something else is happening.

1 The technology in these vehicles is getting better
2 and better and better. The first time I ever drove an
3 electric-powered vehicle was a Chevrolet Volt 10 years
4 ago. It got 38 miles on a charge. My wife and I put a
5 down payment on a Tesla Y the other day and it gets 326
6 miles on a charge.

7 These vehicles are fun to drive, and that is an
8 intangibility a lot of people are not thinking about. I
9 love to drive a car, and a lot of us still do. And boy
10 are they fun to drive. If you set aside the fact that
11 there is less maintenance, set aside the fact that they
12 are just cool-looking vehicles, they are just fun. And
13 the market is moving. Market forces are taking us
14 there.

15 And the question is how can we use our policies in
16 terms of tax policies to kind of aid and abet that? And
17 I sure hope we can do that. It is important that we do.

18 The last thing I would say, I am a native of West
19 Virginia. My native State -- and you can ask Shelley
20 Capito and you can ask Joe Manchin as well -- our native
21 state is in terrible shape. And they are a fossil
22 economy -- coal and natural gas -- and they are hurting.
23 Dying on the vine in some places. And we have to keep
24 in mind the folks that are hurting like that because of
25 our movement away from fossil fuels to electric and

1 clean hydrogen and stuff and find ways to reach back and
2 help those people, help the people in those states where
3 they are being displaced.

4 That is an important thing for us to do. So let me
5 just say, this is a glass-half-full deal. This is a
6 glass-half-full deal. And we have to be smart enough,
7 Democrats and Republicans working together, to make sure
8 that we do this right. And I am encouraged after
9 today's markup to say, you know, think we can. What was
10 it that Henry Ford used to say, he used to say "You
11 think you can, you think you can't, you're right." I
12 think we can. And I think we must.

13 Thank you.

14 The Chairman. Well, Senator Carper, thank you so
15 much. We are a few hours in, and I think you have
16 captured what to me is the most important thought of
17 this discussion. And I would just tell colleagues,
18 there is so much to work with here in terms of a
19 bipartisan approach.

20 Senator Crapo, who sits next to me, has a bill with
21 Sheldon Whitehouse that, for all practical purposes, is
22 exactly the same kind of concept we are talking about
23 here. It is tech neutral. It is free market. It is
24 promoting innovation. And most importantly, it says
25 everybody gets to play.

1 If you are in the fossil fuel business and you want
2 to do carbon capture, you can have at it under this.
3 You can enjoy the incentives. If you are in the
4 renewable side, same thing. So thank you very much,
5 Senator Carper, for kind of sounding the clarion call
6 for bipartisanship here. Because I think this is within
7 our grasp.

8 I mean I think every one of us knows that this crazy
9 quilt, this hodgepodge of tax breaks that basically sets
10 up all these fiscal cliffs, I will tell you, colleagues,
11 some of them over the years had a shelf life that was
12 barely as long as a carton of eggs. It is ridiculous.
13 It is not providing certainty and predictability. And I
14 know that is what Senator Cassidy wants, because he and
15 I have talked about it.

16 So I think we have got a long night ahead of us, but
17 what we ought to do is keep in mind what Tom Carper is
18 talking about in terms of the possibilities for
19 bipartisanship. And I think there is an opportunity to
20 get it.

21 And, Senator Young, have at it.

22 Senator Young. Mr. Barthold, it is good to see you
23 again, sir. I am grateful to all of you for being here
24 today.

25 A number of my colleagues have already asked a

1 number of great questions and made some important
2 observations clarifying the impact of this bill on
3 American consumers, as well as our reliance on foreign
4 countries like China for energy sources.

5 Unfortunately, I do not believe the Wyden approach
6 anywhere approaches realizing what we need to do to
7 maintain our energy stability, and to build off of that
8 incredible natural resource. I think it misses the mark
9 in a number of ways.

10 Mr. Barthold, in its current form -- let's assume
11 the bill advances as currently crafted -- including the
12 provisions pertaining to the production tax credit, and
13 the energy investment tax credit. Can you tell me, sir,
14 how this will impact baseload energy sources? And a
15 very related question, as you know, is how will this
16 impact grid reliability? Knowing that a very small
17 proportion of our country's overall energy reliance
18 currently is contributed by renewable sources?

19 Mr. Barthold. Senator Young, when you say baseload,
20 I assume that you are talking about traditional large
21 power plants which would be oil, natural gas, and
22 nuclear --

23 Senator Young. Yes, indeed.

24 Mr. Barthold. In a number of cases. The
25 legislation provides incentives for production of

1 alternative forms of electricity that would be supplied
2 to the grid -- wind, solar, for example, geothermal. It
3 is also possible under the tests for greenhouse gas
4 emission that nuclear facilities could qualify, or that
5 coal or gas could qualify if they meet reduction
6 standards. So they are not automatically precluded.

7 But let's set that one thought aside for a second.
8 Depending upon the growth in overall energy demand,
9 let's say there is no growth in energy demand, in
10 electricity demand, then you would expect relatively
11 displacement of some of the, what you've called the
12 baseload facilities by the new facilities that are
13 encouraged -- the solar, the wind, the geothermal.

14 The mark, also to your point on grid reliability,
15 extends the investment tax credit to grid, to
16 interconnection, the concept of micro grid in the case
17 of distributed power, and you would probably attribute
18 improved grid reliability to those investments.

19 So it is a complicated question.

20 Senator Young. Well, actually it strikes me as
21 something that can be simplified. Your initial
22 assumption, the predicate you laid was if energy
23 consumption remains constant. I do not believe it will
24 remain constant. That strikes me as an improbable
25 assumption. There are projections that factor in higher

1 energy consumption, as we continue to use electronics
2 and so forth, or maybe it is lower. Maybe you have come
3 up with projections based on just incredible
4 efficiencies that are to be realized.

5 But let's assume it is higher. Let's assume it is
6 higher, because I think we should be cautious and
7 conservative as we make these public policy changes.
8 What would be the impact on grid reliability under that
9 scenario?

10 Mr. Barthold. The reason I suggested let's pretend
11 that there is no change was just to show the potential
12 displacement of one power -- one set of power sources by
13 another set of power sources.

14 If energy -- if electricity consumption is in fact
15 growing modestly or rapidly, there can still be relative
16 displacement. And if electricity demand is growing,
17 then you actually have more strain on the existing grid.
18 Set aside the sources of the electricity going into the
19 grid. And that is one aspect of expansion of investment
20 incentive provided in the Chairman's mark relative to
21 present law, in that investments in the grid,
22 improvements in grid reliability, are eligible for the
23 investment tax credit.

24 So again, it is difficult to say what the
25 qualitative effect is going to be.

1 Senator Young. I want to ask -- and I am grateful
2 for the answer -- a narrower question. In your opinion,
3 are the credits in the bill as written best suited to
4 enable new technologies to reach their fruition and be
5 fully developed, and to benefit their development? Or
6 is it your understanding that only existing technologies
7 will benefit from these credits?

8 Mr. Barthold. The -- you qualify for the production
9 credit and investment credits based on a goal of
10 reducing greenhouse gases. Whatever the technology is
11 that does that. So it can be a windmill that uses
12 current technology. It could be somebody who comes up
13 with a new idea to get even more energy -- you know, an
14 even better wind turbine, or something completely
15 different.

16 It can qualify if it can establish that it meets the
17 greenhouse gas emissions test.

18 Senator Young. That is, I would say, a key point in
19 the mark, that it tries not to identify specific types
20 of equipment for a specific technology, but rather says
21 anything qualifies if it meets this test. Thank you,
22 sir.

23 The Chairman. If I could just add to this point,
24 colleagues, we added the White House proposal, which
25 includes what is called "nascent technology." So that

1 you are specifically talking about what you correctly
2 say is so important, which is new and innovative
3 approaches and nascent technology provision which
4 Senator Whitehouse deserves credit for, is in the
5 modified mark.

6 Colleagues, any other questions? Pardon me? Three
7 cheers for Michael Bennet, as well. Any other
8 questions? Are we going to get to the amendment
9 process? Colleagues?

10 [No response.]

11 The Chairman. No more questions on amendments. All
12 right. Excuse me, no more questions for Mr. Barthold.
13 And now we are going to go through the queue. The
14 amendment queue consists of Cornyn Amendment 3, Barrasso
15 Amendment 2, Toomey Amendment 5, Cassidy Amendment 1,
16 Grassley Amendment 2, Thune Amendment 2, Lankford
17 Amendment 1, Daines Amendment 1. And when Democratic
18 colleagues are here, there will be Cantwell 2 and Cardin
19 2.

20 All right, Senator Cornyn, Amendment 3.

21 Senator Cornyn. Mr. Chairman, I would like to call
22 up Cornyn Amendment 3. This requires that prior to the
23 implementation of this bill, that the Treasury Secretary
24 must certify that Chinese-produced electric vehicles
25 will not -- will not -- be eligible for the EV tax

1 credit.

2 The Chairman's mark expands and extends the current
3 EV tax credit by, among other things, eliminating the
4 manufacturer's cap, making it refundable for
5 individuals, thereby providing billions of dollars in
6 additional subsidies for electric vehicles.

7 This committee, as you know, recently held a hearing
8 called the Made in American, effect of the U.S. Tax Code
9 on domestic manufacturing. And as members of the
10 committee know, the full Senate is currently considering
11 a piece of legislation called The Endless Frontier's
12 Act. This legislation would help improve American
13 supply chains, and remain competitive in today's global
14 economy.

15 I am afraid that, while the full Senate is making
16 progress with improving U.S. competitiveness, the bill
17 before this committee would subsidize Chinese electric
18 vehicles who are looking to sell these electric cars
19 here in the United States.

20 As I said at the outset, I believe an
21 all-of-the-above energy policy is best. But as part of
22 that, to welcome companies like Tesla who recently
23 announced they are making a billion dollar investment in
24 their next Gigafactory in Austin. But we know China is
25 competing against us not only in terms of economics, but

1 in terms of national security. Therefore, the last
2 thing we need to do is to subsidize the People's
3 Republic of China and the Chinese Communist Party when
4 it comes to trying to sell their electric vehicles here
5 in the United States and take advantage of the taxpayer
6 with the generous subsidies that exist in law and which
7 are proposed under the Chairman's mark.

8 So, this is something that everyone on the
9 committee, Republican and Democrat, should be able to
10 agree on no matter your views on the EV credit. I thank
11 you, Mr. Chairman.

12 The Chairman. I thank my colleague. And,
13 colleagues, I am going to accept the Cornyn Amendment
14 here. I do not believe the Amendment is necessary. And
15 to be clear, the Finance Committee has never done more
16 to ensure that there is manufacturing in America with
17 this bill, because the incentives are clearly tied to
18 the United States. But I am prepared to accept this. I
19 know my colleague from Michigan would like to speak on
20 this and let us hear from her now.

21 Senator Stabenow. Well thank you, Mr. Chairman. I
22 think this is really a great way to start the committee
23 in terms of working together on a bipartisan basis. I
24 support the Amendment. China has spent more than \$100
25 billion to subsidize their EVs. There is no reason why

1 they need to get U.S. incentives, or U.S. taxpayer
2 money. And in fact, I would like very much to be added
3 as a co-sponsor of the Amendment, Mr. Chairman.

4 The Chairman. All right. Without objection,
5 Senator Stabenow is added. And unless other colleagues
6 wish to weigh in, the question is on the Amendment
7 offered by Senator Cornyn. A roll call vote has been
8 requested. The Clerk will call the roll.

9 The Clerk. Ms. Stabenow.

10 Senator Stabenow. Aye.

11 The Clerk. Ms. Stabenow, aye. Ms. Cantwell.

12 The Chairman. Aye by proxy.

13 The Clerk. Ms. Cantwell, aye by proxy. Mr.
14 Menendez.

15 Senator Menendez. Aye.

16 The Clerk. Mr. Menendez, aye. Mr. Carper.

17 The Chairman. Aye by proxy.

18 The Clerk. Mr. Carper, aye by proxy. Mr. Cardin.

19 Senator Cardin. Aye.

20 The Clerk. Mr. Cardin, aye. Mr. Brown.

21 Senator Brown. Aye.

22 The Clerk. Mr. Brown, aye. Mr. Bennet.

23 Senator Bennet. Aye.

24 The Clerk. Mr. Bennet, aye. Mr. Casey.

25 Senator Casey. Aye.

1 The Clerk. Mr. Casey, aye. Mr. Warner.
2 The Chairman. Aye by proxy.
3 The Clerk. Mr. Warner, aye by proxy. Mr.
4 Whitehouse.
5 Senator Whitehouse. Aye.
6 The Clerk. Mr. Whitehouse, aye. Ms. Hassan.
7 Senator Hassan. Aye.
8 The Clerk. Ms. Hassan, aye. Ms. Cortez Masto.
9 Senator Cortez Masto. Aye.
10 The Clerk. Ms. Cortez Masto, aye. Ms. Warren.
11 Senator Warren. Aye.
12 The Clerk. Ms. Warren, aye. Mr. Crapo.
13 Senator Crapo. Aye.
14 The Clerk. Mr. Crapo, aye. Mr. Grassley.
15 Senator Crapo. Aye by proxy.
16 The Clerk. Mr. Grassley, aye by proxy. Mr. Cornyn.
17 Senator Cornyn. Aye.
18 The Clerk. Mr. Cornyn, aye. Mr. Thune.
19 Senator Crapo. Aye by proxy.
20 The Clerk. Mr. Thune, aye by proxy.
21 The Clerk. Mr. Burr.
22 Senator Crapo. Aye by proxy.
23 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
24 Senator Portman. Aye.
25 The Clerk. Mr. Portman, aye. Mr. Toomey.

1 Senator Toomey. Aye.

2 The Clerk. Mr. Toomey, aye. Mr. Scott.

3 Senator Crapo. Aye by proxy.

4 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.

5 Senator Cassidy. Aye.

6 The Clerk. Mr. Cassidy, aye. Mr. Lankford.

7 Senator Lankford. Aye.

8 The Clerk. Mr. Lankford, aye. Mr. Daines.

9 Senator Daines. Aye.

10 The Clerk. Mr. Daines, aye. Mr. Young.

11 Senator Crapo. Aye by proxy.

12 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

13 Senator Sasse. Aye.

14 The Clerk. Mr. Sasse, aye. Mr. Barrasso.

15 Senator Barrasso. Aye.

16 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

17 The Chairman. Aye, and I think Senator Cantwell

18 would like to --

19 Senator Cantwell. Aye.

20 The Clerk. Ms. Cantwell, aye.

21 The Chairman. The Clerk will report the vote.

22 The Clerk. Mr. Chairman, the final tally is 28 ayes
23 and zero nays.

24 The Chairman. The Amendment is agreed to. We are
25 on to Barrasso No. 2.

1 Senator Barrasso. Thank you, Mr. Chairman. I would
2 like to call up the Barrasso Amendment No. 2, an
3 amendment to keep energy costs low for Americans,
4 co-sponsored by Senators Crapo, Lankford, and Daines.

5 This Amendment would strike Title V from the bill.
6 That is the, all of the fossil fuel revenue raisers.
7 Mr. Chairman, I believe raising taxes on America's
8 fossil energy industry is going to destroy our energy
9 independence. It is going to raise energy costs for
10 families. And it is going to destroy the jobs of
11 thousands of American workers.

12 Title V of the bill specifically targets the
13 livelihood of thousands of American workers, many in my
14 home State of Wyoming, and these are people that keep
15 the country running. Title V of the bill would result
16 in higher energy prices for all of our constituents.
17 Title V of this bill strengthens the economic power of
18 the governments of China, Venezuela, Iran, and Russia.
19 By striking Title V in its entirety, this amendment
20 would strike these taxes from the bill.

21 I urge the members of the committee to join in
22 supporting this American energy independence, supporting
23 American workers, their families, and all of our
24 communities, and I request a roll call vote.

25 The Chairman. The clerk will call-- I wish to speak

1 against this Amendment, and we will have a roll call
2 vote. By incentivizing clean energy and moving toward a
3 clean energy future, this bill is going to reduce energy
4 costs for American consumers.

5 What the bill does is it repeals all
6 industry-specific breaks, and then moves to a free
7 market, innovation-oriented system. The oil and gas
8 breaks are a hundred years old. It is clearly time for
9 a more modern system.

10 The Chairman's mark ensures that small businesses
11 and people earning less than \$400,000 do not pay more.
12 Oil and gas companies would still be able to take any
13 business tax deductions that are generally available to
14 all businesses, like ordinary business expenses and
15 depreciation. Only special, industry-specific benefits
16 are being replaced. I urge a no vote, and let's have
17 the clerk call the roll.

18 The Clerk. Ms. Stabenow.

19 Senator Stabenow. No.

20 The Clerk. Ms. Stabenow, no. Ms. Cantwell.

21 Senator Cantwell. No.

22 The Clerk. Ms. Cantwell, no. Mr. Menendez.

23 Senator Menendez. No.

24 The Clerk. Mr. Menendez, no. Mr. Carper.

25 The Chairman. No by proxy.

1 The Clerk. Mr. Carper, no by proxy. Mr. Cardin.
2 Senator Cardin. No.
3 The Clerk. Mr. Cardin, no. Mr. Brown.
4 Senator Brown. No.
5 The Clerk. Mr. Brown, no. Mr. Bennet.
6 Senator Bennet. No.
7 The Clerk. Mr. Bennet, no. Mr. Casey.
8 Senator Casey. No.
9 The Clerk. Mr. Casey, no. Mr. Warner.
10 The Chairman. No by proxy.
11 The Clerk. Mr. Warner, no by proxy. Mr.
12 Whitehouse.
13 Senator Whitehouse. No.
14 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
15 Senator Hassan. No.
16 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
17 Senator Cortez Masto. No.
18 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
19 Senator Warren. No.
20 The Clerk. Ms. Warren, no. Mr. Crapo.
21 Senator Crapo. Aye.
22 The Clerk. Mr. Crapo, aye. Mr. Grassley.
23 Senator Crapo. Aye by proxy.
24 The Clerk. Mr. Grassley, aye by proxy. Mr. Cornyn.
25 Senator Cornyn. Aye.

1 The Clerk. Mr. Cornyn, aye. Mr. Thune.
2 Senator Crapo. Aye by proxy.
3 The Clerk. Mr. Thune, aye by proxy. Mr. Burr.
4 Senator Crapo. Aye by proxy.
5 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
6 Senator Portman. Aye.
7 The Clerk. Mr. Portman, aye. Mr. Toomey.
8 Senator Toomey. Aye.
9 The Clerk. Mr. Toomey, aye. Mr. Scott.
10 Senator Crapo. Aye by proxy.
11 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
12 Senator Cassidy. Aye.
13 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
14 Senator Lankford. Aye.
15 The Clerk. Mr. Lankford, aye. Mr. Daines.
16 Senator Daines. Aye.
17 The Clerk. Mr. Daines, aye. Mr. Young.
18 Senator Crapo. Aye by proxy.
19 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.
20 Senator Sasse. Aye.
21 The Clerk. Mr. Sasse, aye. Mr. Barrasso.
22 Senator Barrasso. Aye.
23 The Clerk. Mr. Barrasso, aye. Mr. Chairman.
24 The Chairman. No.
25 The Clerk. The Chairman votes no.

1 The Chairman. The Clerk will report the vote.

2 The Clerk. Mr. Chairman, the final tally is 14
3 ayes, 14 nays.

4 The Chairman. The vote resulting in a tie, the
5 amendment is not agreed to. The next Amendment is
6 Toomey No. 5.

7 Senator Toomey. Mr. Chairman, I will call up Toomey
8 Amendment No. 5 and ask for its immediate consideration.

9 The Chairman. Senator Toomey, please proceed.

10 Senator Toomey. Thank you very much, Mr. Chairman.

11 Colleagues, my Amendment is a narrower version of
12 Senator Barrasso's in the sense that it seeks only to
13 preserve the current treatment for intangible drilling
14 costs. And I would urge its adoption.

15 The fact is, America's energy renaissance has been a
16 game changer and has led to the dramatic reduction in
17 CO2 emissions that we have experienced. Since 2019, the
18 U.S. became a net energy exporter for the first time --
19 in 2019, we became a U.S. net energy exporter for the
20 first time since 1952. We became the third largest
21 exporter of liquified natural gas. And as gas replaced
22 coal as the fuel for America's power plants, CO2
23 emissions have actually declined.

24 In fact, in 2019 the U.S. led the world in reducing
25 energy-related CO2 emissions. In 2019, the U.S. CO2

1 emissions declined to the lowest level since the first
2 Bush presidency, 1992. And, the lowest per capita level
3 since 1950.

4 U.S. greenhouse gas emissions were approximately 20
5 percent lower than the 2005 levels, and this was driven
6 by the steady emission reductions in the country's power
7 sector. The U.S. is on track to actually meet Paris
8 Agreement targets. Power sector CO2 emissions in 2020
9 were over 50 percent lower than what the Department of
10 Energy projected in 2005.

11 It is because natural gas has overtaken coal as the
12 country's primary fuel source. CO2 emissions have
13 plummeted, and consumer energy savings have been
14 terrific. Since 2008, wholesale energy prices in
15 Pennsylvania have fallen over 40 percent, and natural
16 gas prices have come down over 50 percent.

17 Yet, if you look at the legislation before us today,
18 you would think that natural gas played no role in these
19 tremendous environmental successes. It was not enough
20 to just create and expand an array of subsidies for
21 politically favored sources of energy, but in this
22 legislation our colleagues go further and actually
23 repeal deductions for ordinary business expenses,
24 including for the natural gas industry.

25 This seemingly punitive measure can only stifle

1 investment in the natural gas industry and curtail
2 production. Similar to capital investments, research
3 and development costs, wage expenses, intangible
4 drilling costs which consist of costs such as wages,
5 supplies, survey work and ground clearing to prepare
6 wells for production, these were ordinary and necessary
7 business expenses. And just as I support full and
8 immediate expensing for capital expenditures, I believe
9 these costs should be eligible for immediate write-off
10 as they are currently allowed.

11 Capital expenditures, which were historically
12 depreciated over time, are now immediately expensed so
13 factory equipment, technology upgrades, building
14 improvements, and the ability to expense these things
15 lowers the overall after-tax cost of making the
16 investment. Lower cost means more investment. More
17 investment means more worker productivity, higher wages
18 for workers.

19 The policy that I am advocating aligns the tax
20 deduction with when the business actually pays the cash.
21 Disallowing the option to immediately write off
22 intangible drilling costs could sharply decrease U.S.
23 production and investment in natural gas, raise energy
24 prices, decrease wages, decrease economic growth, and
25 slow down the progress we are making in CO2 emissions.

1 Why would we want to do that? Not only that, but
2 there is virtually no cost to the government to my
3 Amendment because since this is a legitimate business
4 expense the intangible drilling cost, a company will be
5 able to expense it. It is just a question of whether
6 they can expense it in the year in which they incur the
7 cost, or if they have to stretch it out over five years.

8 It is a timing shift. And I do not know why we
9 would want to raise energy prices, slow down economic
10 growth, and actually reduce the rate at which we are
11 improving our CO2 emissions. I do not know why we would
12 want to do that.

13 We can correct that by adopting my Amendment, and I
14 ask for a roll call vote.

15 The Chairman. Before we go to that, let me state my
16 opposition. And, colleagues, this is basically a re-do
17 of the amendment offered by our colleague from Wyoming.
18 And it is flawed for essentially the exact reasons that
19 I gave before. The Clean Energy for America Act
20 repealed all industry-specific breaks. All of them.
21 A-L-L. All of them.

22 Now the oil and gas breaks are 100 years old. And
23 it just seems to me that the Tax Code, both with respect
24 to the law and the way we think about it, it is time to
25 at least move it into this century. So that is what we

1 are doing with the Clean Energy for America Act. The
2 Chairman's mark ensures that small businesses and people
3 earning less than \$400,000 do not pay more. As stated
4 before, oil and gas companies would still be able to
5 take any business tax deductions that are generally
6 available to all businesses like ordinary businesses
7 expenses, and depreciation. Only the special
8 industry-specific benefits are being replaced.

9 A roll call has been requested by Senator Toomey.
10 The Clerk will call the roll.

11 The Clerk. Ms. Stabenow.

12 Senator Stabenow. No.

13 The Clerk. Ms. Stabenow, no. Ms. Cantwell.

14 Senator Cantwell. No.

15 The Clerk. Ms. Cantwell, no. Mr. Menendez.

16 Senator Menendez. No.

17 The Clerk. Mr. Menendez, no. Mr. Carper.

18 Senator Carper. No.

19 The Clerk. Mr. Carper, no. Mr. Cardin.

20 Senator Cardin. No.

21 The Clerk. Mr. Cardin, no. Mr. Brown.

22 Senator Brown. No.

23 The Clerk. Mr. Brown, no. Mr. Bennet.

24 Senator Bennet. No.

25 The Clerk. Mr. Bennet, no. Mr. Casey.

1 Senator Casey. No.
2 The Clerk. Mr. Casey, no. Mr. Warner.
3 Senator Warner. No.
4 The Clerk. Mr. Warner, no. Mr. Whitehouse.
5 Senator Whitehouse. No.
6 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
7 Senator Hassan. No.
8 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
9 Senator Cortez Masto. No.
10 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
11 Senator Warren. No.
12 The Clerk. Ms. Warren, no. Mr. Crapo.
13 Senator Crapo. Aye.
14 The Clerk. Mr. Crapo, aye. Mr. Grassley.
15 Senator Crapo. Aye by proxy.
16 The Clerk. Mr. Grassley, aye by proxy. Mr. Cornyn.
17 Senator Cornyn. Aye.
18 The Clerk. Mr. Cornyn, aye. Mr. Thune.
19 Senator Thune. Aye.
20 The Clerk. Mr. Thune, aye. Mr. Burr.
21 Senator Crapo. Aye by proxy.
22 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
23 Senator Portman. Aye.
24 The Clerk. Mr. Portman, aye. Mr. Toomey.
25 Senator Toomey. Aye.

1 The Clerk. Mr. Toomey, aye. Mr. Scott.

2 Senator Crapo. Aye by proxy.

3 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.

4 Senator Cassidy. Aye.

5 The Clerk. Mr. Cassidy, aye. Mr. Lankford.

6 Senator Lankford. Aye.

7 The Clerk. Mr. Lankford, aye. Mr. Daines.

8 Senator Daines. Aye.

9 The Clerk. Mr. Daines, aye. Mr. Young.

10 Senator Crapo. Aye by proxy.

11 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

12 Senator Sasse. Aye.

13 The Clerk. Mr. Sasse, aye. Mr. Barrasso.

14 Senator Barrasso. Aye.

15 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

16 The Chairman. No.

17 The Clerk. The Chairman votes no.

18 The Chairman. The Clerk will report the vote.

19 The Clerk. Mr. Chairman, the final tally is 14

20 ayes, 14 nays.

21 The Chairman. The vote resulting in a tie, the

22 Amendment is not agreed to. Our next Amendment is

23 Senator Cassidy No. 1.

24 Senator Cassidy. Thank you, Mr. Chairman. This is

25 an amendment to the Clean Electricity Production Credit

1 to require net zero manufacturing components.

2 You know, I just got a note from my friend, Sheldon
3 Whitehouse, "we must get serious about climate change."
4 And I thought, right on, Sheldon. I agree with you
5 totally. And in key legislation like this in which we
6 frankly have encouraged carbon leakage, I think the fix
7 is not serious. And we can see recently that China,
8 again their emissions are more than the rest of the OECD
9 put together. And I forget, what it was 25 or 35
10 percent of those emissions are related to the export
11 market.

12 Clearly there is carbon leakage. So this Amendment
13 will require that in order to be eligible for the Clean
14 Electricity Production Credit, all components used in
15 the construction of wind turbines, solar cells, and
16 energy storage technology must be manufactured or mined
17 using goods produced in a net-zero emissions manner as
18 verified by the EPA.

19 By the way, there are studies showing that the life
20 cycle emissions in both the mining of the lithium used
21 to make the batteries, and in the mining -- and in the
22 manufacturing of the batteries in China, which uses coal
23 primarily as a feedstock, almost completely offsets its
24 environmental advantage as regards decreased emissions.

25 So, if the stated goal of this bill is to

1 incentivize clean resources, and to that end this bill
2 requires that there must be zero emissions from
3 electricity generation to access credit, and it draws
4 the confines of these considerations in a way which
5 severely disadvantages carbon capture technologies and
6 geothermal technologies, while ignoring the life cycle
7 emissions from renewable energy and energy storage, just
8 does not make sense.

9 I hope it is a drafting error, but I suspect,
10 unfortunately, it is not. I mention that because carbon
11 capture and geothermal are expressly named by every
12 reputable climate study, including the IPCC 1.5-degree
13 Celsius report as vital for achieving climate goals, and
14 writing a statute that benefits one technology over the
15 other is the opposite of what this bill claims to do.

16 So, what my Amendment does is fix this hoped-for
17 oversight, and requires that in order to be eligible for
18 the Clean Electricity Production Credit we consider the
19 life cycle. Are components used in the construction of
20 wind turbine, solar cells, and energy storage technology
21 manufactured or mined using goods produced in a net-zero
22 emission manner, as verified by the EPA. If we are
23 concerned about global climate, global greenhouse gas
24 emissions, we should do something about the carbon
25 leakage.

1 With that, Mr. Chair, I know I have your support.

2 The Chairman. I oppose this. I think my colleague
3 is not surprised about it, but apart from everything
4 else, my colleague is saying that all this should be
5 verified by the EPA, which of course the Senate Finance
6 Committee has zero jurisdiction over. And the reality
7 is, this is an Amendment that would kill the entire
8 bill, block the progress that we have been talking
9 about, block the effort that Senator Crapo and I have
10 both come out for of tech neutral, free market,
11 pro-innovation, and a policy for the 21st Century.

12 I urge colleagues to vote no. And I think my
13 colleague asked for a roll call vote?

14 Senator Cassidy. Please.

15 The Chairman. Yes, a roll call vote has been
16 requested. The Clerk will call the roll.

17 The Clerk. Ms. Stabenow.

18 Senator Stabenow. No.

19 The Clerk. Ms. Stabenow, no. Ms. Cantwell.

20 Senator Cantwell. No.

21 The Clerk. Ms. Cantwell, no. Mr. Menendez.

22 Senator Menendez. No.

23 The Clerk. Mr. Menendez, no. Mr. Carper.

24 Senator Carper. No.

25 The Clerk. Mr. Carper, no. Mr. Cardin.

1 Senator Cardin. No.

2 The Clerk. Mr. Cardin, no. Mr. Brown.

3 Senator Brown. No.

4 The Clerk. Mr. Brown, no. Mr. Bennet.

5 Senator Bennet. No.

6 The Clerk. Mr. Bennet, no. Mr. Casey.

7 Senator Casey. No.

8 The Clerk. Mr. Casey, no. Mr. Warner.

9 Senator Warner. No.

10 The Clerk. Mr. Warner, no. Mr. Whitehouse.

11 Senator Whitehouse. No.

12 The Clerk. Mr. Whitehouse, no. Ms. Hassan.

13 Senator Hassan. No.

14 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.

15 Senator Cortez Masto. No.

16 The Clerk. Ms. Cortez Masto, no. Ms. Warren.

17 Senator Warren. No.

18 The Clerk. Ms. Warren, no. Mr. Crapo.

19 Senator Crapo. Aye.

20 The Clerk. Mr. Crapo, aye. Mr. Grassley.

21 Senator Grassley. I pass for now.

22 The Clerk. Mr. Cornyn.

23 Senator Cornyn. Aye.

24 The Clerk. Mr. Cornyn, aye. Mr. Thune.

25 Senator Thune. Aye.

1 The Clerk. Mr. Thune, aye. Mr. Burr.
2 Senator Crapo. Aye by proxy.
3 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
4 Senator Crapo. Aye by proxy.
5 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.
6 Senator Toomey. Aye.
7 The Clerk. Mr. Toomey, aye. Mr. Scott.
8 Senator Crapo. Aye by proxy.
9 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
10 Senator Cassidy. Aye.
11 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
12 Senator Lankford. Aye.
13 The Clerk. Mr. Lankford, aye. Mr. Daines.
14 Senator Daines. Aye.
15 The Clerk. Mr. Daines. Aye. Mr. Young.
16 Senator Crapo. Aye by proxy.
17 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.
18 Senator Sasse. Aye.
19 The Clerk. Mr. Sasse, aye. Mr. Barrasso.
20 Senator Barrasso. Aye.
21 The Clerk. Mr. Barrasso, aye. Mr. Chairman.
22 The Chairman. No.
23 The Clerk. The Chairman votes no. Mr. Grassley.
24 Senator Grassley. Mr. Grassley votes aye.
25 The Clerk. Mr. Grassley, aye.

1 The Chairman. The Clerk will report the vote.

2 The Clerk. Mr. Chairman, the final tally is 14
3 ayes, 14 nays.

4 The Chairman. The vote resulting in a tie, the
5 Amendment is not agreed to. The next Amendment is
6 Grassley No. 2.

7 Senator Grassley. First of all, Mr. Chairman, I
8 need to thank you because you included part of this
9 Amendment in your modified version. So I thank you very
10 much for that.

11 The information reporting will help address
12 shortcomings of the difficulty identified in the IRS's
13 ability to identify fraudulent claims of the credit.
14 However, a key component of the Amendment concerns
15 retaining the per manufacturer cap on the EV credit. We
16 should not lift the cap when the IRS has yet to prove it
17 can effectively administer the credit.

18 Second, lifting the cap would primarily benefit a
19 single company that has proven it can compete with no
20 credit. Tesla has established market dominance and is
21 by far the most valuable car manufacturer in the world
22 in terms of market capitalization, and with Tesla's
23 vehicles zooming off the showroom floor, there is no
24 reason for taxpayers to pad that company's pocket.

25 There is also no reason to provide a windfall to

1 wealthy individuals who are willing to shell out \$79,000
2 for an EV without any subsidy. So I urge all my members
3 to vote to adopt the Amendment.

4 The Chairman. Thank you, Senator Grassley. I am
5 just going to make a couple of quick comments. I am
6 opposed to the Grassley Amendment. We will have a roll
7 call vote per our colleague's request, and I am going to
8 yield to Senator Stabenow.

9 Senator Grassley's thoughtful ideas about
10 information reporting to prevent improper payments have
11 been incorporated into the mark. What I cannot support
12 is a per-manufacturer cap on electric vehicles. That
13 kind of cap would significantly slow the growth of
14 electric vehicles, and they in my view are critical to
15 reducing carbon emissions in the transportation sector.
16 And I think we all understand the transportation sector
17 is responsible for nearly 30 percent of emissions in
18 this country.

19 So to me, it should not be policy for the Finance
20 Committee to be putting unreasonable restrictions on
21 consumer choice, making electric vehicles far more
22 expensive. And let's hear from our colleague from
23 Michigan.

24 Senator Stabenow. Thank you very much, Mr.
25 Chairman. I also would oppose this Amendment. We know

1 that the transportation sector is the largest source of
2 greenhouse gas emissions. And if we are serious about
3 tackling the climate crisis, we have to be big and bold.
4 And that is what is in the underlying bill.

5 It is interesting to me, listening to the debates on
6 the Amendments, because clearly our colleagues on the
7 other side of the aisle want very much to maintain the
8 status quo on fossil fuel production, and the current
9 tax advantages there, as opposed to looking at where we
10 need to go together to create jobs in a new, clean
11 energy economy that is going to tackle what is the
12 existential threat right now.

13 In fact, there is severe weather right outside that
14 we just all got noticed about. It is not an accident
15 that one more time, it is one thing after another on
16 severity of what is happening as a result of carbon
17 pollution, and what is happening in the atmosphere. And
18 so if we are serious about it, the underlying bill is
19 the way to proceed in a robust way. And the credit will
20 end in 10 years, or sooner, depending on the
21 marketplace. And to me that makes the kind of long-term
22 commitment that the industry needs as they are moving
23 forward. I would ask for a no vote.

24 The Chairman. A roll call has been requested. The
25 Clerk will call the roll.

1 The Clerk. Senator Stabenow.
2 Senator Stabenow. No.
3 The Clerk. Ms. Stabenow, no. Ms. Cantwell.
4 Senator Cantwell. No.
5 The Clerk. Ms. Cantwell, no. Mr. Menendez.
6 Senator Menendez. No.
7 The Clerk. Mr. Menendez, no. Mr. Carper.
8 Senator Carper. No.
9 The Clerk. Mr. Carper, no. Mr. Cardin.
10 Senator Cardin. No.
11 The Clerk. Mr. Cardin, no. Mr. Brown.
12 Senator Brown. No.
13 The Clerk. Mr. Brown, no. Mr. Bennet.
14 Senator Bennet. No.
15 The Clerk. Mr. Bennet, no. Mr. Casey.
16 Senator Casey. No.
17 The Clerk. Mr. Casey, no. Mr. Warner.
18 Senator Warner. No.
19 The Clerk. Mr. Warner, no. Mr. Whitehouse.
20 Senator Whitehouse. No.
21 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
22 Senator Hassan. No.
23 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
24 Senator Cortez Masto. No.
25 The Clerk. Ms. Cortez Masto, no. Ms. Warren.

1 Senator Warren. No.

2 The Clerk. Ms. Warren, no. Mr. Crapo.

3 Senator Crapo. Aye.

4 The Clerk. Mr. Crapo, aye. Mr. Grassley.

5 Senator Grassley. Aye.

6 The Clerk. Mr. Grassley, aye. Mr. Cornyn.

7 Senator Cornyn. Aye.

8 The Clerk. Mr. Cornyn, aye. Mr. Thune.

9 Senator Thune. Aye.

10 The Clerk. Mr. Thune, aye. Mr. Burr.

11 Senator Crapo. Aye by proxy.

12 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.

13 Senator Crapo. Aye by proxy.

14 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.

15 Senator Toomey. Aye.

16 The Clerk. Mr. Toomey, aye. Mr. Scott.

17 Senator Crapo. Aye by proxy.

18 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.

19 Senator Cassidy. Aye.

20 The Clerk. Mr. Cassidy, aye. Mr. Lankford.

21 Senator Lankford. Aye.

22 The Clerk. Mr. Lankford, aye. Mr. Daines.

23 Senator Daines. Aye.

24 The Clerk. Mr. Daines, aye. Mr. Young.

25 Senator Crapo. Aye by proxy.

1 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

2 Senator Sasse. Aye.

3 The Clerk. Mr. Sasse, aye. Mr. Barrasso.

4 Senator Barrasso. Aye.

5 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

6 The Chairman. No.

7 The Clerk. The Chairman votes no.

8 The Chairman. The Clerk will report the vote.

9 The Clerk. Mr. Chairman, the final tally is 14
10 ayes, 14 nays.

11 The Chairman. The vote resulting in a tie, the
12 Amendment is not agreed to. Our next Amendment will be
13 Thune No. 2.

14 Senator Thune. Thank you, Mr. Chairman. I would
15 like to discuss the Thune Amendment No. 2 and request a
16 roll call vote.

17 This Amendment would delay the effective date of the
18 Clean Electricity Credits in the Chairman's mark until
19 the Administration certifies that the average permitting
20 time for electricity projects over 50 megawatts is not
21 greater than three years.

22 Colleagues, the arduous permitting process is one of
23 the primary reasons holding up American energy
24 investment. Multi-year permitting delays do not
25 incentivize investment and they block

1 otherwise-shovel-ready projects from becoming a reality.

2 Delays also add to the cost of each project to the
3 tune of 20 to 30 percent per project. And I would add
4 that cancelling the Keystone XL Pipeline, which endured
5 a decade -- a decade -- of permitting and was already
6 underway, does not instill confidence that even approved
7 projects are safe. And by the way, Keystone XL would be
8 paired with \$1.7 billion of private investment in
9 renewable energy, the very same projects that we are
10 discussing today.

11 Energy technologies are trending toward efficiency,
12 but five-plus years permitting delays, delays in grid
13 connection studies and a tangle of federal regulations,
14 are significant obstacles to bringing the energy
15 technologies that we are discussing today online.

16 So I would ask my colleagues that, before we award
17 billions and billions of dollars of taxpayer money in
18 the tax credits that are proposed today, that we first
19 address a real hurdle to modernizing our grid and
20 bringing new energy technologies online. And that is a
21 broken and burdensome permitting process.

22 I would ask for a roll call vote and encourage my
23 colleagues to vote yes.

24 The Chairman. Senator Thune, thank you for giving
25 us the chance to explain where we are. This involves

1 EPA, so I think is important that the chairman of the
2 committee that deals with EPA have a chance to make his
3 comments.

4 Senator Carper. Thanks so much. Let me say to our
5 colleague who is offering the Amendment, I would like to
6 work with you on this. We reported out our Surface
7 Transportation bill today. It had a number of
8 provisions where we actually made changes in permitting.
9 And it is something that we have worked at on a
10 bipartisan basis. And I think it does the right thing I
11 think environmentally, but also uses some common sense
12 as well. And we found common ground.

13 If we could get to it there, we might be able to do
14 it here. And I am not going to object that we somehow
15 have jurisdiction, and this is out of our jurisdictional
16 garden, but I think this might be an area for some
17 further discussion. And I would welcome that. In fact,
18 several of the amendments that have been offered today I
19 am sitting here thinking well maybe could talk about
20 these a little bit more and find some common ground. So
21 I would just offer that, and support you today with this
22 particular version. But I think it is worth further
23 conversation. Maybe we could pray over it.

24 The Chairman. Colleagues, I am urging a no vote
25 now, but I am very much in favor of Senator Carper and

1 Senator Thune continuing these talks. Because as we
2 have touched on a number of these areas, I think with a
3 long reach Senator Thune explore, there is a shot here
4 at catching some of that. So I hope my colleagues will
5 vote against this, but I encourage the talks that have
6 been discussed. A roll call vote has been requested.
7 The Clerk will call the roll.

8 The Clerk. Ms. Stabenow.

9 The Chairman. No by proxy.

10 The Clerk. Ms. Stabenow, no by proxy. Ms.
11 Cantwell.

12 Senator Cantwell. No.

13 The Clerk. Ms. Cantwell, no. Mr. Menendez.

14 Senator Menendez. No.

15 The Clerk. Mr. Menendez, no. Mr. Carper.

16 Senator Carper. No.

17 The Clerk. Mr. Carper, no. Mr. Cardin.

18 Senator Cardin. No.

19 The Clerk. Mr. Cardin, no. Mr. Brown.

20 Senator Brown. No.

21 The Clerk. Mr. Brown, no. Mr. Bennet.

22 Senator Bennet. No.

23 The Clerk. Mr. Bennet, no. Mr. Casey.

24 Senator Casey. No.

25 The Clerk. Mr. Casey, no. Mr. Warner.

1 Senator Warner. No.

2 The Clerk. Mr. Warner, no. Mr. Whitehouse.

3 Senator Whitehouse. No.

4 The Clerk. Mr. Whitehouse, no. Ms. Hassan.

5 Senator Hassan. No.

6 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.

7 Senator Cortez Masto. No.

8 The Clerk. Ms. Cortez Masto, no. Ms. Warren.

9 Senator Warren. No.

10 The Clerk. Ms. Warren, no. Mr. Crapo.

11 Senator Crapo. Aye.

12 The Clerk. Mr. Crapo, aye. Mr. Grassley.

13 Senator Grassley. Aye.

14 The Clerk. Mr. Grassley, aye. Mr. Cornyn.

15 Senator Cornyn. Aye.

16 The Clerk. Mr. Cornyn, aye. Mr. Thune.

17 Senator Thune. Aye.

18 The Clerk. Mr. Thune, aye. Mr. Burr.

19 Senator Crapo. Aye by proxy.

20 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.

21 Senator Crapo. Aye by proxy.

22 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.

23 Senator Toomey. Aye.

24 The Clerk. Mr. Toomey, aye. Mr. Scott.

25 Senator Crapo. Aye by proxy.

1 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.

2 Senator Cassidy. Aye.

3 The Clerk. Mr. Cassidy, aye. Mr. Lankford.

4 Senator Lankford. Aye.

5 The Clerk. Mr. Lankford, aye. Mr. Daines.

6 Senator Daines. Aye.

7 The Clerk. Mr. Daines, aye. Mr. Young.

8 Senator Crapo. Aye by proxy.

9 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

10 Senator Sasse. Aye.

11 The Clerk. Mr. Sasse, aye. Mr. Barrasso.

12 Senator Barrasso. Aye.

13 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

14 The Chairman. No

15 The Clerk. Mr. Chairman votes no.

16 The Chairman. The Clerk will report the vote.

17 The Clerk. Mr. Chairman, the final tally is 14 ayes
18 and 14 nays.

19 The Chairman. The vote resulting in a tie, the
20 Amendment is not agreed to. The next Amendment in the
21 queue is Lankford No. 1.

22 Senator Lankford. Mr. Chairman, thank you. I would
23 like to call up Amendment No. 1. This Amendment deals
24 with the reliability of our power grid. There are
25 several folks in this room that have experienced either

1 rolling blackouts, or times of loss of electricity due
2 to lack of reliability moments I talked about before in
3 peak moments, when it is the hottest, when it is the
4 coldest.

5 Those are challenges. Those are also safety issues.
6 When it gets very cold and very hot, we have serious
7 safety issues. We also have folks that are on oxygen.
8 If they lose power for extended periods of time, that is
9 a very big issue for them. And so this is a very basic
10 question.

11 This is asking the question if we are going to
12 implement some of these tax credits, we need to certify
13 that adding these tax credits will not change the
14 reliability of our electricity grid.

15 This is a big issue. I would tell you in Oklahoma
16 we have experienced this. It was not that long ago, 10
17 years ago, half of our power was done by coal. That is
18 not true anymore. Now it is less than 10 percent. Now
19 40 percent of our power is done by wind. As you might
20 have heard from our song, you are welcome to sing it
21 with me, the wind comes sweeping down the plain. There
22 is a lot of wind power in our state. And as an oil and
23 gas state, as many people call it the oil and gas state,
24 the preponderance of our power is renewable. And, quite
25 frankly, I would set our energy mix in my state against

1 any other state in this room, any state in this room,
2 for what we do for renewable power.

3 But we also want our power to be reliable. I do not
4 think that should be just set aside. So this simple
5 Amendment says let's make sure, before we do this,
6 knowing this that we provide incentives, people run
7 toward the incentives, if you tax it more, you get less
8 of it, which is what this does. If you give incentives
9 to things, people push that capital in that direction,
10 and at some point, we get out of balance.

11 This is not trying to be hostile. This is trying to
12 protect ourselves from ourselves, if we over-incentivize
13 on direction and we lose our base power, those rolling
14 blackouts will land right here. So let's just check it
15 before we head in that direction. That is all that this
16 is.

17 The Chairman. Colleagues, I am opposed to this.
18 Again, this is asking the Senate Finance Committee to go
19 where we have no jurisdiction. It sets up basically an
20 impossible threshold. We would have to wait around
21 until the Department of Energy certifies this particular
22 solution that our colleague from Oklahoma is talking
23 about. And I think the grid reliability issue is a
24 serious one.

25 I sit on the Energy Committee. I have chaired it.

1 I have introduced legislation. I would be happy to work
2 with my colleague on it. But this particular Amendment
3 will dramatically delay our progress toward a clean
4 energy future. I urge a no vote. I think my colleague
5 asked for a roll call.

6 Senator Lankford. I did.

7 The Chairman. Is that correct? A roll call has
8 been requested. The Clerk will call the roll.

9 The Clerk. Ms. Stabenow.

10 The Chairman. No by proxy.

11 The Clerk. Ms. Stabenow, no by proxy. Ms.
12 Cantwell.

13 Senator Cantwell. No.

14 The Clerk. Ms. Cantwell, no. Mr. Menendez.

15 Senator Menendez. No.

16 The Clerk. Mr. Menendez, no. Mr. Carper.

17 Senator Carper. No.

18 The Clerk. Mr. Carper, no. Mr. Cardin.

19 Senator Cardin. No.

20 The Clerk. Mr. Cardin, no. Mr. Brown.

21 Senator Brown. No.

22 The Clerk. Mr. Brown, no. Mr. Bennet.

23 Senator Bennet. No.

24 The Clerk. Mr. Bennet, no. Mr. Casey.

25 Senator Casey. No.

1 The Clerk. Mr. Casey, no. Mr. Warner.
2 Senator Warner. No.
3 The Clerk. Mr. Warner, no. Mr. Whitehouse.
4 Senator Whitehouse. No.
5 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
6 Senator Hassan. No.
7 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
8 Senator Cortez Masto. No.
9 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
10 Senator Warren. No.
11 The Clerk. Ms. Warren, no. Mr. Crapo.
12 Senator Crapo. Aye.
13 The Clerk. Mr. Crapo, aye. Mr. Grassley.
14 Senator Grassley. Pass.
15 The Clerk. Mr. Grassley, pass. Mr. Cornyn.
16 Senator Cornyn. Aye.
17 The Clerk. Mr. Cornyn, aye. Mr. Thune.
18 Senator Thune. Aye.
19 The Clerk. Mr. Thune, aye. Mr. Burr.
20 Senator Crapo. Aye by proxy.
21 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
22 Senator Crapo. Aye by proxy.
23 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.
24 Senator Toomey. Aye.
25 The Clerk. Mr. Toomey, aye. Mr. Scott.

1 Senator Crapo. Aye by proxy.
2 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
3 Senator Cassidy. Aye.
4 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
5 Senator Lankford. Aye.
6 The Clerk. Mr. Lankford, aye. Mr. Daines.
7 Senator Daines. Aye.
8 The Clerk. Mr. Daines. Aye. Mr. Young.
9 Senator Crapo. Aye by proxy.
10 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.
11 Senator Crapo. Aye by proxy.
12 The Clerk. Mr. Sasse, aye by proxy. Mr. Barrasso.
13 Senator Barrasso. Aye.
14 The Clerk. Mr. Barrasso, aye. Mr. Chairman.
15 The Chairman. No.
16 The Clerk. The Chairman votes no.
17 The Chairman. The Clerk will report the vote.
18 The Clerk. Mr. Grassley?
19 The Chairman. Oh, excuse me. Senator Grassley
20 would like to be recorded as voting aye.
21 The Clerk. Mr. Grassley, aye.
22 The Chairman. Okay, the Clerk will report the vote.
23 The Clerk. Mr. Chairman, the final tally is 14
24 ayes, 14 nays.
25 The Chairman. The vote resulting in a tie, the

1 Amendment is not agreed to. And the next three
2 amendments are going to be Senators Cantwell, Senator
3 Daines, yes, is here, and then Senator Cardin. Senator
4 Cantwell.

5 Senator Cantwell. Mr. Chairman, thank you. I call
6 up Cantwell Amendment No. 2. This is a proposal which
7 was also co-sponsored by Senator Hassan, and I
8 appreciate her support, to ensure continued use of
9 carbon-free hydropower while also supporting
10 environmental and economic benefits from increased
11 access to our healthy river systems.

12 According to the National Academy of Scientists,
13 maintaining our Nation's existing hydropower capacity is
14 critical to meeting our national goals for reducing
15 carbon. Hydropower plays a key role in keeping our grid
16 resilient and reliable with unique capabilities. So
17 hydro also plays a role in the importance of
18 intermittent renewable energy sources, and we have more
19 to do there.

20 This proposal would also help spur critical upgrades
21 with the new tax investment in the Dam Safety
22 environmental improvements, and grid flexibility. That
23 includes putting in more efficient Frisch Findley
24 turbines, managing river sediment accumulations,
25 replacing worn-out floodgates, and improving fish

1 passage infrastructure. At the same time, it helps
2 us get rid of obsolete nonpower dams and diverting
3 structures.

4 Spurring this kind of investment, I think will help
5 us in many ways. I understand that there are some
6 technical issues that need to be worked out from this
7 Amendment, Mr. Chairman, so I will not seek a vote
8 today, but continue to work with you and the ranking
9 member on this important issue.

10 The Chairman. I thank my Northwest colleague for
11 raising this issue. Hydropower and the health of our
12 rivers is a critical issue for us in the Pacific
13 Northwest, and it is a critical issue in so many
14 communities across the country. I very much look
15 forward to working with you on this issue. And in the
16 spirit of what Tom Carper has been talking about over
17 the last three or four hours, this is a natural, again,
18 for Democrats and Republicans to come together.

19 So I note that my colleague has withdrawn the
20 Amendment. Next will be Senator Daines.

21 Senator Daines. Mr. Chairman, thank you. I would
22 like to call up Daines Amendment No. 1. This Amendment
23 would strike the provision limiting percent depletion
24 for oil, gas, and coal, and increase from 20 to 50
25 percent the depletion rate for critical mineral. Let me

1 talk about that for a moment. As we are moving forward
2 with building out more renewables, wind, solar, and the
3 storage technology associated with it, you need raw
4 materials. You need critical minerals, minerals like
5 gallium, graphite, indium, and the rare earth-- there
6 are 17 rare earths. If you remember your chemistry days
7 and the periodic chart, there are some of these that you
8 did not spend a lot of time studying, but they are
9 really, really important: yttrium, scandium,
10 gadolinium, were some of them.

11 The reason they are important is we cannot produce
12 iPhones, electric car motors, satellite lasers, military
13 jet engines, without these critical minerals. Here is
14 the problem. We are virtually 100 percent
15 foreign-reliant on them. Most of them come from China.
16 We literally will be setting up China to be the OPEC, or
17 the Middle East of the '70s, here as our dependencies
18 increase as we go forward in the next 10 to 20 years.

19 It is irresponsible to be 100 percent reliant for
20 these raw materials for any industry, specifically for
21 one we are trying to subsidize. We should all agree
22 that responsible domestic production of these critical
23 minerals across our country must substantially increase.

24 My Amendment does that by increasing the percentage
25 depletion tax deduction for critical minerals. It is

1 very labor intensive, fairly high risk, and we need to
2 incentivize more responsible domestic production to
3 secure our supply chain. And I urge my colleagues to
4 support this Amendment.

5 Thank you, Mr. Chairman.

6 The Chairman. I thank my colleague. Colleagues,
7 this is a re-do of what we are now on our third round of
8 Senator Barrasso, Senator Toomey, Senator Daines. Once
9 again, the Clean Energy for America Act repeals all
10 industry-specific breaks. All of them. And the whole
11 point of the bill is to create this kind of free market
12 competition to reduce energy costs for American
13 consumers and have a level playing field.

14 The oil and gas breaks are 100 years old, and I
15 would just say, as we touched on before, I think that on
16 a bipartisan basis in the spirit of Tom Carper, let's be
17 working to try to get all sources of energy into this
18 century. So I hope colleagues will oppose this once
19 again. The mark assures that small businesses and
20 people earning less than \$400,000 do not pay more. I
21 think my colleague requested a roll call vote --

22 Senator Cornyn. Mr. Chairman? Mr. Chairman, may I
23 be recognized briefly on this topic?

24 The Chairman. Of course. Of course.

25 Senator Cornyn. Senator Warner and I last year

1 introduced the CHIPS for America Act, which you are
2 generally familiar with because we voted 96 to 4 to
3 include it in the Defense Authorization Act. It
4 represents a recognition that certain strategic
5 investments need to be made here in America, and
6 incentivized because of our dependency on vulnerable
7 supply chains like the Senator from Montana is talking
8 about.

9 Now in the case of CHIPS for America, it was
10 semiconductors, 63 percent of which comes from Taiwan,
11 90 percent from Asia. But in the same vein, it is
12 absolutely essential that we incentivize the production
13 of these rare earth minerals and other vulnerable supply
14 chains not because of free market economics, but it is
15 because these are strategic investments that will
16 protect us from the monopoly that the People's Republic
17 of China has obtained on these minerals and on these
18 chemicals.

19 So I think we should not just turn a blind eye to
20 the fact that we are in an historic competition with
21 China, and that we have these vulnerabilities. So I
22 certainly strongly support the Senator's Amendment, and
23 I think in the same vein we should all support the CHIPS
24 for America Act. Hopefully when we get to vote on it
25 this week, we should support this one.

1 The Chairman. Again, colleagues, my difference of
2 opinion here is that I want all energy sources, all of
3 them, to be looking to the future and not have us
4 tethered to these policies that are decades and decades
5 old. And that is the reason the debate with respect to
6 the Barrasso Amendment, with respect to the Toomey
7 Amendment, and now the Daines Amendment, are all cut
8 from the same cloth. They all anchor us down into the
9 last century. So I urge a no vote. A roll call has
10 been requested. The Clerk will call the roll.

11 The Clerk. Ms. Stabenow.

12 The Chairman. No by proxy.

13 The Clerk. Ms. Stabenow, no by proxy. Ms.
14 Cantwell.

15 Senator Cantwell. No.

16 The Clerk. Ms. Cantwell, no. Mr. Menendez.

17 Senator Menendez. No.

18 The Clerk. Mr. Menendez, no. Mr. Carper.

19 Senator Carper. No.

20 The Clerk. Mr. Carper, no. Mr. Cardin.

21 Senator Cardin. No.

22 The Clerk. Mr. Cardin, no. Mr. Brown.

23 Senator Brown. No.

24 The Clerk. Mr. Brown, no. Mr. Bennet.

25 Senator Bennet. No.

1 The Clerk. Mr. Bennet, no. Mr. Casey.
2 Senator Casey. No.
3 The Clerk. Mr. Casey, no. Mr. Warner.
4 Senator Warner. No.
5 The Clerk. Mr. Warner, no. Mr. Whitehouse.
6 Senator Whitehouse. No.
7 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
8 Senator Hassan. No.
9 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
10 Senator Cortez Masto. No.
11 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
12 Senator Warren. No.
13 The Clerk. Ms. Warren, no. Mr. Crapo.
14 Senator Crapo. Aye.
15 The Clerk. Mr. Crapo, aye. Mr. Grassley.
16 Senator Crapo. Aye by proxy.
17 The Clerk. Mr. Grassley, aye by proxy. Mr. Cornyn.
18 Senator Cornyn. Aye.
19 The Clerk. Mr. Cornyn, aye. Mr. Thune.
20 Senator Thune. Aye.
21 The Clerk. Mr. Thune, aye. Mr. Burr.
22 Senator Crapo. Aye by proxy.
23 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
24 Senator Crapo. Aye by proxy.
25 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.

1 Senator Toomey. Aye.

2 The Clerk. Mr. Toomey, aye. Mr. Scott.

3 Senator Crapo. Aye by proxy.

4 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.

5 Senator Cassidy. Aye.

6 The Clerk. Mr. Cassidy, aye. Mr. Lankford.

7 Senator Lankford. Aye.

8 The Clerk. Mr. Lankford, aye. Mr. Daines.

9 Senator Daines. Aye.

10 The Clerk. Mr. Daines. Aye. Mr. Young.

11 Senator Crapo. Aye by proxy.

12 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

13 Senator Crapo. Aye by proxy.

14 The Clerk. Mr. Sasse, aye by proxy. Mr. Barrasso.

15 Senator Barrasso. Aye.

16 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

17 The Chairman. No.

18 The Clerk. The Chairman votes no.

19 The Chairman. The Clerk will report the vote.

20 The Clerk. Mr. Chairman, the vote tally is 14 ayes,
21 14 nays.

22 The Chairman. The vote resulting in a tie, the
23 Amendment is not agreed to. So here is where we are,
24 colleagues. We are going to go next to Senator Cardin,
25 who is going to raise an important issue with respect to

1 nuclear power, and we have got a new amendment queue.
2 Hope springs eternal, and I hope this will be the last
3 amendment queue. Thune No. 4, Crapo No. 2, Young No. 4,
4 Cassidy No. 2, Cassidy, No. 3, Cassidy No. 5, Lankford
5 No. 8, and then we will have members wishing to offer
6 additional remarks on Cassidy, No. 4, Cassidy No. 6, and
7 Barrasso No. 3.

8 And now we have Senator Cardin's Amendment on
9 nuclear power. Senator Cardin.

10 Senator Cardin. Thank you, Mr. Chairman. I call up
11 Cardin Amendment No. 2. This Amendment, as the Chairman
12 has already pointed out, would add a nuclear production
13 tax credit to the underlying bill. I am joined by
14 Senator Whitehouse and Casey. And this Amendment would
15 provide neutrality as far as the tax credits for nuclear
16 power.

17 Nuclear, as I am sure everyone here knows, is an
18 emission-free energy source. It is totally consistent
19 with our climate objectives. It is seeing premature
20 closings of nuclear reactors all over the country. We
21 have had 11 closed in 10 of our states. We rely on
22 nuclear power for 20 percent of our electricity and 50
23 percent of our carbon-free electricity.

24 In Maryland, we had a nuclear plant at Calvert
25 Cliffs that is very much impacted. We have a challenge

1 today because of the cost of energy, as to the viability
2 of nuclear power. This formula that is used in this
3 Amendment is consistent with the underlying philosophy
4 of the Energy Production Tax Credit. It would provide a
5 Production Tax Credit of 1.5 cents per kilowatt hour for
6 existing merchant nuclear owners-operators. The credit
7 would be reduced by 80 percent of any market revenues
8 above 2.5 percent per kilowatt hour.

9 Let me just point out -- then we do the adjustment
10 similar to the Energy Production Tax Credit, and we have
11 the direct pay option. I believe there is bipartisan
12 support for us to move forward in this area. I know
13 that Senator Burr has raised this issue in our
14 committee. Senator Cramer joined me last year in
15 legislation that we authored in the last Congress. I
16 have had conversations with many members on both sides
17 of the aisle.

18 I do recognize that we need more work before we are
19 ready to move on this. I hope we can find a way to get
20 this included in the legislation. I will not ask for a
21 vote, but I wanted to make sure that this issue was
22 raised at this markup.

23 Senator Whitehouse. Would the Senator yield?

24 The Chairman. Yes, and obviously my colleagues want
25 to talk about it. Senator Menendez, first, and then

1 Senator Carper --

2 Senator Whitehouse. And Whitehouse in the queue, if
3 you please, Chairman.

4 The Chairman. Absolutely. Senator Menendez,
5 Senator Carper, Senator Whitehouse, and then I will wrap
6 it up. Senator Menendez.

7 Senator Menendez. Thank you, Mr. Chairman. I just
8 want to briefly say I appreciate Senator Cardin's work
9 on this. We have similar interests in the State of New
10 Jersey, and I look forward to working with him as he
11 perfects his Amendment.

12 The Chairman. Senator Carper.

13 Senator Carper. Thanks very much. I thank my
14 next-door neighbor from Maryland for offering this
15 Amendment. And I would like to be added -- I know we
16 are not going to get a vote on it today, but I would
17 like to be added as a co-sponsor.

18 There is a lot of interesting work with Senator
19 Barrasso -- I do not see him in the room right now, but
20 we have done a fair amount of work on the Environment
21 and Public Works Committee. We have a subcommittee that
22 deals with nuclear safety. There is a great deal of
23 work EIG done, interesting work, I think promising work
24 with respect to nuclear safety. And also, with respect
25 to the next generation of nuclear power that I think has

1 a lot of promise, and I think you are on to something
2 and I want to be listed as a co-sponsor of your
3 Amendment. Thank you.

4 The Chairman. Without objection, Senator Carper
5 will be added as a co-sponsor. Senator Whitehouse.

6 Senator Whitehouse. Thank you, Chairman. I do not
7 think there is a member of this committee who does not
8 accept that there is value to carbon-free emissions. In
9 fact, as a committee we have established through 45Q a
10 value for carbon-free emissions of \$25 per avoided ton,
11 or \$50 per avoided ton. So there really is that value.
12 The problem for the nuclear industry is that they have
13 no way to get that value. And they have to compete with
14 natural gas plants that have the burden of all those
15 emissions that are not charged for them. So it is an
16 unfair laying field for nuclear against fossil fuel
17 competitors, and the results have been safely operating
18 nuclear facilities have closed down in order for new
19 polluting facilities to be developed, which makes no
20 sense whatsoever. It is an economic malfunction.

21 And I really commend Senator Cardin for his
22 persistent efforts to cure it. Senator Carper, Senator
23 Cardin, and I in the EPA have been working on this for
24 quite a while. I really do think that there is a
25 prospect here for bipartisan progress. And the other

1 thing I would note, and I also want to salute Ranking
2 Member Crapo who has been a very stalwart ally in much
3 of this work. There is a prospect, as Senator Carper
4 points out, that as we develop next-gen nuclear power,
5 which is ongoing in the nuclear labs right now, that
6 becomes a vehicle for addressing our nuclear waste
7 problem, for which we have no solution.

8 If we can reduce our nuclear waste by repurposing it
9 as fuel for clean energy, that is worth putting a little
10 effort into. Because there is no Plan B for the nuclear
11 waste. And we certainly need additional sources of clean
12 energy. So I hope we can continue to work on this in a
13 bipartisan way. I am sorry to go on for a while, but I
14 really think that this is important, and I salute and
15 support Senator Cardin.

16 The Chairman. I think you are going to hear a
17 bipartisan refrain from Senator Crapo.

18 Senator Crapo. You definitely are. And first let
19 me say to Senator Cardin, I appreciate you bringing this
20 issue forward. And I also join with my other colleagues
21 who have spoken in saying that I would be glad to work
22 with you, and with all of our other colleagues who have
23 mentioned this.

24 Senator Whitehouse, in particular, and I have got a
25 few wins under our belt to help advance the focus on

1 nuclear power. I think if we can solve the waste issue,
2 as Senator Whitehouse just mentioned, which we can with
3 the new research and all the effort that has been going
4 on in the nuclear industry, this can be one of the most
5 powerful sources of carbon-free emissions in the world.
6 And the United States needs to be the leader.

7 So thank you very much, Senator Cardin, for bringing
8 it up.

9 The Chairman. Senator Cardin, I am going to wrap
10 this up by saying I am very much interested in working
11 with you going forward. The reality is, this is a
12 critical part of the climate puzzle. You absolutely
13 have to get this right. So, we will be working closely
14 with you.

15 Senator Lankford. Mr. Chairman --

16 The Chairman. Senator Lankford?

17 Senator Lankford. I would make just a quick comment
18 on this, as well. I totally agree. I am an advocate
19 for nuclear power, as well. It is actually the one
20 source that we do not use in Oklahoma in our
21 all-of-our-above.

22 The thing that I would raise with this group for us
23 to talk about is, does anyone know how long it takes to
24 permit a facility, a nuclear facility? And, when the
25 next one will come onboard at this point? Because,

1 while it is a great conversation, we are a decade away
2 from one. It depends, yes, that is our challenge right
3 now.

4 Senator Whitehouse. The modular would be rapidly --
5 Senator Lankford. The small modular, the best that
6 I have heard is 8 years.

7 The Chairman. One at a time.

8 Senator Lankford. I do not mind the dialogue on
9 that--

10 The Chairman. Senator Whitehouse and Senator
11 Cardin.

12 Senator Lankford. Senator Cardin, do you have a
13 good thought on that?

14 Senator Cardin. I just wanted to point out that
15 this credit would apply to existing reactors in order to
16 keep them in service.

17 Senator Lankford. Right. Okay, that is fair
18 enough, because part of our conversation has been
19 bringing on the small modular. I agree. Some of the
20 small modular designs have not been done before, so they
21 are 15 years in the future before you get the first one.
22 The ones that are taking the larger, more sophisticated
23 and just shrinking it down, they are 8 years at the
24 earliest to actually get one onboard. And so it is part
25 of our dialogue to try to figure out what are we going

1 to do in the meantime?

2 Because to replace one coal, one coal facility with
3 nuclear takes four modular facilities. And it would
4 take at least eight years to get the first of the four,
5 to get back to the realism of it.

6 The Chairman. The bipartisan chorus is with Senator
7 Cardin, and he has withdrawn, as I gather, withdrawn his
8 Amendment. So we go --

9 Senator Cassidy. One more thing -- I'm sorry, Mr.
10 Chairman. I'm sorry. I just wanted to make a
11 correction to what Senator Whitehouse said. In a market
12 in which we can subsidize one, even though it is a
13 mature industry, when we shut down one in Illinois
14 because wind from Iowa, people were paying them, the
15 consumers, to take the wind off their hands because when
16 there was low demand, so they were paying with the tax
17 credit to take the wind. And how can nuclear compete
18 with being paid to take the wind energy?

19 So as we look at the distortions we are creating in
20 these markets, now we are going to kind of make up for
21 the distortions? I think, one, we need to understand
22 really as much as folks may not like fossil fuels, even
23 though it has lowered emissions so dramatically, and
24 natural gas, that it is actually the Production Tax
25 Credit or the Wind Credit that have been problematic for

1 Illinois nuclear. And I think we need to understand
2 that as we kind of go through this holistically.

3 The Chairman. I think Senator Whitehouse will be
4 the last word --

5 Senator Whitehouse. I think I am actually getting
6 the glance from the Chairman that I should probably
7 restrain myself, so I will take that advice.

8 The Chairman. I think --

9 Senator Carper. Mr. Chairman, I am really
10 encouraged by this. I am not going to say more than
11 that. This is an encouraging conversation.

12 The Chairman. Right. It is, indeed.

13 Senator Carper. And it is one I will try to
14 continue. Thank you.

15 The Chairman. It is an encouraging conversation,
16 and I am glad we got it done before breakfast tomorrow.

17 [Laughter.]

18 The Chairman. It seemed like there was incredible
19 exuberance from Senator Cardin. Okay, the Amendment
20 queue that I announced begins, then, with Senator Thune.

21 Senator Thune. Thank you, Mr. Chairman. And Iowa
22 usually just ends up getting South Dakota's used wind as
23 it goes across the prairie.

24 I would like to discuss Thune Amendment No. 4 and
25 request a roll call vote. And I was pleased to see that

1 the Chairman's mark now includes certain restrictions on
2 the Electric Vehicle Tax Credit, including a cap on
3 vehicle retail prices and consumer incomes. I think
4 both are improvements in the bill.

5 However, I still have concerns on what is
6 essentially an open-ended tax credit for EVs. This very
7 straightforward Amendment would lower the phase-out
8 trigger for the EV Tax Credit to 10 percent, down from
9 the current threshold of 50 percent in the underlying
10 mark. And when we asked JCT, they did not know an
11 answer to the question about in 10 years, which is the
12 lifetime of this credit, what that would be.

13 Now current EV sales are approximately
14 two-and-a-half percent of annual sales. I suspect it
15 will be a very, very, very long time until that figure
16 reaches 50 percent. So not only does that generous
17 threshold drive the high cost of the credit, which is
18 estimated to be more than \$31 billion, this effectively
19 open-ended credit minimizes any urgency to claim it.

20 I think this is a, again, a way of bringing some
21 predictability and fiscal responsibility to the EV tax
22 credit which, at the current threshold of 50 percent,
23 could extend it into virtually eternity.

24 So, I would ask my colleagues to adopt this sensible
25 reform to the EV tax credit in the bill.

1 The Chairman. Colleagues, I am going to quickly
2 yield to Senator Stabenow. I urge a no vote on this.
3 Electric vehicles are critical to reducing carbon
4 emissions in the sector that really matters, the
5 transportation sector, 30 percent of emissions. We
6 should not be limiting consumer choice. I oppose the
7 Amendment. I yield to Senator Stabenow.

8 Senator Stabenow. Well thank you, Mr. Chairman.
9 And in fact the credit in the bill ends in 10 years, and
10 I am confident enough that we will have enough in the
11 marketplace at that point that we will not be talking
12 about extending that.

13 I will say this, though. We have a series of
14 Amendments coming up, all related to electric vehicles,
15 making them more expensive, making it harder. So this
16 is just an interesting debate for me. As a state that
17 has benefitted from the oil and gas industry and the
18 combustion engine for a long time, 100 years,
19 unfortunately we did not make sure that there was not
20 carbon pollution and other issues in place 100 years
21 ago, so we are now in a situation of a severe climate
22 crisis.

23 But we are now at a point where, do we go forward
24 with new clean energy opportunities and a level playing
25 field in the Tax Code, as the Chairman has proposed? Or

1 not? And do we want to incentivize these new
2 technologies?

3 I mentioned earlier in my opening statement that it
4 is not that these vehicles are not going to be built.
5 It is a question of where are they going to be built.
6 Are they going to be built in Asia or in the United
7 States? We need to own this technology. I would urge a
8 no vote that limits this unduly, and I would ask that we
9 embrace what are some very exciting new vehicles and
10 technologies that we should all be very proud of in
11 terms of those things that are being built in the United
12 States and will be built in the United States in the
13 next number of years.

14 The Chairman. A roll call has been requested. The
15 Clerk will call the roll.

16 The Clerk. Ms. Stabenow.

17 Senator Stabenow. No.

18 The Clerk. Ms. Stabenow, no. Ms. Cantwell.

19 Senator Cantwell. No.

20 The Clerk. Ms. Cantwell, no. Mr. Menendez.

21 Senator Menendez. No.

22 The Clerk. Mr. Menendez, no. Mr. Carper.

23 Senator Carper. No.

24 The Clerk. Mr. Carper, no. Mr. Cardin.

25 Senator Cardin. No.

1 The Clerk. Mr. Cardin, no. Mr. Brown.
2 The Chairman. No by proxy.
3 The Clerk. Mr. Brown, no by proxy. Mr. Bennet.
4 Senator Bennet. No.
5 The Clerk. Mr. Bennet, no. Mr. Casey.
6 Senator Casey. No.
7 The Clerk. Mr. Casey, no. Mr. Warner.
8 The Chairman. No by proxy.
9 The Clerk. Mr. Warner, no by proxy. Mr.
10 Whitehouse.
11 Senator Whitehouse. No.
12 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
13 Senator Hassan. No.
14 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
15 Senator Cortez Masto. No.
16 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
17 Senator Warren. No.
18 The Clerk. Ms. Warren, no. Mr. Crapo.
19 Senator Crapo. Aye.
20 The Clerk. Mr. Crapo, aye. Mr. Grassley.
21 Senator Grassley. Aye.
22 The Clerk. Mr. Grassley, aye. Mr. Cornyn.
23 Senator Cornyn. Aye.
24 The Clerk. Mr. Cornyn, aye. Mr. Thune.
25 Senator Thune. Aye.

1 The Clerk. Mr. Thune, aye. Mr. Burr.
2 Senator Crapo. Aye by proxy.
3 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
4 Senator Crapo. Aye by proxy.
5 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.
6 Senator Toomey. Aye.
7 The Clerk. Mr. Toomey, aye. Mr. Scott.
8 Senator Crapo. Aye by proxy.
9 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
10 Senator Cassidy. Aye.
11 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
12 Senator Lankford. Aye.
13 The Clerk. Mr. Lankford, aye. Mr. Daines.
14 Senator Daines. Aye.
15 The Clerk. Mr. Daines. Aye. Mr. Young.
16 Senator Young. Aye.
17 The Clerk. Mr. Young, aye. Mr. Sasse.
18 Senator Crapo. Aye by proxy.
19 The Clerk. Mr. Sasse, aye by proxy. Mr. Barrasso.
20 Senator Barrasso. Aye.
21 The Clerk. Mr. Barrasso, aye. Mr. Chairman.
22 The Chairman. No.
23 The Clerk. The Chairman votes no.
24 The Chairman. The Clerk will report the vote.
25 The Clerk. Mr. Chairman, the final tally is 14

1 ayes, 14 nays.

2 The Chairman. The vote resulting in a tie, the
3 Amendment is not agreed to. The next Amendment will be
4 offered by our friend, Senator Crapo.

5 Senator Crapo. Thank you very much, Mr. Chairman.
6 This is the Crapo Amendment No. 2 to provide for joint
7 rulemaking by relevant agencies. This really helps just
8 get past that issue that we just talked about on how
9 long it takes to authorize and permit a nuclear
10 facility.

11 I am trying to reduce the regulatory drain and
12 burden here. Congress increasingly delegates authority
13 to administrative agencies to develop sometimes
14 extensive interpretative guidance pertaining to
15 legislation, and the IRS is no stranger to this task.

16 This bill has dozens of examples of mandatory or
17 permissive grants of rulemaking authority to the IRS.
18 Well considered agency rulemaking that reflects
19 Congressional intent is more important now than ever.

20 Many of the bill's necessary rules will require
21 expertise that is beyond the scope of the IRS's core
22 competency. This bill currently tasks the IRS with
23 consulting a handful of other regulators in developing a
24 variety of necessary rules and standards. But the bill
25 also stops short of requiring any closer coordination

1 between the IRS and these regulators.

2 Given the nature of the rules it issues, this
3 shortcoming carries a number of risks, including
4 increased redundancy, inefficiency, and complexity. My
5 Amendment works to prevent these subpar outcomes by
6 requiring the IRS to jointly undertake these rulemaking
7 projects with those agencies who have greater expertise
8 on the particular subject matter.

9 This is a reasonable proposal that fosters closer
10 coordination of roles between the IRS and its
11 counterpart regulators which should increase the
12 effectiveness, consistency, accountability, and
13 transparency of the rulemaking at issue. And I urge
14 everyone to join me in this.

15 The Chairman. Colleagues, I think Senator Crapo is
16 absolutely right here. This joint rulemaking concept
17 makes a lot of sense, and I would just urge that we do
18 this by voice vote, if that is acceptable to my
19 colleagues.

20 Senator Crapo. Mr. Chairman, I will accept a voice
21 vote.

22 The Chairman. All in favor of the Crapo Amendment,
23 signify by saying aye.

24 [A chorus of ayes.]

25 The Chairman. All opposed, say nay.

1 [No response.]

2 The Chairman. Let the record show that there was
3 unanimous support for the Crapo Amendment. Okay, we are
4 now on to Senator Young, Amendment No. 4.

5 Senator Young. Thank you, Mr. Chairman. Young
6 Amendment No. 4 pertains to electric vehicle charging
7 stations. This Amendment, which is co-sponsored by
8 Ranking Member Crapo, simply places a fee on electric
9 vehicle charging stations, which is in line with today's
10 fuel tax.

11 Because electric vehicles will be using our highways
12 and byways, and of course it makes logical sense that
13 charging stations should be similarly treated to fueling
14 stations. Our Highway Trust Fund depends on revenues
15 for transportation, and this will be an important
16 mechanism to shore up this Fund.

17 All this amendment does -- all it does is level the
18 playing field and creates parity. 18.7 million electric
19 vehicles are expected to be on the road by 2030,
20 compared to the 1 million present at the end of 2018.
21 Now clearly this market is established and experiencing
22 growth, so this Amendment ensures that charging stations
23 pay their fair share to keep our roads safe.

24 Mr. Chairman, I would like to call this Amendment up
25 for a recorded vote, and I ask for the yeas and nays.

1 The Chairman. Before we go to that, speaking for
2 the Majority -- speaking for our side, Senator Stabenow.

3 Senator Stabenow. Well thank you very much. You
4 know, I look forward to really having this as a
5 substantive day, hopefully in five years when we
6 actually see more vehicles on the road, and it actually
7 would have some kind of an impact on the Highway Trust
8 Fund.

9 Right now, this is just a theoretical debate. And
10 what we are seeing is amendment after amendment to make
11 it more expensive. I do not know why we want to make it
12 more expensive to charge for electricity as we are
13 trying to get this new technology into the marketplace.

14 And so I would ask for a no vote.

15 The Chairman. Our colleague from Oklahoma.

16 Senator Lankford. In our desire to try to keep
17 talking until breakfast, this is an Amendment I would
18 oppose only because I do believe electric vehicles need
19 to start paying their fair share for the roads. And I
20 think we will bump into the same thing with hydrogen
21 vehicles in the days ahead because hydrogen is even
22 heavier than gasoline, and those vehicles are even
23 heavier.

24 And so I do think we need to address this. We have
25 2 percent of the vehicles on the road that are electric.

1 And as has been stated by CBO, that is \$200 million that
2 all of us just kind of brush aside and say that is only
3 \$2 billion for the cycle. Two billion used to be a lot
4 of money in trying to be able to deal with this. And I
5 do think, when you are talking about a vehicle that is
6 \$50,000, and to say it is a deterrent for someone to pay
7 \$150 a year, which is basically what it is for normal
8 gas tax, that they can afford a \$50,000 vehicle but they
9 cannot afford \$150 to pay their share of the gas tax? I
10 think it is just a misnomer, especially when the
11 preponderance of people that own electric vehicles now
12 are in the top one percent, I think we should start
13 actually having them pay their fair share of the highway
14 tax, which is diminishing.

15 I do not think this is the best way to collect it.
16 I think most people are going to charge their vehicles
17 at their home right now. I think this hits people
18 disproportionately that live in apartments and such with
19 fueling stations. But we should have a better way to be
20 able to actually collect that. But I do think we need
21 to get on to not just ignoring \$200 million a year, \$2
22 billion over 10, as a small amount.

23 The Chairman. My colleague from Delaware.

24 Senator Carper. I would be interested in pursuing
25 this with the gentleman from Indiana and discuss it

1 further.

2 Senator Barrasso will recall that before this
3 Congress, in the last Congress when we passed a Surface
4 Transportation Reauthorization bill, we actually had a
5 provision in there that called for a 50-state pilot on
6 vehicle miles traveled, something they have been doing
7 in Iowa for a long, long -- not Iowa, but Oregon for a
8 long, long time.

9 And in the bill that we passed today, we also called
10 for-- out of the committee, it provides for a 50-state
11 pilot for vehicle miles traveled. Ultimately that is
12 where we need to go for these electric-powered vehicles,
13 diesel, gasoline, whatever, you are going to pay for the
14 use of the roads.

15 So, I think that is the principle we should
16 subscribe to. And I also think that those who use the
17 roads have some responsibility in paying for them. So,
18 let's talk further after this, if this is not adopted
19 let's talk some more. Thank you.

20 The Chairman. A roll call was requested on the
21 Young Amendment. The Clerk will call the roll.

22 The Clerk. Ms. Stabenow.

23 Senator Stabenow. No.

24 The Clerk. Ms. Stabenow, no. Ms. Cantwell.

25 Senator Cantwell. No.

1 The Clerk. Ms. Cantwell, no. Mr. Menendez.
2 Senator Menendez. No.
3 The Clerk. Mr. Menendez, no. Mr. Carper.
4 Senator Carper. No.
5 The Clerk. Mr. Carper, no. Mr. Cardin.
6 Senator Cardin. No.
7 The Clerk. Mr. Cardin, no. Mr. Brown.
8 The Chairman. No by proxy.
9 The Clerk. Mr. Brown, no by proxy. Mr. Bennet.
10 The Chairman. No by proxy.
11 The Clerk. Mr. Bennet, no by proxy. Mr. Casey.
12 Senator Casey. No.
13 The Clerk. Mr. Casey, no. Mr. Warner.
14 The Chairman. No by proxy.
15 The Clerk. Mr. Warner, no, by proxy. Mr.
16 Whitehouse.
17 Senator Whitehouse. No.
18 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
19 Senator Hassan. No.
20 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
21 Senator Cortez Masto. No.
22 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
23 Senator Warren. No.
24 The Clerk. Ms. Warren, no. Mr. Crapo.
25 Senator Crapo. Aye.

1 The Clerk. Mr. Crapo, aye. Mr. Grassley.
2 Senator Grassley. Aye.
3 The Clerk. Mr. Grassley, aye. Mr. Cornyn.
4 Senator Cornyn. Aye.
5 The Clerk. Mr. Cornyn, aye. Mr. Thune.
6 Senator Crapo. Aye by proxy.
7 The Clerk. Mr. Thune, aye by proxy. Mr. Burr.
8 Senator Crapo. Aye by proxy.
9 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
10 Senator Crapo. Aye by proxy.
11 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.
12 Senator Toomey. Aye.
13 The Clerk. Mr. Toomey, aye. Mr. Scott.
14 Senator Crapo. Aye by proxy.
15 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
16 Senator Cassidy. Aye.
17 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
18 Senator Lankford. No.
19 The Clerk. Mr. Lankford, no. Mr. Daines.
20 Senator Daines. Aye.
21 The Clerk. Mr. Daines. Aye. Mr. Young.
22 Senator Young. Aye.
23 The Clerk. Mr. Young, aye. Mr. Sasse.
24 Senator Crapo. Aye by proxy.
25 The Clerk. Mr. Sasse, aye by proxy. Mr. Barrasso.

1 Senator Barrasso. Aye.

2 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

3 The Chairman. No.

4 The Clerk. The Chairman votes no.

5 The Chairman. The Clerk will report the vote.

6 The Clerk. Mr. Chairman, the final tally is 13
7 ayes, 15 nays.

8 The Chairman. The vote resulting in a tie, the
9 Amendment is not agreed to -- oh, excuse me. The
10 Amendment is not agreed to.

11 All right, the next amendment will be Senator
12 Cassidy, Senator Lankford, and Senator Daines.

13 Senator Cassidy. This is the Amendment No. 2, with
14 my co-sponsors Senator Lankford and Senator Daines, an
15 amendment to restrict goods produced by forced labor and
16 child labor, a brief description. The Amendment will
17 prohibit the importation of solar cells, wind turbines,
18 or energy storage equipment or components into the
19 United States until it can be certified by the United
20 Nations that the components and manufactured equipment
21 is not mined or manufactured using forced labor or child
22 labor.

23 I am struck that in a lot of these discussions it is
24 out-of-sight it is out of mind. If there is carbon
25 leakage from the United States to China, we feel good

1 about it, even though they use coal as feedstock 60
2 percent of the timer, and global greenhouse gas
3 emissions increase. But there is one thing that even if
4 it is out of sight, it should not be out of mind is
5 inhumane labor practices.

6 In the Congo, these minerals are mined for these
7 batteries using child labor. It is well documented that
8 children as young as 3 are taught to pick the pure ore
9 out of the mined material. Mothers will speak of
10 children starving to death, of children being given
11 drugs to suppress their appetite. There is some
12 evidence that in China itself, that Uyghur, the forced
13 slave labor from the Uyghur minority is being used to
14 manufacture. Even though this is out of sight, it
15 should be in our minds.

16 So I would urge my colleagues to support my
17 Amendment to prohibit the import of solar cells, wind
18 turbines, or energy storage equipment or components
19 until it can be certified that the components and
20 manufactured equipment are not mined using forced labor
21 or child labor, as has been documented now is occurring.

22 The Chairman. Colleagues, we do not take a backseat
23 over here to anybody when it comes to protecting
24 vulnerable workers and kids around the world. To a
25 great extent, because of Senator Brown -- and I am proud

1 to be able to join him in 2015 in the Trade Enforcement
2 Act -- goods made with forced labor are already
3 prohibited from import into the United States.

4 But as I said, we have got a lot of work to do in
5 the interest of saving time and moving forward. I will
6 accept the Senator from Louisiana's Amendment at this
7 time. Thumbs up from our colleague from Louisiana. The
8 Amendment is agreed to.

9 This now takes us to Cassidy-Crapo No. 3.

10 Senator Cassidy. Yes. This is a short -- with
11 Senator Crapo and others, a short amendment to limit the
12 electric vehicle tax credit expansion. Again, this
13 amendment would eliminate -- would limit the proposed
14 electric vehicle tax credit expansion to only include
15 non-luxury vehicles, defined as those costing less than
16 \$47,500, which I am told is 20 percent higher than the
17 median price of a heavy vehicle.

18 I think the point has been made. Working families
19 are not buying these vehicles. The kind of person who
20 wakes up, grabs a lunch pail and goes to work, both she
21 and he work to try and support a family, they are not
22 buying these. But they are subsidizing the tax credit.
23 So my feeling is, and that of my co-sponsors, the
24 Federal Government should not use working families' tax
25 dollars to subsidize those much wealthier to purchase an

1 \$80,000 luxury car.

2 If the legislation wants to increase the adoption of
3 electric vehicles, then it should incentivize the
4 production of electric vehicles the average American can
5 actually afford, not just the wealthy. And we presume
6 that if the credit shifts to vehicles which are less
7 expensive, more of those will be produced and then the
8 average family can purchase it, not just the wealthy.

9 This Amendment encourages the production of
10 affordable electric vehicles, supports everyday families
11 wishing to purchase, common sense adjustments to help
12 lower-income families benefit.

13 The Chairman. Senator Stabenow to speak I believe
14 in opposition.

15 Senator Stabenow. Thank you, Mr. Chairman. This
16 really goes in the opposite direction. In fact, it does
17 not understand what is happening. I think in rural
18 Michigan where folks are buying F-150 trucks, or Chevy
19 Silverados, or maybe they are getting a new Jeep, all
20 those are about to be electric. All of them. And I
21 will tell you what, based on what happened with the
22 announcement on the F-150 truck and the thousands of
23 presales they have right now, not from wealthy people.
24 We are talking about working folks that want a pickup
25 truck that are very excited about the idea that they are

1 going to be able to get better mileage, they are going
2 to save money. They are going to have the opportunity
3 to buy something that is cleaner and electric.

4 And so it makes no sense. From a climate standpoint,
5 it makes no sense. We want people, if they are buying a
6 large vehicle, to have it be electric. Again, this is
7 about the climate. This is about stopping large
8 emissions. We want to make sure that every sized
9 vehicle is electric or other clean energy, and the
10 reality is that right now in Michigan -- I mean, maybe
11 not in other states -- but our folks, number one in
12 sales is the F-150 truck. And our folks are very
13 excited about that.

14 And at that level, they will not be able to get the
15 incentive that we want them to get so that they pick an
16 electric versus the internal combustion engine. That is
17 what this is about.

18 So if you like your pickup truck, if you like your
19 Jeep, if you like your utility -- your SUV, this
20 Amendment is not going to help incentivize people to get
21 into an electric vehicle.

22 Senator Cassidy. Will the Senator yield?

23 Senator Stabenow. Yes.

24 Senator Cassidy. This is 20 percent over the
25 average cost. So that average person would still be

1 able to purchase. This is for the tricked-out trucks of
2 those who are purchasing out of disposable income, not
3 out of essential. So we took this number, 20 percent
4 over the average cost. So I think that farmer that is
5 really working would still be able to take advantage of
6 the credit.

7 Senator Stabenow. Well, I would love to work with
8 my colleague and look at the prices. We have gone very
9 deep looking at all the different prices. And again,
10 the price points for electric start higher, just like
11 for anything else that we own, whether it was early cost
12 on our cellphones, or computers and iPads, over time it
13 comes down as more is in the marketplace.

14 The entry level is always higher, and the reality is
15 that you are going right after the pickup truck.
16 Because that will not quality under this amount. And we
17 have got a lot of very excited people including -- I do
18 not see a colleague who is on this committee who is
19 excited about the fact that he is going to be able to
20 get a new F-150 electric. So I would urge a no vote in
21 the name of pickup trucks.

22 The Chairman. A roll call has been requested. The
23 Clerk will call the roll.

24 The Clerk. Ms. Stabenow.

25 Senator Stabenow. No.

1 The Clerk. Ms. Stabenow, no. Ms. Cantwell.
2 Senator Cantwell. No.
3 The Clerk. Ms. Cantwell, no. Mr. Menendez.
4 Senator Menendez. No.
5 The Clerk. Mr. Menendez, no. Mr. Carper.
6 Senator Carper. No.
7 The Clerk. Mr. Carper, no. Mr. Cardin.
8 Senator Cardin. No.
9 The Clerk. Mr. Cardin, no. Mr. Brown.
10 The Chairman. No by proxy.
11 The Clerk. Mr. Brown, no by proxy. Mr. Bennet.
12 Senator Bennet. No.
13 The Clerk. Mr. Bennet, no. Mr. Casey.
14 Senator Casey. No.
15 The Clerk. Mr. Casey, no. Mr. Warner.
16 The Chairman. No by proxy.
17 The Clerk. Mr. Warner, no by proxy. Mr.
18 Whitehouse.
19 Senator Whitehouse. No.
20 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
21 Senator Hassan. No.
22 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
23 Senator Cortez Masto. No.
24 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
25 The Chairman. No by proxy.

1 The Clerk. Ms. Warren, no by proxy. Mr. Crapo.
2 Senator Crapo. Aye.
3 The Clerk. Mr. Crapo, aye. Mr. Grassley.
4 Senator Grassley. Aye.
5 The Clerk. Mr. Grassley, aye. Mr. Cornyn.
6 Senator Cornyn. Aye.
7 The Clerk. Mr. Cornyn, aye. Mr. Thune.
8 Senator Crapo. Aye by proxy.
9 The Clerk. Mr. Thune, aye by proxy. Mr. Burr.
10 Senator Crapo. Aye by proxy.
11 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
12 Senator Crapo. Aye by proxy.
13 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.
14 Senator Crapo. Aye by proxy.
15 The Clerk. Mr. Toomey, aye by proxy. Mr. Scott.
16 Senator Crapo. Aye by proxy.
17 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
18 Senator Cassidy. Aye.
19 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
20 Senator Lankford. Aye.
21 The Clerk. Mr. Lankford, aye. Mr. Daines.
22 Senator Daines. Aye.
23 The Clerk. Mr. Daines. Aye. Mr. Young.
24 Senator Crapo. Aye by proxy.
25 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

1 Senator Crapo. Aye by proxy.

2 The Clerk. Mr. Sasse, aye by proxy. Mr. Barrasso.

3 Senator Barrasso. Aye.

4 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

5 The Chairman. No.

6 The Clerk. The Chairman votes no.

7 The Chairman. The Clerk will report the vote.

8 The Clerk. Mr. Chairman, the final tally is 14
9 ayes, 14 nays.

10 The Chairman. The vote resulting in a tie, the
11 Amendment is not agreed to. That takes us to Cassidy
12 Amendment No. 5.

13 Senator Cassidy. I skipped that one, Mr. Chairman.

14 The Chairman. All right, that is always progress.
15 Let's see what our queue is. Lankford No. 8.

16 Senator Lankford. All right, thank you. You are
17 just hustling right along. We are going to make it for
18 breakfast after all. Lankford No. 8, I cannot imagine
19 anyone who is not going to agree with Lankford No. 8.

20 Let me walk through this. But before I jump into
21 that, can I just make a quick statement? I do want to
22 keep the conversation going on electric vehicles. I
23 would say to Senator Stabenow, I am certainly not
24 opposed to electric vehicles. I am absolutely not
25 opposed to them.

1 But my challenge is, GM has already said they are
2 going to be all-electric by 2035. Thousands of people
3 are pre-ordering an F-150 when it comes out. All of
4 this moving to being fully electric. At the same time,
5 we are saying we have got to spend billions of dollars
6 to incentivize it, when the car companies are already
7 going that way already. I just feel like we are chasing
8 an incentive towards what is already happening, rather
9 than incentivize something to get it to happen.

10 And so if we could save taxpayers billions of
11 dollars, if taxpayers are already headed that way, why
12 are we paying them a bonus to be able to buy what they
13 are already going to buy? And that is my issue on a lot
14 of these electric incentives.

15 Senator Stabenow. Would my friend just yield for a
16 moment?

17 Senator Lankford. Sure.

18 Senator Stabenow. I appreciate the thoughtful
19 conversation. The challenge right now is that the
20 assumption, as they are pricing, is there is a credit.
21 And so that builds into what is happening. I mean, Ford
22 is able to get a credit built into the way people are
23 thinking about purchasing. But I really --

24 Senator Lankford. But the GM and the Tesla credits
25 are already done at this point, right?

1 Senator Stabenow. Yes.

2 Senator Lankford. So I understand their model --
3 not for Ford, but the GM model is already headed that
4 way. Others are.

5 Senator Stabenow. Right. But I think I would love
6 to have a thoughtful discussion, and I do think down the
7 road from my perspective it is not about electric
8 vehicles not being part of things like the Highway Trust
9 Fund, it is about at what point do we do that, and how
10 do we do that. But I actually agree that when they are
11 on the road in substantial amounts, they need to be part
12 of paying for that. So I appreciate that and would like
13 to work with you.

14 Senator Lankford. I am glad to engage in the
15 conversation on it. Lankford No. 8 is not an electric
16 vehicle one, shockingly enough, in this dialogue. This
17 deals with oil imports.

18 As a result of our conversation earlier, no one
19 knows at this point if all these tax changes happen, if
20 suddenly we start losing production in the United
21 States. Let me give you a for-instance. If you are an
22 oil company, you know the term stripper wells. If you
23 are not a company, that sounds like something really
24 foul.

25 Stripper wells are older wells that produce about 15

1 barrels or less a day. About 7-1/2 percent of all the
2 oil we use in the United States comes from stripper
3 wells. This change in the tax policy is directed
4 towards those old stripper wells, and will, 100 percent
5 will take them offline, which means we will lose 7-1/2
6 percent of our production in the United States.

7 Now that does not mean we will suddenly use 7-1/2
8 percent less. That means we will have to get that oil
9 from somewhere else, which will increase our production.
10 So literally this will shift not our use but our source
11 of where we are going to get oil. And so we will
12 suddenly get more oil from Venezuela, and from Saudi
13 Arabia, and from Nigeria, and Libya, and Russia, rather
14 than getting it from American producers.

15 So my simple statement is: Changing the tax policy
16 and punishing small American companies like stripper
17 well producers does not reduce our carbon footprint. It
18 just changes the source of where we are going to get our
19 oil. That seems like a terrible idea to me. That
20 directly goes after American jobs. That directly goes
21 after our American energy independence. We are energy
22 independent. I would like to keep it that way.

23 We can continue to talk about our energy future, but
24 as I mentioned on nuclear power, I have no issue with
25 looking at nuclear power, but we are not getting there

1 in the next 10 years. In the next 10 years, we will
2 bring one facility online. We are not going to be
3 all-electric in the next 10 years. We may get to 5
4 percent of our vehicles all-electric in the next 10
5 years, maybe 10 percent, which still means 90 percent
6 are going to still need oil and gas.

7 So I am trying to bring a little bit of a realistic
8 conversation in the mix of this to say, if we shut down
9 stripper well companies, marginal producers, and we
10 suddenly lose all of that, we will not just stop using
11 it, we will shift our source. That is what this
12 Amendment is all about. It is just making sure we do
13 not shift in energy production and just ship it to Saudi
14 Arabia and take away American jobs.

15 The Chairman. Colleagues, I strongly urge
16 opposition to this. Once again, this would essentially
17 take Finance Committee jurisdiction over clean energy
18 and assign it to a part of the government over which we
19 have no authority, the U.S. Energy Information Agency.
20 And the reality is that, if adopted, this Amendment
21 would dramatically delay the implementation of this
22 bill.

23 And the fact is, this country wants an agenda that
24 reduces carbon in America. And they want to make sure
25 that every source is participating in it. This

1 Amendment will delay it, and I urge a no vote.

2 And I think my colleague asked for a roll call vote,
3 and let's have the Clerk call the roll.

4 The Clerk. Ms. Stabenow.

5 Senator Stabenow. No.

6 The Clerk. Ms. Stabenow, no. Ms. Cantwell.

7 Senator Cantwell. No.

8 The Clerk. Ms. Cantwell, no. Mr. Menendez.

9 The Chairman. No by proxy.

10 The Clerk. Mr. Menendez, no by proxy. Mr. Carper.

11 Senator Carper. No.

12 The Clerk. Mr. Carper, no. Mr. Cardin.

13 Senator Cardin. No.

14 The Clerk. Mr. Cardin, no. Mr. Brown.

15 The Chairman. No by proxy.

16 The Clerk. Mr. Brown, no by proxy. Mr. Bennet.

17 Senator Bennet. No.

18 The Clerk. Mr. Bennet, no. Mr. Casey.

19 Senator Casey. No.

20 The Clerk. Mr. Casey, no. Mr. Warner.

21 The Chairman. No by proxy.

22 The Clerk. Mr. Warner, no by proxy. Mr.

23 Whitehouse.

24 Senator Whitehouse. No.

25 The Clerk. Mr. Whitehouse, no. Ms. Hassan.

1 Senator Hassan. No.

2 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.

3 Senator Cortez Masto. No.

4 The Clerk. Ms. Cortez Masto, no. Ms. Warren.

5 The Chairman. No by proxy.

6 The Clerk. Ms. Warren, no by proxy. Mr. Crapo.

7 Senator Crapo. Aye.

8 The Clerk. Mr. Crapo, aye. Mr. Grassley.

9 Senator Grassley. Aye.

10 The Clerk. Mr. Grassley, aye. Mr. Cornyn.

11 Senator Cornyn. Aye.

12 The Clerk. Mr. Cornyn, aye. Mr. Thune.

13 Senator Crapo. Aye by proxy.

14 The Clerk. Mr. Thune, aye by proxy. Mr. Burr.

15 Senator Crapo. Aye by proxy.

16 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.

17 Senator Crapo. Aye by proxy.

18 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.

19 Senator Crapo. Aye by proxy.

20 The Clerk. Mr. Toomey, aye by proxy. Mr. Scott.

21 Senator Crapo. Aye by proxy.

22 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.

23 Senator Cassidy. Aye.

24 The Clerk. Mr. Cassidy, aye. Mr. Lankford.

25 Senator Lankford. Aye.

1 The Clerk. Mr. Lankford, aye. Mr. Daines.

2 Senator Daines. Aye.

3 The Clerk. Mr. Daines. Aye. Mr. Young.

4 Senator Crapo. Aye by proxy.

5 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.

6 Senator Crapo. Aye by proxy.

7 The Clerk. Mr. Sasse, aye by proxy. Mr. Barrasso.

8 Senator Barrasso. Aye.

9 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

10 The Chairman. No.

11 The Clerk. The Chairman votes no.

12 The Chairman. The Clerk will report the vote.

13 The Clerk. Mr. Chairman, the final tally is 14
14 ayes, 14 nays.

15 The Chairman. The vote resulting in a tie, the
16 Amendment is not agreed to. And now a number of our
17 colleagues would like to make remarks.

18 Senator Cassidy is first to discuss two amendments,
19 Cassidy No. 4 and Cassidy No. 6, and then Senator
20 Barrasso would like to be recognized. And there may be
21 others, in fact we have one additional amendment from
22 Senator Daines. So let's recognize those three Senators
23 for speaking, and then I believe our final amendment
24 will be Daines No. 5.

25 So, Senator Cassidy, please go ahead.

1 Senator Cassidy. Mr. Chairman, I will only be
2 discussing Amendment No. 6.

3 The Chairman. Great.

4 Senator Cassidy. And I will offer this and
5 withdraw. This is an Amendment that fixes an error in
6 the IRS Code of 1986 to provide a deduction for certain
7 casualty losses of uncut timber.

8 Back when timberland provided a natural source of
9 carbon capture, reduces erosion, and reduces flood
10 intensity, we know a lot about that back home, and last
11 September, due to natural disasters, releases of carbon
12 back into the air. So as more and more timber is being
13 lost to fires, storms, invasive species, drought, it
14 presents a problem. And providing financing that allows
15 Wall Street coverage due to disaster, ensures financing
16 to replant needed timber.

17 Now the current Tax Code has the unintended
18 consequence of penalizing a forest landowner whose
19 timber is destroyed from a natural disaster. Under
20 current law, a landowner is only allowed to deduct the
21 lesser amount of the fair market value of the cost
22 basis, or the adjusted timber basis, which is usually
23 zero dollars after an 84-month amortization period, only
24 a fraction of the fair market value of the destroyed
25 timber.

1 This Amendment would amend the U.S. Tax Code to
2 establish a special rule for the loss of uncut timber
3 following natural disasters, providing a tax deduction
4 for casualty loss to help landowners recover and
5 encourage investment in reforestation. It would provide
6 permanent assurance to landowners when crops are
7 destroyed, without the need for future disaster funding.
8 Again, I am just going to offer this and withdraw it,
9 but I would like for some time in the future for us to
10 consider how do we get these forests back into shape
11 after they have been destroyed, and there is no way for
12 the owner to recoup the lost investment.

13 The Chairman. I am very interested in working with
14 my colleague on those issues.

15 Senator Cassidy. Thank you.

16 The Chairman. Thank you. Let's see, Senator
17 Barrasso.

18 Senator Barrasso. Thank you, Mr. Chairman. I am so
19 happy that my friend, Senator Whitehouse, is here and
20 Senator Carper, because this is a topic which we have
21 worked on in the past successfully. This is an
22 Amendment to promote carbon capture.

23 So I am mentioning Amendment No. 3, Barrasso
24 Amendment No. 3. This is an important Amendment. I am
25 not requesting a vote today. This Amendment deals with

1 the 45Q carbon capture credits, something we have worked
2 on, and it is something I discussed with you, Mr.
3 Chairman, prior to this markup.

4 This Amendment would modify your mark by ensuring
5 that one of the eligible uses for purposes of this
6 Section 45Q carbon capture credit, remains enhanced oil
7 recovery. Carbon capture technology is very innovative,
8 potentially game changing, and also expensive. Enhanced
9 oil recovery provides an important pathway for enabling
10 widespread deployment of carbon capture technologies,
11 especially some of these early-stage technologies like
12 direct air capture.

13 The world's largest direct air capture facility
14 currently in development will use 500 kilotons of carbon
15 dioxide captured directly from the air each year. The
16 captured CO2 will then be used in enhanced oil recovery.
17 This creates the opportunity for carbon-neutral fuels.

18 Enhanced oil recovery has a proven track record of
19 success in safely storing carbon dioxide. If we place
20 this technology at a disadvantage, we are going to delay
21 innovation that I think we need in carbon capture
22 technologies that can be then used across the globe.

23 So I look forward to working with my fellow senators
24 to promote this very important technology. Thank you,
25 Mr. Chairman.

1 The Chairman. Thank you, Senator Barrasso. And as
2 I have indicated, the whole point of this exercise is to
3 find our way to new technologies. So I look forward to
4 hearing more about it from my colleague and friend.

5 All right, where we are now is I believe in the
6 amendment queue, the last Amendment will be from Senator
7 Daines. And then a number of colleagues on our side
8 have some brief remarks that they would like to make.
9 We have got a few colleagues on both sides on their way,
10 and my hope is that we will have a vote on final passage
11 in 10 minutes or so. That is my hope. And all senators
12 are being asked to get here quickly.

13 Senator Daines, and then we will hear from a couple
14 of my colleagues who indicated they would like to speak
15 briefly, and hopefully we will have our final vote then.
16 Senator Daines.

17 Senator Daines. Chairman, thank you.

18 The bill that we are debating here today may have
19 consequence in terms of raising energy prices. An
20 example here, Senator Lankford was talking about the
21 stripper wells, that is a very low cost way to extract
22 oil. And it is going to be replaced with other sources
23 of oil, and that is a consequence of what is happening
24 here with this legislation.

25 My Amendment, Daines Amendment No. 5, simply would

1 insert a provision requiring the Secretary of Energy to
2 certify that energy prices, including for gasoline and
3 heating oil, will not increase as a result of this
4 legislation. This is very much a pocketbook issue,
5 whether it is gasoline, heating oil, or other
6 commodities, energy prices are important for all
7 Americans. And that is why I am offering this Amendment
8 to require DOE to certify that energy prices will not
9 increase as a result of this bill. And I hope my
10 colleagues will join me in supporting this commonsense
11 Amendment.

12 The Chairman. Colleagues, we have been down this
13 path. Once again, an Amendment would basically farm out
14 to some agency we have no authority over. Which means
15 that we are talking about immense delays.

16 I oppose this Amendment. And I will also say,
17 because we are wrapping this up, that the whole point of
18 this, because my colleague is right to be interested in
19 prices. We all are interested in prices. When you are
20 putting in place the kinds of changes we are talking
21 about, which is free market competition, competition
22 that my colleagues on the other side of the aisle are
23 always talking about, that has traditionally been a
24 force for holding prices down.

25 So, I oppose this Amendment primarily because it

1 would delay the bill. It would send our jurisdiction to
2 somewhere else, the Department of Energy, but also
3 because I fundamentally think that the competition we
4 are creating here is going to be a tool for holding
5 prices down.

6 So, my colleagues --

7 Senator Daines. Mr. Chairman?

8 The Chairman. Go ahead.

9 Senator Daines. Thank you. And I respect your
10 views, truly, and your leadership here in the committee.
11 I might also push back a bit. As we looked at the
12 underlying bill that the Chairman has submitted here, it
13 has all sort of environmental and labor law
14 certifications that, frankly, go way beyond the IRS and
15 Treasury jurisdiction, and will require a significant
16 amount of involvement from these other agencies.

17 I know it has been kind of a standard pushback on
18 ours, but I just would submit that I believe the
19 underlying bill here would have some similar issues.

20 The Chairman. This discussion is going to continue.
21 I am going to mention, when my colleagues talk for a few
22 minutes as we get ready for a final vote, you know we
23 have essentially had 28 senators weigh in over the last
24 four or five hours. And suffice it to say, that means 72
25 other senators who feel strongly about these issues have

1 not even weighed in. And we are going to have a lot
2 more debate among ourselves in this room, and these
3 other senators obviously want to participate.

4 So this is not the end of the discussion. This is
5 the beginning of the discussion. And I am glad the
6 Senate Finance Committee over the last four or five
7 hours have done something that this committee has never
8 done in its history. And that is, really looked
9 carefully at this outdated hodgepodge set of tax breaks
10 and said we have got to move it in the right century,
11 and we ought to do it around the principle that our
12 constituents feel strongly about, which is reducing
13 carbon.

14 So, this is not the last word. This is more the
15 beginning of the discussion, as my friend from Rhode
16 Island often says, and has been working in these
17 precincts for some time. So, let's have the roll call
18 vote on the Daines Amendment. We urge colleagues to
19 vote no. The Clerk will call the roll.

20 The Clerk. Ms. Stabenow.

21 The Chairman. No by proxy.

22 The Clerk. Ms. Stabenow, no by proxy. Ms.
23 Cantwell.

24 Senator Cantwell. No.

25 The Clerk. Ms. Cantwell, no. Mr. Menendez.

1 Senator Menendez. No.
2 The Clerk. Mr. Menendez, no. Mr. Carper.
3 Senator Carper. No.
4 The Clerk. Mr. Carper, no. Mr. Cardin.
5 Senator Cardin. No.
6 The Clerk. Mr. Cardin, no. Mr. Brown.
7 Senator Brown. No.
8 The Clerk. Mr. Brown, no. Mr. Bennet.
9 Senator Bennet. No.
10 The Clerk. Mr. Bennet, no. Mr. Casey.
11 Senator Casey. No.
12 The Clerk. Mr. Casey, no. Mr. Warner.
13 The Chairman. No by proxy.
14 The Clerk. Mr. Warner, no by proxy. Mr.
15 Whitehouse.
16 Senator Whitehouse. No.
17 The Clerk. Mr. Whitehouse, no. Ms. Hassan.
18 Senator Hassan. No.
19 The Clerk. Ms. Hassan, no. Ms. Cortez Masto.
20 Senator Cortez Masto. No.
21 The Clerk. Ms. Cortez Masto, no. Ms. Warren.
22 Senator Warren. No.
23 The Clerk. Ms. Warren, no. Mr. Crapo.
24 Senator Crapo. Aye.
25 The Clerk. Mr. Crapo, aye. Mr. Grassley.

1 Senator Grassley. Aye.
2 The Clerk. Mr. Grassley, aye. Mr. Cornyn.
3 Senator Cornyn. Aye.
4 The Clerk. Mr. Cornyn, aye. Mr. Thune.
5 Senator Crapo. Aye by proxy.
6 The Clerk. Mr. Thune, aye by proxy. Mr. Burr.
7 Senator Crapo. Aye by proxy.
8 The Clerk. Mr. Burr, aye by proxy. Mr. Portman.
9 Senator Crapo. Aye by proxy.
10 The Clerk. Mr. Portman, aye by proxy. Mr. Toomey.
11 Senator Crapo. Aye by proxy.
12 The Clerk. Mr. Toomey, aye by proxy. Mr. Scott.
13 Senator Crapo. Aye by proxy.
14 The Clerk. Mr. Scott, aye by proxy. Mr. Cassidy.
15 Senator Cassidy. Aye.
16 The Clerk. Mr. Cassidy, aye. Mr. Lankford.
17 Senator Lankford. Aye.
18 The Clerk. Mr. Lankford, aye. Mr. Daines.
19 Senator Daines. Aye.
20 The Clerk. Mr. Daines, aye. Mr. Young.
21 Senator Crapo. Aye by proxy.
22 The Clerk. Mr. Young, aye by proxy. Mr. Sasse.
23 Senator Sasse. Aye.
24 The Clerk. Mr. Sasse, aye. Mr. Barrasso.
25 Senator Barrasso. Aye.

1 The Clerk. Mr. Barrasso, aye. Mr. Chairman.

2 The Chairman. No.

3 The Clerk. The Chairman votes no.

4 The Chairman. The Clerk will report the vote.

5 The Clerk. Mr. Chairman, the final tally is 14
6 ayes, 14 nays.

7 The Chairman. The vote resulting in a tie, the
8 Amendment is not agreed to.

9 I believe we are just about ready for the final
10 vote. We are awaiting Senator Stabenow and Senator
11 Crapo do you have colleagues that --

12 [Pause.]

13 Hopefully we are going to vote here. There we go.
14 All right, we are now ready to go forward with the final
15 vote. I move to remove to report the Chairman's mark as
16 modified and amended, as an original bill. Is there a
17 second?

18 [Motion duly seconded.]

19 The Chairman. The Clerk will call the roll.

20 The Clerk. Ms. Stabenow.

21 Senator Stabenow. Aye.

22 The Clerk. Ms. Stabenow, aye. Ms. Cantwell.

23 Senator Cantwell. Aye.

24 The Clerk. Ms. Cantwell, aye. Mr. Menendez.

25 Senator Menendez. Aye.

1 The Clerk. Mr. Menendez, aye. Mr. Carper.
2 Senator Carper. Aye.
3 The Clerk. Mr. Carper, aye. Mr. Cardin.
4 Senator Cardin. Aye.
5 The Clerk. Mr. Cardin, aye. Mr. Brown.
6 Senator Brown. Aye.
7 The Clerk. Mr. Brown, aye. Mr. Bennet.
8 Senator Bennet. Aye.
9 The Clerk. Mr. Bennet, aye. Mr. Casey.
10 Senator Casey. Aye.
11 The Clerk. Mr. Casey, aye. Mr. Warner.
12 Senator Warner. Aye.
13 The Clerk. Mr. Warner, aye. Mr. Whitehouse.
14 Senator Whitehouse. Aye.
15 The Clerk. Mr. Whitehouse, aye. Ms. Hassan.
16 Senator Hassan. Aye.
17 The Clerk. Ms. Hassan, aye. Ms. Cortez Masto.
18 Senator Cortez Masto. Aye.
19 The Clerk. Ms. Cortez Masto, aye. Ms. Warren.
20 Senator Warren. Aye.
21 The Clerk. Ms. Warren, aye. Mr. Crapo.
22 Senator Crapo. No.
23 The Clerk. Mr. Crapo, no. Mr. Grassley.
24 Senator Grassley. No.
25 The Clerk. Mr. Grassley, no. Mr. Cornyn.

1 Senator Cornyn. No.

2 The Clerk. Mr. Cornyn, no. Mr. Thune.

3 Senator Crapo. No by proxy.

4 The Clerk. Mr. Thune, no by proxy. Mr. Burr.

5 Senator Crapo. No by proxy.

6 The Clerk. Mr. Burr, no by proxy. Mr. Portman.

7 Senator Portman. No.

8 The Clerk. Mr. Portman, no. Mr. Toomey.

9 Senator Crapo. No by proxy.

10 The Clerk. Mr. Toomey, no by proxy. Mr. Scott.

11 Senator Crapo. No by proxy.

12 The Clerk. Mr. Scott, no by proxy. Mr. Cassidy.

13 Senator Cassidy. No.

14 The Clerk. Mr. Cassidy, no. Mr. Lankford.

15 Senator Lankford. No.

16 The Clerk. Mr. Lankford, no. Mr. Daines.

17 Senator Daines. No.

18 The Clerk. Mr. Daines, no. Mr. Young.

19 Senator Crapo. No by proxy.

20 The Clerk. Mr. Young, no by proxy. Mr. Sasse.

21 Senator Sasse. No.

22 The Clerk. Mr. Sasse, no. Mr. Barrasso.

23 Senator Barrasso. No.

24 The Clerk. Mr. Barrasso, no. Mr. Chairman.

25 The Chairman. Aye.

1 The Clerk. The Chairman votes aye.

2 The Chairman. The Clerk will report the vote.

3 The Clerk. Mr. Chairman, the final tally, including
4 proxies, is 14 ayes, 14 nays.

5 The Chairman. The vote is 14 to 14. In order to
6 place this measure on the calendar, I will introduce the
7 text of the Chairman's mark as modified and amended, as
8 an original bill and I will take the steps necessary to
9 place it on the calendar under Senate Rule 14.

10 I thank all senators, and the business meeting --

11 Senator Cornyn. Mr. Chairman? Mr. Chairman, may I
12 just respond to that briefly?

13 The Chairman. Yeah.

14 Senator Cornyn. One is, the Chairman keeps talking
15 about the free market. This bill is anything but a free
16 market bill. For one thing, it provides \$31 billion in
17 tax subsidies for electric vehicles alone and punishes
18 fossil fuels which fuel 98 percent of the vehicles on
19 the road today.

20 So it is the opposite of a free market. But the
21 point I really want to emphasize is we have gone through
22 this markup, this conceptual markup. We will never have
23 seen text. And from what I just heard the Chairman say,
24 the real intention is to take this conceptual markup
25 which will not produce any text, and then for somebody -

1 - presumably Senator Schumer or maybe the Chairman --
2 will then write text from this conceptual markup that we
3 never have voted on, never seen, and then will Rule
4 14-it to the Senate Floor.

5 Did I get that correct?

6 The Chairman. I would just say to my colleague, the
7 Senate has acted in this way for many years, (A). (B),
8 we have always worked in good faith in the Senate
9 Finance Committee. And (C), this is what we have done
10 in the tax bill of 2017. So we now have --

11 Senator Cornyn. If I can respond, Mr. Chairman, I
12 do not consider this bill to be in good faith. This is
13 a frontal assault on my state. This is a frontal
14 assault on consumers who will pay more. This is a
15 frontal assault on our national security because we will
16 become increasingly dependent on imported oil and gas
17 from countries like Saudi Arabia and Russia. We voted
18 against common sense amendments to support our
19 vulnerable supply chains to critical minerals and
20 chemicals. I believe in being civil, but I do not agree
21 with you that this is a good-faith bill. This is an
22 ideological jihad against the status quo, which is one
23 where many, many jobs in our country depend on the oil
24 and gas sector.

25 And so I do not agree it is in good faith. You are

1 entitled to your opinion, I am entitled to mine.

2 The Chairman. I understand that my colleague
3 disagrees. That is why we have had vote after vote in
4 the last five hours. The fact is, there is a broad
5 coalition, including the Edison Electric Institute, that
6 is for this bill because they think this is going to
7 make a dramatic difference.

8 And with that --

9 Senator Cornyn. I do not represent them, Mr.
10 Chairman --

11 The Chairman. We are adjourned.

12 Senator Cornyn. -- That special interest group.

13 The Chairman. Along with a broad coalition of labor
14 groups, environmental groups, they certainly do not
15 represent the radical left that we have been hearing
16 about. The Committee is adjourned.

17 [Whereupon, at 6:52 p.m., the meeting was
18 adjourned.]

	STATEMENT OF:	PAGE
1		
2	Hon. Ron Wyden,	2
3	a U.S. Senator from Oregon,	
4	chairman, Committee on Finance	
5		
6	Hon. Mike Crapo,	7
7	a U.S. Senator from Idaho	
8		
9	Hon. Sheldon Whitehouse,	11
10	a U.S. Senator from Rhode Island	
11		
12	Hon. John Barrasso,	14
13	a U.S. Senator from Wyoming	
14		
15	Hon. Catherine Cortez Masto,	17
16	a U.S. Senator from Nevada	
17		
18	Hon. Debbie Stabenow,	19
19	a U.S. Senator from Michigan	
20		
21	Hon. Steve Daines,	23
22	a U.S. Senator from Montana	
23		
24	Hon. Bill Cassidy,	26
25	a U.S. Senator from Louisiana	
26		

1	STATEMENT OF:	PAGE
2	Hon. Michael F. Bennet,	29
3	a U.S. Senator from Colorado	
4		
5	Hon. John Cornyn,	33
6	a U.S. Senator from Texas	
7		
8	Hon. Chuck Grassley,	37
9	a U.S. Senator from Iowa	
10		
11	Hon. Benjamin L. Cardin,	40
12	a U.S. Senator from Maryland	
13		
14	Hon. Maria Cantwell,	43
15	a U.S. Senator from Washington	
16		
17	Hon. Thomas R. Carper,	47
18	a U.S. Senator from Delaware	
19		
20	Hon. John Thune,	51
21	a U.S. Senator from South Dakota	
22		
23	Hon. Robert P. Casey, Jr.	55
24	a U.S. Senator from Pennsylvania	
25		

1	STATEMENT OF:	PAGE
2	Hon. Rob Portman,	58
3	a U.S. Senator from Ohio	
4		
5	Hon. James Lankford,	63
6	a U.S. Senator from Oklahoma	
7		
8	Hon. Sherrod Brown,	67
9	a U.S. Senator from Ohio	

Pathways to Build Back Better: Jobs from Investing in Clean Electricity

One of the primary goals of President Biden's American Jobs Plan is to create millions of new jobs through new federal investments in clean infrastructure. This note focuses on the electric power sector and assesses job creation and retention potential associated with a substantial [clean energy investment package](#). We find that investments in decarbonizing electricity on net can create more than 600,000 jobs a year on average over the timeframe of 2022-2031. We find that the jobs created or retained in clean generation far outweigh jobs lost at fossil fuel-fired power plants and upstream fuel supply.

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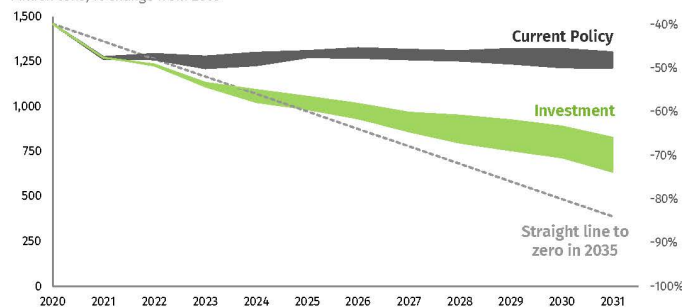
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Investing in a clean future

President Biden's American Jobs Plan (AJP) includes a series of new programs and extensions of tax credits to drive investment in new clean electricity infrastructure. The core of the plan is a Clean Electric Standard (CES) coupled with a long-term extension of renewable tax incentives and new tax credits for storage and transmission. Meanwhile, members of Congress are considering their options for clean electricity investment policies and procedural pathways for passing legislation. We previously [assessed](#) the impact of an investment package consisting solely of tax credits and incentives to expand new clean generation, retain existing clean capacity and accelerate coal retirements. That research found that the federal spending package on its own could get electric power sector emissions on a straight-line path to zero in 2035, at least through 2025. In 2031, the package drives emissions down to 66-74% below 2005 levels depending on the costs of clean energy technologies (Figure 1). EPA regulations on CO₂ and conventional pollutants deliver further gains.

FIGURE 1
US electric power sector CO₂ emissions under current policy and investment scenarios, 2020-2031
 Million tons, % change from 2005



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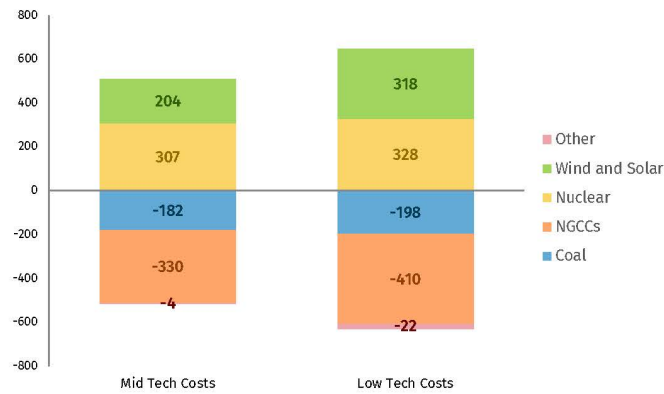
Source: Rhodium Group analysis.

In this note, we take the next step and quantify the employment impact of our investment scenario. With 9 million Americans still out of work 14 months into the COVID-19 pandemic, understanding if and how new clean energy investments can get people back to work is critical. While our investment scenario is not identical to the clean electricity provisions in the AJP, it is directionally consistent. Our investment scenario also reflects recent legislative proposals, including the [Clean Energy for America Act](#) and the [American Nuclear Infrastructure Act](#). While it's too early to know the contents of a congressional clean electricity infrastructure package, we think that the investment scenario is a decent proxy for what potentially is yet to come. It is also a good foundation for assessing the job impacts of clean electricity investment overall.

A clean infrastructure investment transition

As we discussed in our previous note, federal investment can drive new clean capacity additions onto the grid at an annual average rate up to twice as fast as last year's record. Investment also retains existing clean generators such as nuclear plants that would otherwise retire due to competition with cheap natural gas. The net impact is a surge of zero-emitting generation onto the grid over the next decade at the expense of coal and natural gas. In our analysis, on an annual average basis over the 2022-2031 budget window, every 3 megawatt-hours (MWh) of additional clean generation from investment displaces roughly 2 MWh of natural gas combined cycle (NGCC) generation and 1 MWh of coal. This leads to 307-328 MWh of additional nuclear generation and 204-318 MWh of wind and solar compared to current policy (Figure 2). The range reflects mid and low technology costs. Meanwhile, coal declines by 182-198 MWh, and NGCCs ramp down by 330-420 MWh on an annual average basis.

FIGURE 2
Investment scenario annual average generation change from current policy, 2022-2031
Megawatt-hours

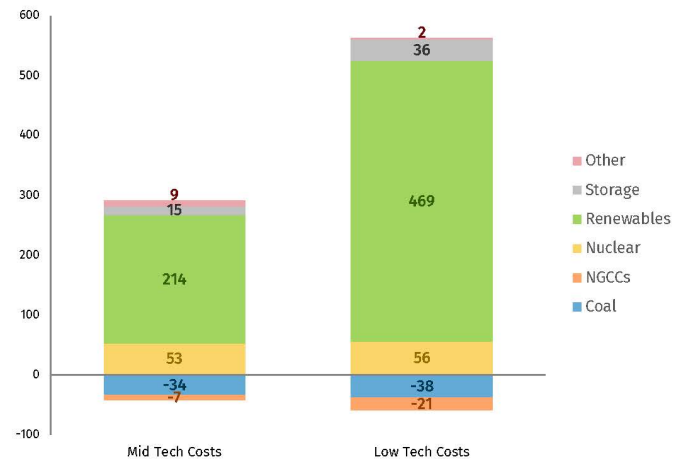


Source: Rhodium Group analysis. Note: Other includes hydro, oil & gas steam units, geothermal, and combustion turbines.

Reductions in fossil generation directly impact jobs both at the power plants generating electricity and at the coal mines and gas fields where the power plant fuel comes from, and in the transportation of those fuels to generation sites. The main driver of jobs associated with clean

energy is the number of gigawatts (GW) of retained and new capacity built in response to federal investment. Think workers running nuclear plants and crews building record amounts of wind, solar, and storage over the next decade across the US. On a cumulative capacity basis, retained and new clean capacity dwarf the decline of fossil capacity (Figure 3). Under mid tech costs, clean capacity additions and retentions are 6.5X greater than fossil subtractions. This grows to nearly 9X when we consider low tech costs.

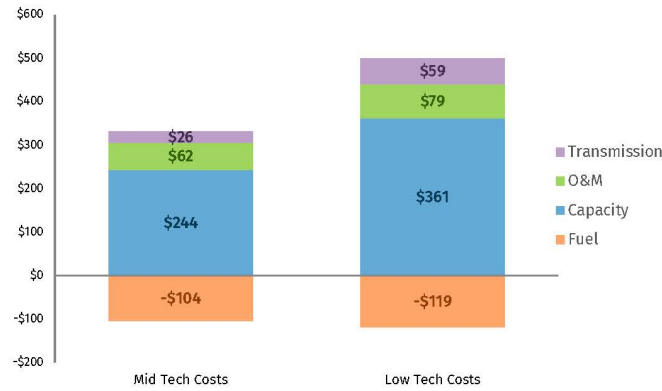
FIGURE 3
Investment scenario cumulative capacity change from current policy, 2022-2031
 Gigawatts



Source: Rhodium Group analysis. Note: Other includes hydro, oil & gas steam units, geothermal, and combustion turbines.

All of the new clean capacity additions and clean capacity retention reflect private investment into US clean energy infrastructure leveraged by federal spending. We estimate that federal spending catalyzes \$332-\$399 billion in net new investment in the bulk power system from 2022 through 2031. The investments consist of \$244-\$361 billion for new and retained capacity, plus another \$26-\$59 billion in transmission and \$62-\$79 in net new spending on operation and maintenance of generators (Figure 4). Meanwhile, switching the grid from fossil to clean results in \$104-\$119 billion in savings from avoided fuel costs. While this represents savings for consumers, it also reflects fewer work opportunities for coal miners, gas drillers, and fossil power plant operators.

FIGURE 4
Cumulative net bulk power system spending, 2022-2031
\$ Billions



Source: Rhodium Group analysis. Note: Figure does not include \$0.5-\$1 billion in avoided international imports of electricity.

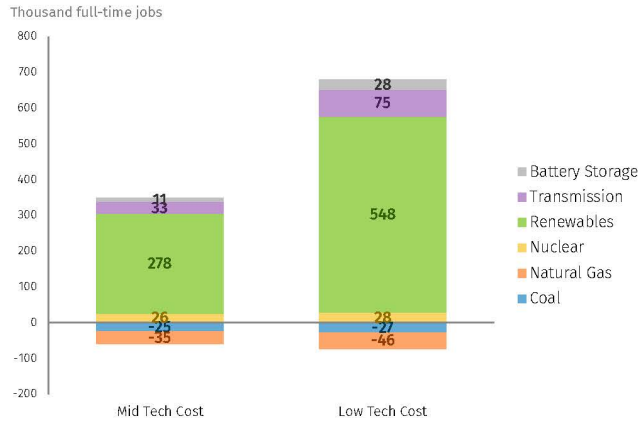
The employment implications of federal electricity investment

To assess what new federally driven spending on electricity infrastructure and clean energy deployment means for jobs, we developed an employment projection model calibrated to the Energy Futures Initiative and NASEO’s annual [US Energy and Employment Report](#). This survey identifies total annual employment in both electricity generation and fuel supply, broken down by technology and sector. We identify employment intensity trends in all generation technologies over the past five years (including solar, wind, geothermal, nuclear, coal, natural gas, oil, geothermal, hydro, and biomass), as well as all fuel supply and transportation categories and transmission investment by comparing historical employment survey data from the US Energy and Employment Report with historical energy data from the Energy Information Administration (EIA). We then apply these historical relationships to projected changes in electricity capacity additions, retirements, transmission buildout, and fuel supply from RHG-NEMS, a detailed energy system model used to produce the generation, capacity, and investment results described above.

We find that in our investment scenario, net national employment in power generation, upstream fuel supply, and downstream transmission is 290,000 jobs higher on average between 2022-2031 in our mid technology cost case and 606,000 jobs higher in our low technology cost case than under current policy over the same period (Figure 5). That’s 2.9 and 6.1 million job-years respectively. In our mid technology cost case, coal mining and transportation jobs are 14,000 and coal generation jobs are 11,000 lower in the investment scenario than in the current policy counterfactual. Natural gas production and transportation jobs are 31,000 lower and generation jobs are 3,600 lower (oil-related jobs are relatively unchanged due to the small amount of oil used for power generation in the U.S.) These losses in fossil fuel employment are dwarfed by gains in nuclear and renewable generation, battery storage and transmission. 26,000 jobs are saved at currently operating nuclear plants and 278,000 jobs are gained through the manufacture, installation and operation of new wind, solar, geothermal and other renewable energy sources. Jobs associated with building and operating

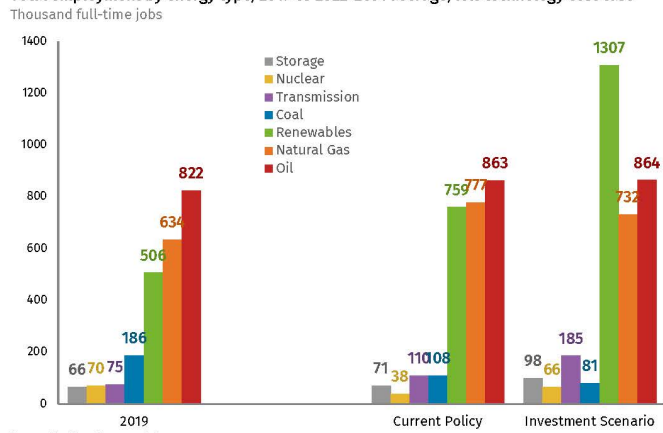
transmission lines and battery storage are 33,000 and 11,000 higher respectively on average between 2022 and 2031 in our investment scenario than under current policy.

FIGURE 5
Change in average annual jobs from federal clean electricity investment relative to current policy, 2022-2031



Source: Rhodium Group analysis

FIGURE 6
Total employment by energy type, 2019 vs 2022-2031 average, low technology cost case



Source: Rhodium Group analysis

In our low technology cost case, coal employment (mining, transportation and power generation) is 27,000 jobs lower and natural gas employment (production, transportation and power generation) is 46,000 jobs lower on average between 2022 and 2031 as a result of federal clean electricity investment than under current policy. But the job gains in clean generation, storage and transmission are more than 8x larger than those lost in fossil generation and upstream fuel supply. Renewable electricity-related jobs are 548,000 higher on average between 2022 and 2031. Transmission jobs are 75,000 higher and battery storage jobs are 28,000 higher. All told, we project 1.7 million Americans on average would be working in the manufacture, installation and production of clean electricity between 2022 and 2031 (Figure 6). That's nearly 1 million more than work in these fields today, and 679,000 more than would be employed under current policy over that same time period. In our investment scenario, clean electricity would employ as many people between 2022 and 2031 in the US as all fossil fuel production, transportation, distribution and generation combined.

A core promise of the AJP is not just creating jobs but creating “good-paying union jobs.” How do the clean electricity jobs a federal investment package would create fare on this metric? A [new US Energy and Employment Report](#) provides national survey data on current average wages across all occupations associated with different energy sources (Table 1). Unfortunately, there is not the same kind of comprehensive survey data on unionization rates. The US Energy and Employment Report recommends the federal government start collecting and publishing these data going forward.

Across all energy types, median hourly wages are considerably higher than the national median wage. Workers in nuclear power and electricity transmission and distribution earn the most—105% and 66% more than the national median, respectively. In our investment scenario there are 49,000 more jobs on average in these areas combined between 2022 and 2031 in our mid technology cost case, and 103,000 more in our low technology cost case. Coal and natural gas jobs, both of which decline in our investment scenario relative to a current policy counterfactual pay 50% and 59% more than the national median respectively. Median wages for wind, solar and storage jobs, all of which grow considerably in our analysis, are 36%, 28%, and 27% higher than the national median.

TABLE 1
Average wages by energy type across occupations
Thousand full-time jobs

Industry Crosscut	Median Hourly Wage	Premium Compared to National Median
Coal	\$28.69	49.9%
Natural Gas	\$30.33	58.5%
Oil	\$26.59	38.9%
Nuclear	\$39.19	104.8%
Wind	\$25.95	35.6%
Solar	\$24.48	27.9%
Electricity Transmission and Distribution	\$31.80	66.1%
Electricity Storage	\$24.36	27.3%

Source: US Energy Employment Report

It's worth noting that while the majority of current solar jobs are associated with rooftop solar and other distributed applications, the majority of additional solar capacity built in our investment scenario is utility-scale solar serving the bulk power system. Utility-scale solar is less labor intensive than distributed solar, so this feature of our modeling significantly reduces projected job gains compared to a future where the current split between utility-scale and distributed solar remained constant. But utility-scale solar-related jobs also tend to pay more and are more likely to be unionized, so we would expect the median wage associated with the renewable energy jobs created as a result of the plan to be higher than Table 1 suggests. The inclusion of prevailing wage, project labor agreement (PLA) or other job quality requirements in a federal infrastructure package, as some in Congress are considering, would further increase future wages in renewable energy-related professions.

While the increase in clean generation jobs we project in our analysis far outweighs declines in fossil generation jobs and associated fuel supply, Congress can take additional steps to mitigate the impact of those job declines—particularly for coal communities. In our investment scenario, total natural gas-related employment still grows relative to 2019 levels, just less than it would under current policy. Oil-related employment stays relatively flat. Coal-related employment, which has been declining for decades, continues to fall sharply under current policy due to already announced and projected coal power plant retirements. Average annual employment between 2022 and 2031 is 42% lower than 2019 levels in our low technology cost case. In our investment scenario this grows to 56%. There will be some opportunities for coal mine, transport and power plant workers to find employment in renewable energy, nuclear, transmission, storage, or in carbon capture and sequestration (which is not the focus of this analysis but a likely additional area of infrastructure investment with [substantial economic and employment benefits](#)). But investments as part of a federal infrastructure package can also help diversify the economic and employment base of coal communities beyond energy and create new pathways to economic growth and prosperity.

Conclusion

It's still unclear whether a clean energy infrastructure investment package will make it through Congress, and if it does, what it will include. What is clear from our analysis is that an ambitious effort to invest in decarbonizing the electric system will, on net, create and retain far more jobs in clean generation than will be lost in fossil fuel generation and associated fuel supply. These can be well-paid, high-quality jobs, particularly if an infrastructure investment package includes labor standards and support for coal communities. If one of the goals of an infrastructure package is to get Americans back to work after a pandemic-induced recession, robust investment in the electric power sector is a solid place to start.

Disclosure Appendix

This nonpartisan, independent research was conducted with support from Bloomberg Philanthropies, ClimateWorks Foundation, the Heising-Simons Foundation, and the William and Flora Hewlett Foundation. The results presented in this report reflect the views of the authors and not necessarily those of supporting organizations.

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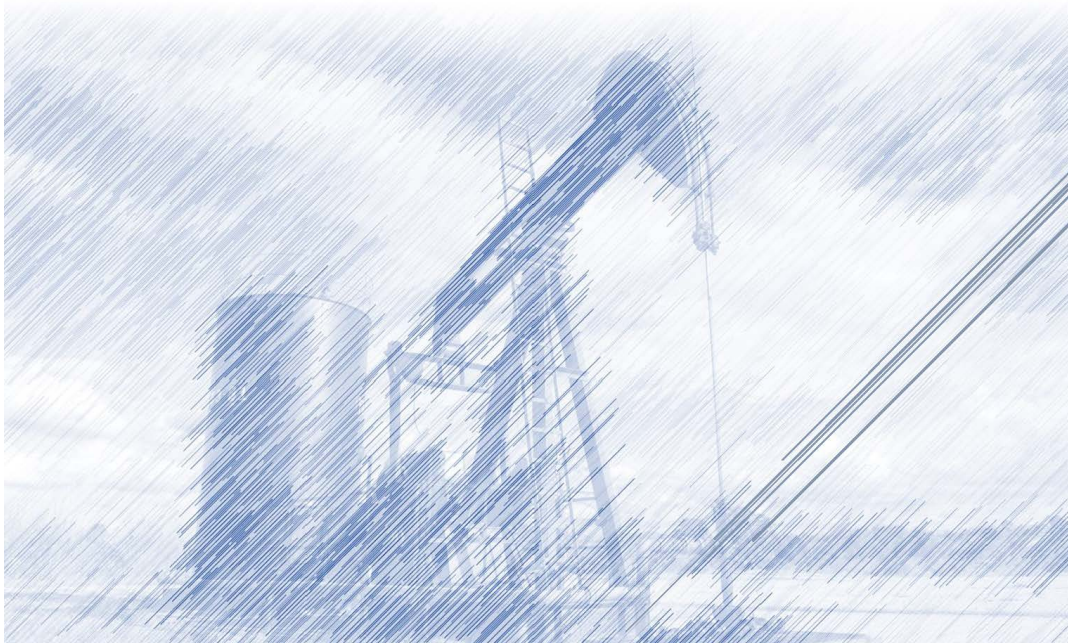
The Economic Impacts of Eliminating the Percentage Depletion Allowance

Reduced Employment, Gross Domestic Product,
State Tax Revenues, and Domestic Energy Production

Prepared For



Prepared By





Executive Summary

Introduction

Despite the current difficulties facing the global economy, especially due to the adverse impacts of the COVID pandemic on the oil and natural gas industry specifically, the stripper well industry will likely continue to be a major source of energy production, employment, gross domestic product, and government revenues for the United States.

A critical element of that continued success is the percentage depletion allowance. The allowance is a tax provision that allows oil and natural gas producers – limited to independent operators, to recover some of the investments associated with exploring for, and producing, oil and natural gas. Landowners also accrue benefits as royalty owners. Eliminating the percentage depletion allowance would cause an economic ripple effect across the economy because the percentage depletion allowance primarily benefits the nation's smallest oil and natural gas producers and mineral owners; most of whom are farmers, ranchers, and other landowners. Elimination of the percentage depletion allowance would have an outsized impact on these small, economically vulnerable recipients of the allowance. The impact would be particularly harsh in the midst of the current COVID pandemic.

Energy and Industrial Advisory Partners (EIAP) was commissioned by the National Stripper Well Association (NSWA) to develop a report forecasting activity levels, spending, oil and natural gas production, supported employment, GDP, royalty, and government revenues changes if the percentage depletion allowance was eliminated. The scenarios developed in this report are based solely upon government and other publicly available data and EIAP's own expertise and analysis. The study also included interviews with NSWA members, which showcases the diverse group of companies that make up the stripper well industry.

The Stripper Well Industry

For tax purposes, a Stripper Well is defined as any oil or natural gas well whose maximum daily average oil production does not exceed 15 barrels of oil or any natural gas well whose maximum daily average gas production does not exceed 90 Mcf, per day, during any 12-month consecutive time period.

Stripper wells account for a significant portion of America's oil and natural gas production. These wells may produce less than 15 barrels of oil a day, **but in 2021 they are projected to account for nearly 7.4% of U.S. oil production. They produce less than 90 thousand cubic feet a day, yet account for over 8.2% of U.S. natural gas production.** To quantify the potential effects of eliminating the percentage depletion allowance, this study forecasted a Base Case – no change in law or policy relative to the percentage depletion allowance for stripper well oil and natural gas activity to provide a comparison with potential activity and economic impacts of eliminating the percentage depletion allowance. The study forecasted



key activity indicators including the number of wells drilled, oil and natural gas production, spending, and royalties based on projected activity levels. These activity and spending forecasts drive the projected employment, GDP, and government revenue forecasts presented in this report.

Impact of the Potential Elimination of Percentage Depletion

Eliminating the percentage depletion allowance would have a large and increasing impact on the stripper well industry, the oil and natural gas sector, as well as the broader economy. For the purpose of this report, a “Percentage Depletion Elimination Case” was developed to provide a comparison of activity levels (wells drilled, spending, oil and natural gas production, royalties), economic impacts, and government revenues compared to the Base Case Scenario. The percentage depletion elimination case assumes that the percentage depletion allowance would be eliminated as of 2022.

- The elimination of the percentage depletion allowance is projected to have a large and increasing impact on the number of producing stripper wells across the fifteen-year (2021-2035) forecast period. On average¹, the elimination of percentage depletion is projected to lead to an over 14 percent reduction in the number of producing stripper wells in the U.S. By the end of the forecast period in 2035, the number of producing stripper wells is projected to be over 167 thousand wells lower if the percentage depletion allowance was eliminated, with producing stripper wells projected at around 489 thousand compared to 656 thousand in the base case (an over 25 percent reduction).
- This study forecasts that in the Base Case – which assumes no change in law or policy, combined oil and natural gas production from stripper wells will average around 1.98 million barrels of oil equivalent a day between 2021-2035, the forecast period. In the Percentage Depletion Elimination Case – where legislation is enacted to eliminate it, production is projected to fall to an average of 1.68 million barrels of oil equivalent a day (an over 12 percent reduction). The impact of eliminating the percentage depletion allowance is projected to grow across the forecast period.
- For example, if percentage depletion was eliminated by 2035, oil and natural gas production from stripper wells is projected to fall by over 26 percent, from over 1.91 million barrels of oil equivalent a day in the Base Case to just over 1.42 million barrels of oil equivalent a day in the Percentage Depletion Elimination Case.
- If the percentage depletion were eliminated, this study projects that over the 2021 to 2035 forecast period, oil and natural gas industry spending would be reduced by over \$7.1 billion per year on average. By the end of the forecast period in 2035, **spending is projected to be reduced by over \$9.1 billion dollars**. Over the full 15-year forecast period from 2021 to 2035, total spending is projected to be reduced by over \$107 billion.

¹ The averages calculated in this report are calculated across the full 15-year forecast period which includes one year (2021) where no impacts of eliminating percentage depletion are assumed to occur due to delays in implementation.



- Across the forecast period (2021-2035) projected average employment reductions are estimated at just under 84 thousand jobs per year. By 2035, projected reductions in employment are estimated to be just over 105 thousand jobs.
- Elimination of the percentage depletion allowance is projected to reduce annual contributions to GDP by an average of around \$8.7 billion per year. By the end of the forecast period in 2035, reductions in GDP are projected to reach over \$11 billion.
- Over the next 15 years, royalty payments are projected to decline by an average of around \$640 million per year. By the end of 2035, royalty payments are projected to decline by over \$935 million. Over the full 15-year period from 2021 to 2035, **total royalty payments are projected to be reduced by over \$8.9 billion.**
- This study estimates that eliminating the percentage depletion allowance would lead to state government **revenue reductions of around \$200 million per year** on average over the 2021 to 2035 forecast period. By the end of the forecast period, revenue reductions are projected to reach around \$315 million annually in 2035.
- Across the 15-year forecast period, additional federal corporate taxes paid to the U.S. Treasury, due to the elimination of percentage depletion are projected to average just over \$450 million per year. Over the forecast period as production is projected to decline due to the elimination of percentage depletion, the positive tax benefit of eliminating percentage depletion is projected to decline annually starting in 2025 (\$560 million per year). By the end of the forecast period in 2035, projected additional revenues are expected to decline to around \$385 million.

Study Limitations

Given the large degree of volatility and uncertainty in oil and gas markets as well as the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may have significant effects, especially in the early years of the forecast contained in this report. EIAP makes no representations as to the impacts of the potential policy proposal addressed in this report. The report's projections of the effects that these potential scenarios would impose on the oil and natural gas industry are an independent, good faith view arising from reasonable assumptions based on these potential policy changes and the authors' expertise and experience. Energy and Industrial Advisory Partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for completeness, accuracy, use, or fitness to any person or party for any reason.



Table of Contents

<u>Executive Summary</u>	<u>2</u>
INTRODUCTION	2
THE STRIPPER WELL INDUSTRY	2
IMPACT OF THE POTENTIAL ELIMINATION OF PERCENTAGE DEPLETION	3
STUDY LIMITATIONS	4
<u>Table of Contents</u>	<u>5</u>
<u>List of Tables</u>	<u>7</u>
<u>List of Figures</u>	<u>9</u>
<u>Introduction</u>	<u>10</u>
ABOUT THE NSWA	10
WHAT IS A STRIPPER WELL?	10
PERCENTAGE DEPLETION OVERVIEW	10
PURPOSE OF THE REPORT	11
REPORT STRUCTURE	11
EXCLUDED FROM STUDY	12
ABOUT EIAP	12
<u>Percentage Depletion Elimination Impacts</u>	<u>14</u>
PRODUCING WELLS	14
DRILLING	16
PRODUCTION	17
SPENDING	18
JOBS	19
GDP	22
ROYALTIES	23
GOVERNMENT REVENUES	24
<u>Conclusions</u>	<u>27</u>
<u>State Results</u>	<u>29</u>



TEXAS	29
OKLAHOMA	30
CALIFORNIA	31
NEW MEXICO	32
COLORADO	33
KANSAS	34
OHIO	35
PENNSYLVANIA	36
LOUISIANA	37
NORTH DAKOTA	38
WEST VIRGINIA	39
ILLINOIS	40
WYOMING	41
MICHIGAN	42
NEW YORK	43
ARKANSAS	44
ALABAMA	45
UTAH	46
NSWA Member Profiles	47
List of Profiles	47
Appendices	68
GLOSSARY OF TERMS	68
Methodology	70
DATA DEVELOPMENT	70
ROYALTY METHODOLOGY	73
Data Tables	75



List of Tables

Table 1: Projected Texas State Impacts of Eliminating Percentage Depletion	29
Table 2: Projected Oklahoma State Impacts of Eliminating Percentage Depletion	30
Table 3: Projected California State Impacts of Eliminating Percentage Depletion	31
Table 4: Projected New Mexico State Impacts of Eliminating Percentage Depletion	32
Table 5: Projected Colorado State Impacts of Eliminating Percentage Depletion	33
Table 6: Projected Kansas State Impacts of Eliminating Percentage Depletion	34
Table 7: Projected Ohio State Impacts of Eliminating Percentage Depletion	35
Table 8: Projected Pennsylvania State Impacts of Eliminating Percentage Depletion	36
Table 9: Projected Louisiana State Impacts of Eliminating Percentage Depletion	37
Table 10: Projected North Dakota State Impacts of Eliminating Percentage Depletion	38
Table 11: Projected West Virginia State Impacts of Eliminating Percentage Depletion	39
Table 12: Projected Illinois State Impacts of Eliminating Percentage Depletion	40
Table 13: Projected Wyoming State Impacts of Eliminating Percentage Depletion	41
Table 14: Projected Michigan State Impacts of Eliminating Percentage Depletion	42
Table 15: Projected New York State Impacts of Eliminating Percentage Depletion	43
Table 16: Projected Arkansas State Impacts of Eliminating Percentage Depletion	44
Table 17: Projected Alabama State Impacts of Eliminating Percentage Depletion	45
Table 18: Projected Utah State Impacts of Eliminating Percentage Depletion	46
Table 19: Producing Stripper Wells Base Case	75
Table 20: Percentage Depletion Elimination Case Producing Stripper Wells	77
Table 21: Base Case Stripper Well BOE/D Oil and Natural Gas Production	79



Table 22: Percentage Depletion Elimination Case Stripper Well BOE/D Oil and Natural Gas Production	81
Table 23: Percentage Depletion Elimination Case State Oil and Natural Gas Industry Spending Reductions	83
Table 24: Percentage Depletion Elimination Case State Tax Reductions	86
Table 25: Percentage Depletion Elimination Case State Royalties Paid Reductions	89
Table 26: Percentage Depletion Elimination Case GDP Reductions \$Millions	92
Table 27: Percentage Depletion Elimination Case Employment Reductions by Sector	94
Table 28: Percentage Depletion Elimination Case Employment Reductions by State	96
Table 29: Percentage Depletion Elimination Case Direct Employment Reductions by State	98
Table 30: Percentage Depletion Elimination Case Indirect and Induced Employment Reductions by State	100



List of Figures

Figure 1: Projected Loss of Producing Stripper Wells 16

Figure 2: Projected Loss of Drilling and Completion Activity17

Figure 3: Projected Stripper Well Oil and Natural Gas Production (BOE/D) 18

Figure 4: Projected Oil and Natural Gas Industry Spending Reductions 19

Figure 5: Projected Employment Reductions20

Figure 6: Projected Direct and Indirect and Induced Supported Job losses 21

Figure 7: Projected Oil and Gas Supported Job losses by Industry Sector22

Figure 8: Projected Oil and Natural Gas Contributions to GDP Reductions 23

Figure 9: Projected Percentage Depletion Elimination Case Oil and Natural Gas Royalty Reductions ..24

Figure 10: Projected Percentage Depletion Elimination Case Oil and Natural Gas State Government Revenue Reductions 25

Figure 11: Projected Percentage Depletion Elimination Case Oil and Natural Gas Federal Government Revenue Increases26

Figure 12: 2020 Wells and Production by Depletion Class 72



Introduction

About the NSWA

The National Stripper Well Association, founded in 1934, is the only national association representing the interests of the nation's smallest and most effective oil and gas operators – and their employees – before Congress and federal agencies. Almost 1,000 members strong, the NSWA's dedicated board of directors, staff, and Vice President of Governmental Affairs represent NSWA around the country and on Capitol Hill every day, fighting for the rights and best interests of stripper well producers. It is the belief of NSWA that producers, owners, and operators of marginally producing oil and gas wells have a unique set of needs and concerns regarding federal legislation and regulation.

What is a Stripper Well?

For tax purposes, a Stripper Well is defined as any oil or natural gas well whose maximum daily average oil production does not exceed 15 barrels of oil or any natural gas well whose maximum daily average gas production does not exceed 90 thousand cubic feet of gas (Mcf), per day, during any 12-month consecutive time period. The term stripper well is often used interchangeably with the term "Marginal Well" although they are not the same. A marginal well's definition is about economic viability, whether the extraction of oil and gas is profitable. To define a particular well as a marginal well depends on oil prices, and the cost of production, unlike a stripper well that has a definite output attached. Stripper wells tend to be marginal wells but a marginal well might not be a stripper well. Stripper Wells make up a significant portion of America's oil and natural gas production. These wells may produce less than 15 barrels of oil a day, but in 2021 they are projected to account for nearly 7.4% of U.S. oil production. They produce less than 90 Mcf a day, yet account for over 8.2% of U.S. natural gas production. Stripper well operators are typically some of the smallest oil and natural gas companies in the U.S. and these companies' operations and economics differ greatly from major oil companies and large independent exploration and production companies. Stripper well operators typically invest from their own earnings as they lack access to outside investment capital compared to larger oil and natural gas companies. Stripper well operator's tax treatment also differs greatly from larger oil companies, who typically deduct large amounts of intangible drilling costs to reduce their tax burden. Given the nature of stripper well operators and their constantly depleting resource base, many of these companies utilize the percentage depletion provision of the tax code to allow them to reinvest in their oil and natural gas properties.

Percentage Depletion Overview

Percentage depletion is a tax provision that allows oil and natural gas producers to recoup some of the costs involved in exploring for and producing oil and natural gas. It is only allowed to be used by independent producers and royalty owners. Elimination of percentage depletion would cause an



economic ripple effect because of the change in incentives for the many small, independent oil and natural gas producers, and their royalty owners.

The percentage depletion provision has been a part of the U.S. tax code since February 11, 1926, when the Senate Committee on Finance passed it into law after extensive debate. Since 1954, all minerals produced or mined in the U.S. have been able to use percentage depletion.

This provision supports the development of U.S. oil and natural gas, along with other mineral resources, that would otherwise be uneconomic to produce. This provision also enables independent producers to keep revenues that are vital to the future of their businesses and the operation of their oil and natural gas wells. *It is because of percentage depletion that these operators can retain their earnings, and many are reinvesting 100% of their cash flow back into American energy development. Royalty owners also rely on this tax provision.*

Percentage depletion is calculated by applying a 15% reduction to the taxable gross income of a productive well's property. The reduction is determined on a property-by-property basis and is limited to the taxpayer's first 1,000 barrels of oil (or 6,000 Mcf of natural gas) of production per day. Barrels of oil equivalent was calculated using an energy equivalency ratio of 5,800 cubic feet of natural gas to one barrel of oil. It is also capped at the net income of a well and limited to 65 percent of the taxpayer's net income. As such, the percentage depletion allowance primarily benefits the nation's smallest oil and natural gas producers, and mineral owners. Elimination of the allowance would have an outsized impact on these small, economically vulnerable recipients of the allowance.

Purpose of the Report

Despite the current difficulties it is facing due to low oil and natural gas prices and the impacts of the COVID-19 pandemic, the U.S. oil and natural gas industry will likely continue to be a major source of energy production, employment, gross domestic product, and government revenues for the United States.

Over the years, politicians of both parties have considered eliminating the percentage depletion allowance, President Biden's administration has indicated that it is considering eliminating various provisions that benefit the oil and natural gas industry.

Report Structure

In this report, EIAP first discusses potential activity levels and economic impacts of the elimination of the percentage depletion allowance. Prior to the appendices, the study also included profiles of NSWA members to demonstrate the diverse group of companies who make up the oil and gas stripper well industry. The next section provides state levels results. Appendices include a glossary of terms, a section that outlines the study's methodology including data development, the limitations of this study, and how the scenarios in this report were developed/ The final section provides data tables.



Excluded from Study

This paper has been limited in scope to the assessment of the potential impacts of the elimination of the percentage depletion allowance, additional changes to regulations or policies outside of the changes assessed in this report (for example policies that impact other areas of the U.S. tax code or enact further regulations of the U.S. oil and natural gas industry) could lead to a greater effect than the impacts laid out in this report. The study also excludes potential domestic supply chain reductions due to reduced activity levels which could lead to further reductions in the domestic economic impacts of the stripper well industry. This study also does not attempt to calculate the effects of the elimination of percentage depletion on the downstream oil and natural gas industry, or subsequent impacts on other industries (for example due to reduced domestic oil and natural gas production or higher energy prices), other than the impacts directly due to reduced activity and oil and natural gas production by the stripper well industry. Additionally, the projected government revenue impacts do not account for personal income taxes, county, and local taxes, or property taxes. Due to the exclusion of these impacts, it is likely that the economic impacts presented in this study represent conservative projections of the potential impacts of the elimination of the percentage depletion allowance developed. Additionally, the impacts presented could be imprecise by as much as 10% or more due to the actual adoption and implementation of the elimination of percentage depletion.

About EIAP

Energy & Industrial Advisory Partners (EIAP) was founded to provide companies, institutional investors, and industry associations across the energy and industrial markets with economic and strategic consulting, as well as M&A and restructuring advisory services from seasoned consultants with significant industry experience. EIAP is a specialist consulting firm that utilizes its deep industry experience and rigorous analytical methodologies to help stakeholders gain the insights they require to make more informed, data-driven decisions.

Our team and our subject matter experts have worked in the industries we cover, and we have maintained that focus throughout our consulting careers. This focus enables us to provide proprietary insights into the perspectives of key customers, suppliers, and competitors. Our collective experience amounts to hundreds of engagements alongside some of the world's most sophisticated energy and industrial companies, institutional investors, and industry associations.

Every project is bespoke and focused on identifying and understanding the issues facing a business or industry and developing practical solutions. We understand that insight not only comes from the C-Suite but also the shop floor, and we are just as comfortable in the field as we are in the board room.



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Percentage Depletion Elimination Impacts

The elimination of the percentage depletion allowance would have immediate and growing impacts on the U.S. oil and natural gas industry, stripper well operators specifically as well as the economy as a whole. Its elimination would have outsized impacts on the nation's smallest producers and the communities where they operate.

Since only the nation's smallest producers can take full advantage of the percentage depletion, eliminating the allowance would have **no material impact on large oil and natural gas companies** but would have a devastating impact on smaller producers due to reduced cash flows. Reductions in producers' cash flows would impact both existing wells (which would be more likely to become idle and cease production), as well as new well drilling activity (due to reduced cash flows available to reinvest in replacing reserves and drilling new wells).

As most stripper well operators tend to reinvest most of their cash flows into operations, acquiring existing assets, or drilling new wells, these reduced cash flows would have a multiplier effect on the impact on the industry over the forecast period.

Cash flow reductions at the beginning of the forecast period due to reduced oil and natural gas production would lead to reduced new drilling activity, further reducing future cash flows. Over time the continued lower production and continued lower drilling would be additive, leading to increasing negative impacts on stripper well producers. For the purposes of this report, the Percentage Depletion Elimination Case (or PD Elimination Case) assumes that the percentage depletion allowance would be eliminated starting in 2022.

Producing Wells

The elimination of the percentage depletion allowance is projected to have two primary impacts on the number of producing oil and natural gas wells over the forecast period. For existing wells, eliminating percentage depletion is projected to cause an increase in the number of wells that no longer break even or provide an economic return to their operators leading to an increase in the number of wells that become idle each year.

Additionally, the reduced income available to operators due to the elimination of percentage depletion is projected to lead to reduced drilling and completion activity. It is important to note that for the most part, new wells drilled initially produce quantities of oil and natural gas too large to qualify for the percentage depletion allowance.

However, as well production declines, it often drops below the threshold which allows an operator to claim percentage depletion. Additionally, larger operators often sell lower producing wells to smaller operators, who are more likely to be able to fully claim the percentage depletion allowance. For stripper well operators who do engage in the drilling of new wells, these tend to be lower producing conventional



vertical wells that are much more likely to be stripper wells either in their first year of production or shortly thereafter. Typically for new wells, operators will choose cost depletion for the first three or more years of production to allow them to depreciate the costs involved with drilling, completing, and bringing a well onto production.

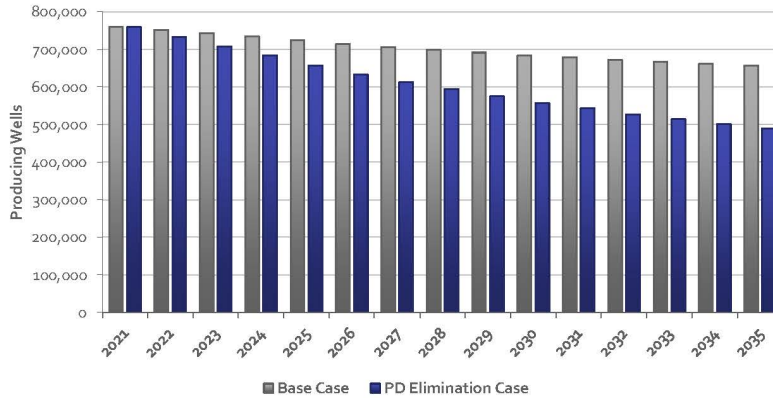
As part of this study, a Base Case forecast of the number of active stripper wells was developed utilizing data on all producing wells in the United States, forecast decline curves, a forecast on new well drilling activity, and well level economic analysis to forecast when wells would likely become idle based on their break-even cost. After this base case analysis was completed, a secondary forecast was completed taking into account the elimination of the percentage depletion allowance.

This secondary forecast, the Percentage Depletion Elimination Case, modeled the impact that eliminating the percentage depletion analysis would have on both currently producing wells, as well as new well drilling activity, and the impacts increased well shut-ins and reduced drilling would have on the stock of stripper wells in the U.S. It is important to note that this well level forecast encompasses all stripper wells, regardless of the operator's ability to claim percentage depletion allowance. However, the income impact of eliminating the percentage depletion allowance (and thus the impact on the number of producing wells) was calculated based on operators' ability to claim percentage depletion.

The elimination of the percentage depletion allowance is projected to have a large and growing impact on the number of producing stripper wells across the fifteen-year (2021 to 2035) forecast period. On average, the elimination of percentage depletion is projected to lead to an over 14 percent reduction in the number of producing stripper wells in the U.S. By the end of the forecast period in 2035, the number of producing stripper wells is projected to be over 167 thousand lower if the percentage depletion allowance were eliminated, with producing stripper wells projected at around 489 thousand compared to 656 thousand in the base case (an over 25 percent reduction). (Figure 1)



Figure 1: Projected Loss of Producing Stripper Wells



Source: Energy and Industrial Advisory Partners

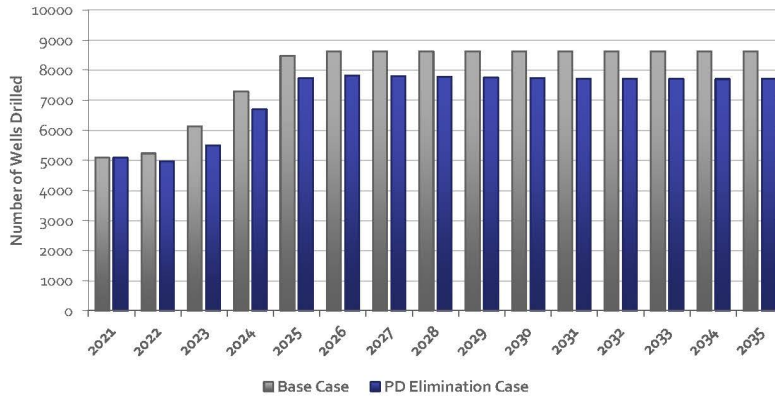
Drilling

To develop the overall forecasts for this report, a drilling and completion forecast for the U.S. as a whole was developed. This forecast was based on recent activity trends and the oil and natural gas price strip used to develop the report. The forecast was produced on a basin by basin and state by state basis. In addition to the Base Case drilling and completion forecast, a Percentage Depletion Elimination Case forecast was also developed, to account for reduced activity due to reduced revenues as a result of the elimination of the percentage depletion allowance (and the subsequent reduced revenues due to shut in wells and reduced drilling activity in previous years).

This study forecasts that the elimination of the percentage depletion allowance would lead to an average reduction of the number of new oil and natural gas wells drilled of around nine percent (740 wells) each year across the 2021 to 2035 forecast period. At the end of the forecast period in 2035, new wells drilled are projected to decline by nearly 11 percent (around 925 wells). (Figure 2)



Figure 2: Projected Loss of Drilling and Completion Activity



Source: Energy and Industrial Advisory Partners

Production

To develop the production forecasts for this report, a well-by-well production forecast for currently producing wells was constructed. This forecast was based on the well’s current production and its historical decline profile, which was best fitted to decline curve projections. Additionally, a forecast of drilling activity was developed on a state-by-state basis, and for new wells drilled decline curves were modeled based on production data for wells drilled in the last five years. In both cases, well production curves were modeled along with forecasts of production costs, taxes, royalties, transportation costs, and realized oil and natural gas prices to forecast when a well’s income fell below its modeled break-even costs, at which point it was assumed that the well would be shut in and no longer produce.

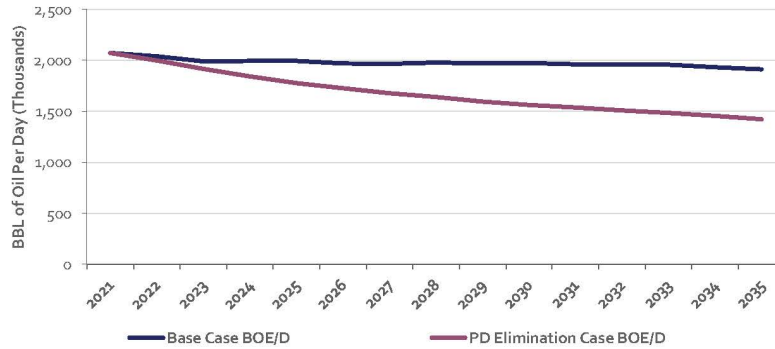
For the Percentage Depletion Elimination Case, the impact of the elimination of the percentage depletion allowance on well economics was also modeled, based on the well operator’s ability to claim percentage depletion, as was the impact of reductions in drilling and completion activity.

This study forecasts that in the Base Case, average combined oil and natural gas production from stripper wells will average around 1.98 million barrels of oil equivalent a day across the 2021 to 2035 forecast period. In the Percentage Depletion Elimination Case, production is projected to average 1.68 million barrels of oil equivalent a day (an over 12 percent reduction). The impact of eliminating the percentage depletion allowance is projected to grow across the forecast period. By 2035 oil and natural gas production from stripper wells is projected to fall by over 26 percent, from over 1.91 million barrels of oil



equivalent a day in the Base Case to just under 1.42 million barrels of oil equivalent a day in the Percentage Depletion Elimination Case. (Figure 3)

Figure 3: Projected Stripper Well Oil and Natural Gas Production (BOE/D)



Source: Energy and Industrial Advisory Partners

Stripper wells may produce less than 15 barrels of oil a day, but in 2021 they are projected to account for nearly 7.4% of U.S. oil production. They produce less than 90 thousand cubic feet a day, yet are projected to account for over 8.2% of U.S. natural gas production in 2021.²

Spending

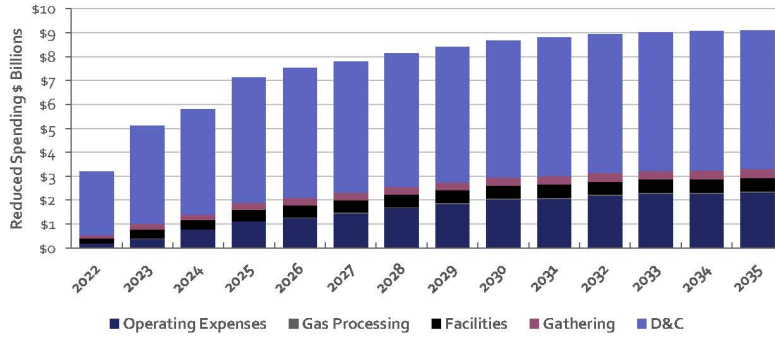
The elimination of the percentage depletion allowance is projected to have a large and growing impact on oil and natural gas industry spending due to reduced operational spending to service producing wells, as well as reduced investment in new wells including reduced drilling and completion spending, reduced spending on facilities and gas gathering infrastructure, and reduced gas processing spending.

On average across the 2021 to 2035 forecast period, oil and natural gas industry spending is projected to be reduced by over \$7.1 billion per year. By the end of the forecast period in 2035, spending is projected to be reduced by over \$9.1 billion dollars. (Figure 4)

² Based on the Energy Information Administration’s January 12th, 2021 projections of 2021 U.S. oil and natural gas production (11.1 million barrels of oil per day and 88.2 BCF/d of natural gas).



Figure 4: Projected Oil and Natural Gas Industry Spending Reductions



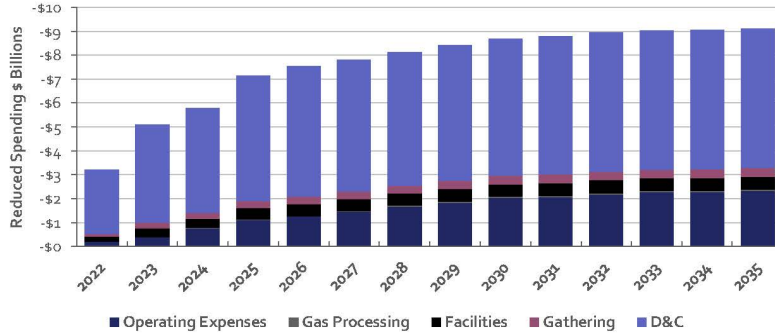
Source: Energy and Industrial Advisory Partners

Jobs

Elimination of the percentage depletion allowance would have a significant impact on employment in the oil and natural gas industry. Employment reductions would be due to a number of factors, including reduced spending on operations and new well development. Additionally, reduced royalty payments and state taxes would also impact employment. Across the forecast period (2021-2035) projected average employment reduction is estimated at just under 84 thousand jobs annually. By 2035, projected reductions in employment are estimated to be just over 105 thousand jobs. (Figure 5)



Figure 5: Projected Employment Reductions

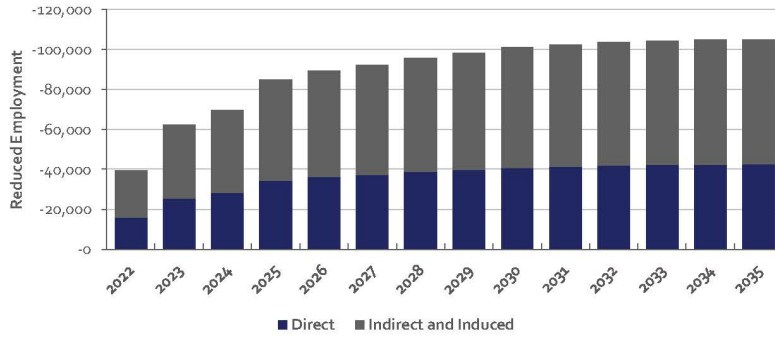


Source: Energy and Industrial Advisory Partners

The largest impact is projected to take place in Texas, with an average reduced employment of over 47 thousand jobs. 13 states are projected to see average reduced employment of over one thousand jobs including Oklahoma (5,170 jobs), California (4,310 jobs), New Mexico (3,160 jobs), Colorado (2,740 jobs), Kansas (2,430 jobs), Ohio (2,375 jobs), Pennsylvania (1,990 jobs), Louisiana (1,950 jobs), North Dakota (1,825 jobs), West Virginia (1,700 jobs), Illinois (1,350 jobs), and Wyoming (1,170 jobs).

The stripper well industry supports employment both through direct employment by the industry, but also indirectly. Across the 2021 to 2035 forecast period, reductions in direct employment are projected to average nearly 34 thousand jobs each year. Across the 2021 to 2035 forecast period, supported indirect and induced employment is projected to be reduced by nearly 50 thousand jobs. (Figure 6)

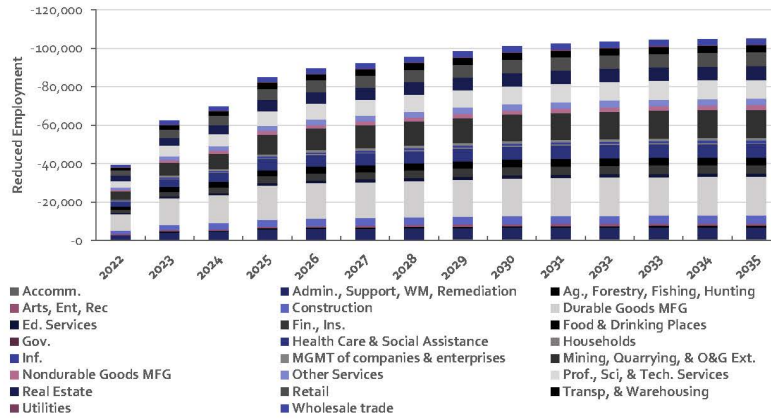
Figure 6: Projected Direct and Indirect and Induced Supported Job losses



Source: Energy and Industrial Advisory Partners

The stripper well industry supports employment in a variety of industry sectors in addition to the oil and natural gas industry. In fact, some of the largest projected employment reductions, if the percentage depletion allowance was eliminated, are expected in sectors such as real estate (5,690 jobs on average), retail (5,670 jobs on average), healthcare (an average of over 5,560 jobs), finance and insurance (an average of over 3,520 jobs). These losses are in addition to sectors that are directly impacted including durable goods manufacturing (an average of 16,700 jobs per year), oil and gas (10,900 jobs on average), professional scientific and technical services (7,640 jobs on average), and construction (3,450 jobs). (Figure 7)

Figure 7: Projected Oil and Gas Supported Job losses by Industry Sector



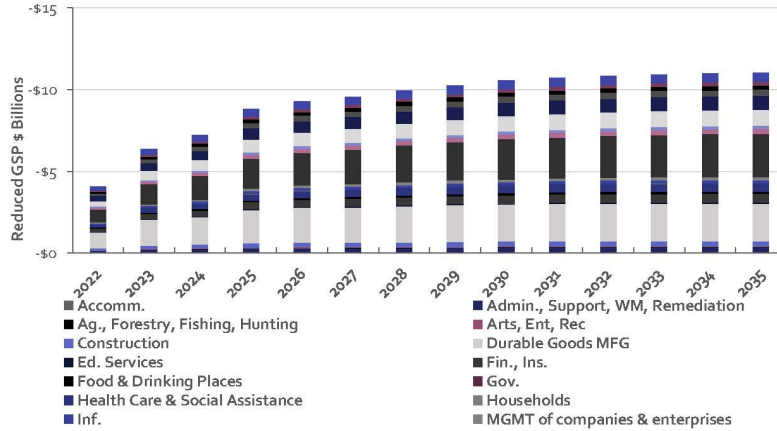
Source: Energy and Industrial Advisory Partners

GDP

The stripper well industry contributes significant levels of gross domestic product (GDP) to the economies of the states where it is active as well as the national economy. Elimination of the percentage depletion allowance is projected to lead to reductions in annual contributions to GDP that average around \$8.7 billion. By the end of the forecast period in 2035, reductions in GDP are projected to reach over \$11 billion. (Figure 8)



Figure 8: Projected Oil and Natural Gas Contributions to GDP Reductions



Source: Energy and Industrial Advisory Partners

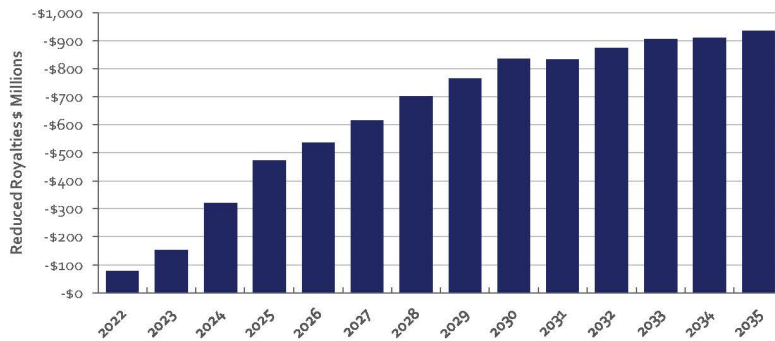
Royalties

In addition to spending, the stripper well industry also contributes to the economy, private citizens, governments, and other institutions through the payment of royalties to landowners and mineral rights holders. According to the National Association of Royalty Owners (NARO) over 12.5 million private citizens own oil and gas mineral rights in the U.S.

According to the Association, royalty owners are “teachers, farmers, ranchers, homemakers, accountants, firemen, plumbers, retirees, dentists, small business owners, factory workers, engineers, pet groomers, widows, roofers, lawyers, policemen, florists, carpenters, and bricklayers”. According to NARO, the average NARO member’s royalty income is five hundred dollars per month. Private royalty owners can also claim percentage depletion and would also be impacted if the percentage depletion allowance were eliminated by reduced production, wells being shut-in, and reduced drilling activity. To calculate potentially lost royalty payments due to the elimination of percentage depletion, estimates of average royalty rates were calculated on a state-by-state basis along with reduced oil and natural gas production and projections of overall revenues from this production. Additionally, assumptions around recipients of royalties as well as the likelihood that these royalties would be spent or saved were utilized to calculate the potential economic impacts of reduced royalty payments.

Across the forecast period, average royalty payments are projected to decline by an average of around \$640 million per year. By the end of the forecast period in 2035, royalty payments are projected to decline by over \$935 million. (Figure 9)

Figure 9: Projected Percentage Depletion Elimination Case Oil and Natural Gas Royalty Reductions



Source: Energy and Industrial Advisory Partners

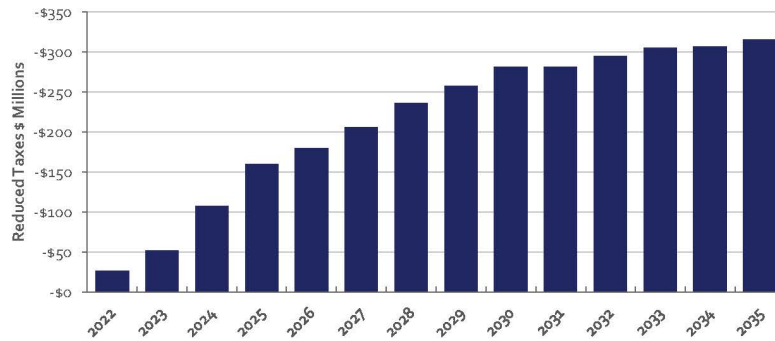
Government Revenues

Elimination of the percentage depletion allowance is projected to impact government revenues in a number of ways, some of which are not quantified in this report. This report considers two potential impacts on government revenues due to the elimination of the percentage depletion allowance. First, the impact of reduced oil and natural gas production on state-level severance and ad valorem taxes was calculated based on state-level tax rates. Secondly, the impact on federal corporate taxes of both reduced production and its impacts on company revenues and profits, as well as the higher effective tax rate operators would experience as a result of the elimination of percentage depletion were considered. The study does not account for personal income taxes, county, and local taxes, or property taxes. **As such, the negative tax implications for local, state, and federal governments would in all likelihood be larger than those projected in this report.**

This study estimates that eliminating the percentage depletion allowance would lead to state government revenue reductions of around \$200 million annually over the 2021 to 2035 forecast period. By the end of the forecast period, revenue reductions are projected to reach around \$315 million per year. (Figure 10)



Figure 10: Projected Percentage Depletion Elimination Case Oil and Natural Gas State Government Revenue Reductions



Source: Energy and Industrial Advisory Partners

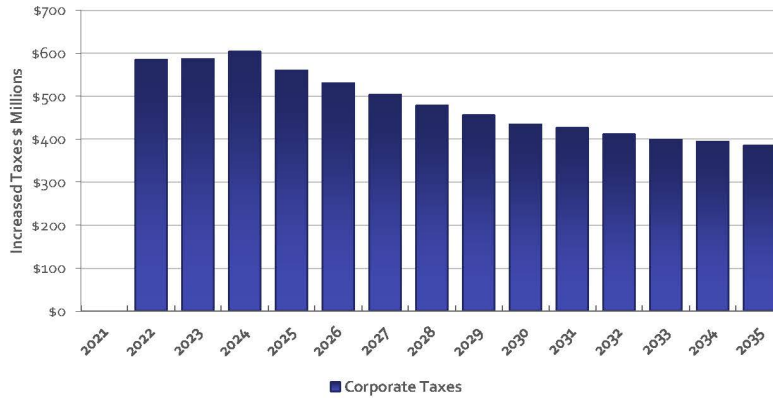
The elimination of percentage depletion allowance would impact federal government revenues in a number of ways, some of which (such as reduced personal income taxes) are not accounted for in this report.

The impact on federal corporate taxes of eliminating the percentage depletion allowance would be twofold. First, effective tax rates for stripper well producers would rise as producers could no longer claim the allowance. Secondly, reduced revenues and profits due to reduced oil and natural gas production would shrink the tax base. As with the other impacts of eliminating the percentage depletion allowance, the effects of reduced production are projected to grow over the forecast period, reducing the positive tax implications of increased effective tax rates. It is also important to note that the following calculations of the tax impacts are estimates, and do not take into account the impacts of net operating losses (NOL) which can be carried over by producers. Excluding the impacts of NOLs likely leads to an overstatement of the positive tax implications of eliminating the percentage depletion allowance.

Across the forecast period, average additional federal corporate taxes due to the elimination of percentage depletion allowance are projected to average just over \$450 million per year. Over the forecast period, as production is projected to decline due to the elimination of percentage depletion, the positive tax benefit of eliminating percentage depletion is projected to decline annually starting in 2025 (\$560 million per year). By the end of the forecast period in 2035, projected additional revenues are expected to decline to nearly \$385 million. (Figure 11)



Figure 11: Projected Percentage Depletion Elimination Case Oil and Natural Gas Federal Government Revenue Increases



Source: Energy and Industrial Advisory Partners

In December 2016, the Joint Committee on Taxation (JCT) of the U.S. Congress produced an estimate on the potential additional tax revenues and impact on the federal budget of eliminating the percentage depletion allowance. JCT estimated that in the ten-year period from 2017 to 2026 the federal government would receive additional tax revenues of \$12.8 billion. Although the time periods differ, this report estimates that eliminating the percentage depletion allowance would lead to only \$5.2 billion of additional federal tax revenue (due to increased corporate tax payments) in the first ten years after elimination (2022 to 2031). This estimate does not account for reduced personal income tax payments that would inevitably occur due to reduced employment which would offset some of the additional corporate tax revenues.

Conclusions

Eliminating the percentage depletion allowance would have a large and increasing impact on the stripper well industry, the oil and natural gas sector as a whole, as well as the broader economy. For the purpose of this report, a "Percentage Depletion Elimination Case" based on a change in law leading to the percentage depletion allowance being eliminated was developed to provide a comparison of activity levels (wells drilled, spending, oil and natural gas production, royalties), economic impacts, and government revenues compared to the Base Case Scenario, where current law and policy remain in place.

- The elimination of the percentage depletion allowance is projected to have a large and increasing impact on the number of producing stripper wells across the fifteen-year (2021-2035) forecast period. On average, the elimination of percentage depletion is projected to lead to an over 14 percent reduction in the number of producing stripper wells in the U.S. By the end of the forecast period in 2035, the number of producing stripper wells is projected to be over 167 thousand wells lower if the percentage depletion allowance were eliminated, with producing stripper wells projected at around 489 thousand compared to 656 thousand in the base case (an over 25 percent reduction).
- This study forecasts that in the Base Case, which assumes no change in law or policy, combined oil and natural gas production from stripper wells will average around 1.98 million barrels of oil equivalent a day between 2021 to 2035, the forecast period. In the Percentage Depletion Elimination Case – where legislation is enacted to eliminate it, production is projected to fall to an average of 1.68 million barrels of oil equivalent a day (an over 12 percent reduction). The impact of eliminating the percentage depletion allowance is projected to grow across the forecast period.
- For example, if percentage depletion was eliminated by 2035, oil and natural gas production from stripper wells is projected to fall by over 26 percent, from over 1.91 million barrels of oil equivalent a day in the Base Case to just over 1.42 million barrels of oil equivalent a day in the Percentage Depletion Elimination Case.
- If the percentage depletion allowance were eliminated, it is projected that across the 2021 to 2035 period, oil and natural gas industry spending would be reduced by over \$7.1 billion per year on average. By the end of the forecast period in 2035, **spending is projected to be reduced by over \$9.1 billion dollars**. Over the full 15 year forecast period from 2021 to 2035, total spending is projected to be reduced by over \$107 billion.
- Across the forecast period (2021-2035) projected average employment reductions are estimated at just under 84 thousand jobs per year. By 2035, projected reductions in employment are estimated to be just over 105 thousand jobs.
- Elimination of the percentage depletion allowance is projected to reduce annual contributions to GDP by an average of around \$8.7 billion per year. By the end of the forecast period in 2035, reductions in GDP are projected to reach over \$11 billion.



- Over the next 15 years, average royalty payments are projected to decline by an average of around \$640 million per year. By the end of 2035, royalty payments are projected to decline by over \$935 million. Also, over the full 15-year period from 2021 to 2035, **total royalty payments are projected to be reduced by over \$8.9 billion.**
- This study estimates that eliminating the percentage depletion allowance would lead to state government **revenue reductions of around \$200 million per year** on average over the 2021 to 2035 forecast period. By the end of the forecast period, revenue reductions are projected to reach around \$315 million annually by 2035.
- Across the 15-year forecast period, additional federal corporate taxes paid to the U.S. Treasury, due to the elimination of percentage depletion are projected to average just over \$450 million per year. Over the forecast period as production is projected to decline due to the elimination of percentage depletion, the positive tax benefit of eliminating percentage depletion is projected to decline annually starting in 2025 (\$560 million per year). By the end of the forecast period in 2035, projected additional revenues are expected to decline to around \$385 million.
- Eliminating the percentage depletion allowance would primarily affect the nation's smallest and most vulnerable oil and natural gas producers. Many of these producers are based in and operate in small towns and rural areas which would see an outsized impact as a result of this potential policy change. This impact would be felt by the pumpers, clerical workers, companies who sell parts and equipment, people who repair equipment such as machine shops & welders, people who operate equipment, as well as the farmers, ranchers, and retirees who receive royalty payments from these wells.



State Results

Texas

The state of Texas is projected to see the largest impacts from the elimination of the percentage depletion allowance. The large impacts are due to the state's large number of stripper wells as well as its importance to the oil and natural gas industry's supply chain and continued high levels of oil and natural gas drilling. (Table 1)

Table 1: Projected Texas State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-4,662	-9,192	-13,518	-17,669	-21,516	-25,071	-28,492
BOE Production	0	-13,399	-26,188	-52,254	-75,954	-88,609	-103,245	-121,785
Employment	0	-24,260	-36,254	-40,531	-48,894	-51,105	-52,266	-53,681
GDP (\$Millions)	\$0	-\$2,504	-\$3,734	-\$4,210	-\$5,095	-\$5,333	-\$5,469	-\$5,633
Royalties (\$Millions)	\$0	-\$36	-\$72	-\$150	-\$220	-\$253	-\$287	-\$327
State Taxes (\$Millions)	\$0	-\$12	-\$23	-\$48	-\$70	-\$81	-\$92	-\$105

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-31,635	-34,421	-37,084	-39,198	-41,460	-43,541	-45,455	-26,194
BOE Production	-135,107	-150,779	-156,587	-167,136	-176,736	-181,278	-189,163	-109,215
Employment	-54,952	-56,145	-56,777	-57,156	-57,654	-58,002	-58,228	-47,060
GDP (\$Millions)	-\$5,777	-\$5,916	-\$5,982	-\$6,031	-\$6,093	-\$6,132	-\$6,163	-\$4,938
Royalties (\$Millions)	-\$358	-\$391	-\$391	-\$411	-\$430	-\$438	-\$452	-\$281
State Taxes (\$Millions)	-\$115	-\$125	-\$125	-\$131	-\$138	-\$140	-\$145	-\$90

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on the state's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 28,495 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by 45,455. Oil and natural gas production is projected to be reduced by an average of 121,785 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 189,165 barrels of oil equivalent.

Across the forecast period, Texas is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 47,060 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 58,230 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$4.94 billion on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$6.16 billion. Texas is projected to see average reduced royalty payments of around \$280 million



annually across the 2021 to 2035 forecast period (\$452 million in 2035), and reduced state tax revenues averaging around \$90 million annually (\$145 million in 2035).

Oklahoma

The state of Oklahoma is projected to see the second-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large number of stripper wells and continued high levels of oil and natural gas drilling activity. (Table 2)

Table 2: Projected Oklahoma State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-1,346	-2,612	-4,272	-6,226	-7,977	-9,978	-11,742
BOE Production	0	-4,569	-8,728	-17,920	-27,946	-34,539	-38,318	-45,145
Employment	0	-2,018	-3,398	-3,838	-4,870	-5,386	-5,692	-6,034
GDP (\$Millions)	\$0	-\$186	-\$314	-\$360	-\$461	-\$511	-\$543	-\$579
Royalties (\$Millions)	\$0	-\$8	-\$16	-\$34	-\$53	-\$61	-\$74	-\$86
State Taxes (\$Millions)	\$0	-\$3	-\$6	-\$14	-\$22	-\$25	-\$30	-\$35

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-13,210	-14,322	-15,395	-16,203	-17,164	-17,712	-17,937	-10,406
BOE Production	-48,339	-52,176	-54,127	-57,176	-57,603	-57,623	-58,352	-37,304
Employment	-6,265	-6,478	-6,591	-6,717	-6,744	-6,753	-6,769	-5,170
GDP (\$Millions)	-\$603	-\$625	-\$636	-\$649	-\$653	-\$653	-\$655	-\$495
Royalties (\$Millions)	-\$93	-\$100	-\$102	-\$107	-\$108	-\$108	-\$109	-\$71
State Taxes (\$Millions)	-\$38	-\$41	-\$41	-\$43	-\$44	-\$44	-\$44	-\$29

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on the state's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 10,405 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by 17,935. Oil and natural gas production is projected to be reduced by an average of 37,305 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 58,350 barrels of oil equivalent.

Across the forecast period, Oklahoma is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 5,170 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 6,770 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$495 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$655 million. Oklahoma is projected to see average reduced royalty payments of around \$7 million annually across the 2021 to 2035 forecast period (\$109 million in 2035), and reduced state tax revenues averaging around \$29 million annually (\$44 million in 2035).



California

The state of California is projected to see the third-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells and oil and natural gas supply chain. (Table 3)

Table 3: Projected California State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-792	-1,598	-2,431	-3,215	-3,943	-4,702	-5,285
BOE Production	0	-3,214	-6,725	-14,059	-21,050	-24,005	-27,552	-30,720
Employment	0	-1,124	-2,907	-3,218	-4,137	-4,567	-4,806	-5,064
GDP (\$Millions)	\$0	-\$123	-\$324	-\$359	-\$463	-\$511	-\$539	-\$568
Royalties (\$Millions)	\$0	-\$9	-\$18	-\$40	-\$59	-\$68	-\$77	-\$86
State Taxes (\$Millions)	\$0	-\$2	-\$4	-\$8	-\$12	-\$14	-\$16	-\$17
	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-5,879	-6,301	-6,733	-7,170	-7,435	-7,701	-7,972	-4,744
BOE Production	-33,711	-36,227	-35,091	-36,536	-37,159	-36,474	-37,242	-25,318
Employment	-5,306	-5,521	-5,551	-5,659	-5,612	-5,597	-5,590	-4,311
GDP (\$Millions)	-\$596	-\$620	-\$624	-\$636	-\$631	-\$629	-\$628	-\$483
Royalties (\$Millions)	-\$94	-\$100	-\$96	-\$100	-\$101	-\$99	-\$101	-\$70
State Taxes (\$Millions)	-\$19	-\$20	-\$19	-\$20	-\$20	-\$20	-\$20	-\$14

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on California's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 4,745 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 7,970. Oil and natural gas production is projected to be reduced by an average of 25,320 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 37,240 barrels of oil equivalent.

Across the forecast period, California is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 4,310 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 5,590 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$485 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$630 million. California is projected to see average reduced royalty payments of around \$70 million annually across the 2021 to 2035 forecast period (\$101 million in 2035), and reduced state tax revenues averaging around \$14 million annually (\$20 million in 2035).

New Mexico

The state of New Mexico is projected to see the fourth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells and the large number of new wells being drilled in the state. (Table 4)

Table 4: Projected New Mexico State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-461	-882	-1,274	-1,630	-1,952	-2,277	-2,629
BOE Production	0	-2,394	-4,562	-10,483	-15,825	-17,148	-20,826	-26,550
Employment	0	-1,703	-2,204	-2,651	-3,179	-3,268	-3,362	-3,512
GDP (\$Millions)	\$0	-\$163	-\$211	-\$258	-\$312	-\$322	-\$333	-\$351
Royalties (\$Millions)	\$0	-\$3	-\$6	-\$14	-\$21	-\$23	-\$27	-\$32
State Taxes (\$Millions)	\$0	-\$1	-\$3	-\$6	-\$10	-\$11	-\$12	-\$15

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-3,141	-3,594	-3,917	-4,159	-4,377	-4,632	-4,962	-2,659
BOE Production	-30,607	-35,644	-38,804	-42,485	-45,103	-46,416	-48,995	-25,723
Employment	-3,645	-3,787	-3,874	-3,986	-4,028	-4,065	-4,126	-3,160
GDP (\$Millions)	-\$367	-\$384	-\$394	-\$407	-\$412	-\$417	-\$424	-\$317
Royalties (\$Millions)	-\$37	-\$43	-\$45	-\$48	-\$51	-\$52	-\$54	-\$30
State Taxes (\$Millions)	-\$17	-\$20	-\$21	-\$23	-\$24	-\$24	-\$26	-\$14

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on New Mexico's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 2,670 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 4,960. Oil and natural gas production is projected to be reduced by an average of 25,725 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 48,995 barrels of oil equivalent.

Across the forecast period, New Mexico is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 3,160 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 2,125 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$315 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$245 million. New Mexico is projected to see average reduced royalty payments of around \$30 million annually across the 2021 to 2035 forecast period (\$54 million in 2035), and reduced state tax revenues averaging around \$14 million annually (\$26 million in 2035).



Colorado

The state of Colorado is projected to see the fifth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells and the large number of new wells being drilled in the state. (Table 5)

Table 5: Projected Colorado State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-1,261	-1,626	-2,191	-2,507	-2,811	-3,116	-3,406
BOE Production	0	-6,430	-8,160	-13,727	-17,701	-18,543	-21,237	-25,037
Employment	0	-1,367	-1,960	-2,304	-2,775	-2,878	-2,967	-3,096
GDP (\$Millions)	\$0	-\$144	-\$206	-\$246	-\$298	-\$310	-\$321	-\$338
Royalties (\$Millions)	\$0	-\$7	-\$10	-\$17	-\$22	-\$23	-\$26	-\$30
State Taxes (\$Millions)	\$0	-\$3	-\$3	-\$6	-\$8	-\$8	-\$9	-\$11
	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-3,680	-3,954	-4,217	-4,453	-4,700	-4,928	-5,155	-3,200
BOE Production	-27,070	-30,162	-31,747	-33,868	-35,366	-35,735	-37,215	-22,800
Employment	-3,192	-3,297	-3,360	-3,427	-3,465	-3,485	-3,517	-2,739
GDP (\$Millions)	-\$350	-\$363	-\$371	-\$380	-\$385	-\$387	-\$392	-\$299
Royalties (\$Millions)	-\$33	-\$36	-\$37	-\$39	-\$41	-\$41	-\$43	-\$27
State Taxes (\$Millions)	-\$12	-\$13	-\$13	-\$14	-\$14	-\$14	-\$15	-\$10

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Colorado's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 3,200 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 5,155. Oil and natural gas production is projected to be reduced by an average of 22,800 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 37,215 barrels of oil equivalent.

Across the forecast period, Colorado is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 2,740 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 3,515 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$300 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$390 million. Colorado is projected to see average reduced royalty payments of around \$27 million annually across the 2021 to 2035 forecast period (\$43 million in 2035), and reduced state tax revenues averaging around \$10 million annually (\$15 million in 2035).



Kansas

The state of Kansas is projected to see the sixth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 6)

Table 6: Projected Kansas State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-2,401	-4,780	-7,085	-9,324	-10,582	-11,806	-13,003
BOE Production	0	-2,720	-5,252	-10,097	-14,564	-15,385	-16,868	-18,768
Employment	0	-641	-1,684	-1,907	-2,465	-2,663	-2,761	-2,880
GDP (\$Millions)	\$0	-\$58	-\$151	-\$173	-\$225	-\$243	-\$252	-\$264
Royalties (\$Millions)	\$0	-\$4	-\$8	-\$15	-\$22	-\$24	-\$26	-\$28
State Taxes (\$Millions)	\$0	-\$2	-\$4	-\$8	-\$12	-\$13	-\$14	-\$15

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-14,174	-15,318	-16,437	-17,531	-18,594	-19,631	-20,634	-12,087
BOE Production	-19,937	-21,422	-20,887	-21,572	-21,967	-21,250	-21,325	-15,468
Employment	-2,983	-3,086	-3,089	-3,056	-3,105	-3,086	-3,071	-2,432
GDP (\$Millions)	-\$273	-\$283	-\$283	-\$281	-\$285	-\$283	-\$282	-\$223
Royalties (\$Millions)	-\$30	-\$32	-\$31	-\$31	-\$32	-\$31	-\$31	-\$23
State Taxes (\$Millions)	-\$16	-\$17	-\$17	-\$17	-\$17	-\$17	-\$17	-\$13

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Kansas's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 12,085 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 20,635. Oil and natural gas production is projected to be reduced by an average of 15,470 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 21,325 barrels of oil equivalent.

Across the forecast period, Kansas is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 2,430 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 3,070 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$225 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$280 million. Kansas is projected to see average reduced royalty payments of around \$22 million annually across the 2021 to 2035 forecast period (\$31 million in 2035), and reduced state tax revenues averaging around \$13 million annually (\$17 million in 2035).



Ohio

The state of Ohio is projected to see the seventh-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 7)

Table 7: Projected Ohio State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-794	-1,566	-2,288	-2,980	-3,622	-4,224	-4,788
BOE Production	0	-598	-1,183	-2,356	-3,464	-3,904	-4,558	-5,363
Employment	0	-1,160	-1,895	-2,070	-2,478	-2,592	-2,645	-2,713
GDP (\$Millions)	\$0	-\$114	-\$186	-\$203	-\$243	-\$254	-\$259	-\$266
Royalties (\$Millions)	\$0	-\$1	-\$2	-\$4	-\$6	-\$6	-\$7	-\$8
State Taxes (\$Millions)	\$0	\$0	\$0	-\$1	-\$1	-\$1	-\$1	-\$2

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-5,333	-5,817	-6,286	-6,662	-7,042	-7,363	-7,680	-4,430
BOE Production	-5,946	-6,624	-6,854	-7,284	-7,644	-7,697	-8,002	-4,765
Employment	-2,777	-2,835	-2,869	-2,895	-2,901	-2,912	-2,915	-2,377
GDP (\$Millions)	-\$272	-\$277	-\$281	-\$283	-\$284	-\$285	-\$285	-\$233
Royalties (\$Millions)	-\$9	-\$10	-\$10	-\$11	-\$11	-\$11	-\$11	-\$7
State Taxes (\$Millions)	-\$2	-\$2	-\$2	-\$2	-\$2	-\$2	-\$2	-\$1

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Ohio's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 4,430 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 7,680. Oil and natural gas production is projected to be reduced by an average of 4,765 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 8,000 barrels of oil equivalent.

Across the forecast period, Ohio is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 2,375 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 2,915 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$235 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$285 million. Ohio is projected to see average reduced royalty payments of around \$7 million annually across the 2021 to 2035 forecast period (\$11 million in 2035), and reduced state tax revenues averaging around \$1 million annually (\$2 million in 2035).



Pennsylvania

The state of Pennsylvania is projected to see the eighth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells as well as the high levels of new drilling activity in the state. (Table 8)

Table 8: Projected Pennsylvania State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-1,629	-3,161	-4,593	-5,936	-7,189	-8,361	-9,463
BOE Production	0	-1,024	-1,978	-3,922	-5,514	-5,890	-6,889	-8,406
Employment	0	-1,003	-1,482	-1,667	-2,013	-2,194	-2,233	-2,293
GDP (\$Millions)	\$0	-\$111	-\$163	-\$185	-\$225	-\$245	-\$250	-\$258
Royalties (\$Millions)	\$0	-\$1	-\$3	-\$5	-\$8	-\$8	-\$10	-\$12
State Taxes (\$Millions)	\$0	\$0	\$0	\$0	-\$1	-\$1	-\$1	-\$1

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-10,493	-11,455	-12,351	-13,194	-13,969	-14,687	-15,351	-8,789
BOE Production	-9,200	-10,225	-10,792	-11,502	-11,948	-11,935	-12,207	-7,429
Employment	-2,345	-2,391	-2,426	-2,426	-2,465	-2,474	-2,476	-1,993
GDP (\$Millions)	-\$265	-\$271	-\$275	-\$276	-\$280	-\$281	-\$282	-\$224
Royalties (\$Millions)	-\$13	-\$14	-\$15	-\$16	-\$16	-\$16	-\$17	-\$10
State Taxes (\$Millions)	-\$1	-\$1	-\$1	-\$1	-\$1	-\$1	-\$1	-\$1

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Pennsylvania's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 8,789 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 15,351. Oil and natural gas production is projected to be reduced by an average of 7,430 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 12,210 barrels of oil equivalent.

Across the forecast period, Pennsylvania is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 1,995 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 2,475 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$225 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$280 million. Pennsylvania is projected to see average reduced royalty payments of around \$10 million annually across the 2021 to 2035 forecast period (\$17 million in 2035), and reduced state tax revenues averaging around \$1 million annually (\$1 million in 2035).



Louisiana

The state of Louisiana is projected to see the ninth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells and its importance to the oil and natural gas supply chain. (Table 9)

Table 9: Projected Louisiana State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-504	-978	-1,428	-1,852	-2,260	-2,630	-2,983
BOE Production	0	-919	-1,809	-3,698	-5,434	-6,055	-6,977	-8,126
Employment	0	-950	-1,513	-1,680	-2,024	-2,110	-2,163	-2,227
GDP (\$Millions)	\$0	-\$95	-\$152	-\$172	-\$208	-\$217	-\$224	-\$232
Royalties (\$Millions)	\$0	-\$3	-\$5	-\$11	-\$16	-\$18	-\$20	-\$23
State Taxes (\$Millions)	\$0	-\$1	-\$2	-\$4	-\$6	-\$6	-\$7	-\$8

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-3,283	-3,616	-3,926	-4,220	-4,448	-4,698	-4,927	-2,784
BOE Production	-8,797	-9,879	-10,083	-10,801	-11,241	-11,426	-11,851	-7,140
Employment	-2,279	-2,333	-2,357	-2,379	-2,402	-2,415	-2,429	-1,951
GDP (\$Millions)	-\$238	-\$245	-\$247	-\$250	-\$253	-\$254	-\$256	-\$203
Royalties (\$Millions)	-\$24	-\$27	-\$27	-\$28	-\$29	-\$29	-\$30	-\$19
State Taxes (\$Millions)	-\$9	-\$9	-\$9	-\$10	-\$10	-\$10	-\$11	-\$7

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Louisiana's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 2,785 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 4,925. Oil and natural gas production is projected to be reduced by an average of 7,140 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 11,850 barrels of oil equivalent.

Across the forecast period, Louisiana is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 1,990 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 2,430 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$205 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$255 million. Louisiana is projected to see average reduced royalty payments of around \$19 million annually across the 2021 to 2035 forecast period (\$30 million in 2035), and reduced state tax revenues averaging around \$7 million annually (\$11 million in 2035).



North Dakota

The state of North Dakota is projected to see the tenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells and its importance to the oil and natural gas supply chain. (Table 10)

Table 10: Projected North Dakota State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-66	-130	-237	-295	-350	-483	-607
BOE Production	0	-258	-515	-1,446	-2,210	-2,470	-3,141	-3,906
Employment	0	-1,177	-1,458	-1,709	-1,988	-2,014	-2,042	-2,075
GDP (\$Millions)	\$0	-\$150	-\$185	-\$218	-\$253	-\$257	-\$260	-\$265
Royalties (\$Millions)	\$0	-\$1	-\$1	-\$4	-\$6	-\$7	-\$8	-\$10
State Taxes (\$Millions)	\$0	\$0	\$0	-\$1	-\$2	-\$2	-\$3	-\$3

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-638	-667	-697	-737	-772	-798	-824	-487
BOE Production	-4,217	-4,601	-4,600	-5,002	-5,357	-4,961	-4,703	-3,159
Employment	-2,096	-2,114	-2,117	-2,132	-2,144	-2,145	-2,146	-1,824
GDP (\$Millions)	-\$267	-\$270	-\$270	-\$272	-\$274	-\$274	-\$274	-\$233
Royalties (\$Millions)	-\$11	-\$12	-\$11	-\$12	-\$13	-\$13	-\$13	-\$8
State Taxes (\$Millions)	-\$4	-\$4	-\$4	-\$4	-\$4	-\$4	-\$4	-\$3

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on North Dakota's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 485 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 825. Oil and natural gas production is projected to be reduced by an average of 3,160 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 4,700 barrels of oil equivalent.

Across the forecast period, North Dakota is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 1,825 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 2,145 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$235 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$275 million. North Dakota is projected to see average reduced royalty payments of around \$8 million annually across the 2021 to 2035 forecast period (\$13 million in 2035), and reduced state tax revenues averaging around \$4 million annually (\$4 million in 2035).

West Virginia

The state of West Virginia is projected to see the eleventh-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells and relatively high current activity levels. (Table 11)

Table 11: Projected West Virginia State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-757	-1,485	-2,151	-2,779	-3,267	-3,917	-4,431
BOE Production	-177	-589	-901	-1,487	-2,026	-2,227	-2,674	-3,132
Employment	0	-361	-943	-992	-1,294	-1,414	-1,570	-1,790
GDP (\$Millions)	\$0	-\$38	-\$100	-\$104	-\$136	-\$148	-\$164	-\$187
Royalties (\$Millions)	\$0	-\$1	-\$1	-\$2	-\$2	-\$3	-\$3	-\$4
State Taxes (\$Millions)	\$0	\$0	\$0	-\$1	-\$1	-\$1	-\$1	-\$1

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-4,908	-5,439	-5,956	-6,462	-6,953	-7,219	-7,488	-4,221
BOE Production	-3,461	-3,895	-4,211	-4,612	-4,946	-5,008	-5,225	-2,971
Employment	-1,946	-2,144	-2,316	-2,517	-2,655	-2,716	-2,803	-1,697
GDP (\$Millions)	-\$203	-\$224	-\$241	-\$262	-\$276	-\$283	-\$292	-\$177
Royalties (\$Millions)	-\$4	-\$5	-\$5	-\$6	-\$6	-\$6	-\$6	-\$4
State Taxes (\$Millions)	-\$2	-\$2	-\$2	-\$2	-\$2	-\$2	-\$2	-\$1

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on West Virginia's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 4,220 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 7,500. Oil and natural gas production is projected to be reduced by an average of 2,970 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 5,225 barrels of oil equivalent.

Across the forecast period, West Virginia is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 1,700 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 2,800 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$175 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$290 million. West Virginia is projected to see average reduced royalty payments of around \$4 million annually across the 2021 to 2035 forecast period (\$6 million in 2035), and reduced state tax revenues averaging around \$1 million annually (\$2 million in 2035).



Illinois

The state of Illinois is projected to see the twelfth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 12)

Table 12: Projected Illinois State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-922	-1,813	-2,659	-3,466	-4,231	-4,957	-5,649
BOE Production	0	-551	-1,103	-2,033	-2,942	-3,418	-3,870	-4,302
Employment	0	-497	-997	-1,080	-1,335	-1,442	-1,498	-1,557
GDP (\$Millions)	\$0	-\$53	-\$105	-\$113	-\$140	-\$151	-\$157	-\$163
Royalties (\$Millions)	\$0	-\$1	-\$2	-\$4	-\$6	-\$7	-\$8	-\$9
State Taxes (\$Millions)	\$0	\$0	-\$1	-\$2	-\$2	-\$3	-\$3	-\$3

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-6,314	-6,935	-7,531	-8,070	-8,594	-9,077	-9,542	-5,317
BOE Production	-4,728	-5,113	-5,032	-5,202	-5,381	-5,378	-5,526	-3,639
Employment	-1,615	-1,668	-1,691	-1,723	-1,711	-1,720	-1,722	-1,351
GDP (\$Millions)	-\$169	-\$174	-\$177	-\$180	-\$179	-\$179	-\$180	-\$141
Royalties (\$Millions)	-\$10	-\$11	-\$10	-\$11	-\$11	-\$11	-\$11	-\$7
State Taxes (\$Millions)	-\$4	-\$4	-\$4	-\$4	-\$4	-\$4	-\$4	-\$3

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Illinois's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 5,320 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 9,500. Oil and natural gas production is projected to be reduced by an average of 3,640 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 5,525 barrels of oil equivalent.

Across the forecast period, Illinois is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 1,350 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 1,700 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$140 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$180 million. Illinois is projected to see average reduced royalty payments of around \$7 million annually across the 2021 to 2035 forecast period (\$11 million in 2035), and reduced state tax revenues averaging around \$3 million annually (\$4 million in 2035).

Wyoming

The state of Wyoming is projected to see the thirteenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 13)

Table 13: Projected Wyoming State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-331	-640	-931	-1,156	-1,399	-1,631	-1,831
BOE Production	0	-640	-1,260	-2,619	-3,756	-4,174	-4,973	-5,975
Employment	0	-419	-742	-882	-1,115	-1,183	-1,254	-1,343
GDP (\$Millions)	\$0	-\$38	-\$100	-\$104	-\$136	-\$148	-\$164	-\$187
Royalties (\$Millions)	\$0	-\$1	-\$1	-\$3	-\$4	-\$5	-\$6	-\$7
State Taxes (\$Millions)	\$0	\$0	-\$1	-\$2	-\$2	-\$3	-\$3	-\$4

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-2,044	-2,238	-2,424	-2,607	-2,814	-3,012	-3,218	-1,752
BOE Production	-6,641	-6,991	-7,264	-7,513	-7,742	-7,923	-8,529	-5,067
Employment	-1,412	-1,491	-1,527	-1,576	-1,613	-1,541	-1,442	-1,169
GDP (\$Millions)	-\$203	-\$224	-\$241	-\$262	-\$276	-\$283	-\$292	-\$177
Royalties (\$Millions)	-\$7	-\$8	-\$8	-\$8	-\$8	-\$9	-\$10	-\$6
State Taxes (\$Millions)	-\$4	-\$4	-\$4	-\$4	-\$4	-\$5	-\$5	-\$3

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Wyoming's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 1,750 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 3,220. Oil and natural gas production is projected to be reduced by an average of 5,070 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 8,530 barrels of oil equivalent.

Across the forecast period, Wyoming is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 1,170 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 1,440 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$175 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$290 million. Wyoming is projected to see average reduced royalty payments of around \$6 million annually across the 2021 to 2035 forecast period (\$10 million in 2035), and reduced state tax revenues averaging around \$3 million annually (\$5 million in 2035).



Michigan

The state of Michigan is projected to see the fourteenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 14)

Table 14: Projected Michigan State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	-921	-1,174	-1,414	-1,621	-1,812	-2,002	-2,199	-2,377
BOE Production	0	-740	-1,450	-2,979	-4,255	-4,525	-5,332	-6,374
Employment	0	-315	-684	-728	-903	-960	-994	-1,045
GDP (\$Millions)	\$0	-\$31	-\$66	-\$70	-\$87	-\$92	-\$95	-\$100
Royalties (\$Millions)	\$0	-\$1	-\$2	-\$3	-\$5	-\$5	-\$6	-\$7
State Taxes (\$Millions)	\$0	\$0	-\$1	-\$2	-\$2	-\$3	-\$3	-\$3

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-2,526	-2,648	-2,774	-2,881	-2,976	-3,064	-3,141	-2,235
BOE Production	-6,919	-7,643	-7,932	-8,427	-8,743	-8,740	-8,998	-5,537
Employment	-1,084	-1,119	-1,135	-1,157	-1,152	-1,151	-1,150	-905
GDP (\$Millions)	-\$104	-\$107	-\$109	-\$111	-\$110	-\$110	-\$110	-\$87
Royalties (\$Millions)	-\$7	-\$8	-\$8	-\$8	-\$9	-\$8	-\$9	-\$6
State Taxes (\$Millions)	-\$4	-\$4	-\$4	-\$4	-\$4	-\$4	-\$4	-\$3

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Michigan's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 2,235 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 3,140. Oil and natural gas production is projected to be reduced by an average of 5,535 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 8,990 barrels of oil equivalent.

Across the forecast period, Michigan is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 905 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 1,150 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$85 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$110 million. Michigan is projected to see average reduced royalty payments of around \$6 million annually across the 2021 to 2035 forecast period (\$9 million in 2035), and reduced state tax revenues averaging around \$3 million annually (\$4 million in 2035).



New York

The state of New York is projected to see the fifteenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells as well as its overall large manufacturing sector. (Table 15)

Table 15: Projected New York State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-112	-223	-325	-417	-508	-594	-675
BOE Production	0	-53	-98	-218	-314	-324	-379	-460
Employment	0	-303	-479	-517	-618	-644	-652	-663
GDP (\$Millions)	\$0	-\$36	-\$56	-\$61	-\$73	-\$76	-\$77	-\$79
Royalties (\$Millions)	\$0.0	\$0.0	-\$0.1	-\$0.2	-\$0.3	-\$0.3	-\$0.4	-\$0.5
State Taxes (\$Millions)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-\$0.1

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-752	-825	-893	-958	-1,019	-1,076	-1,129	-634
BOE Production	-492	-549	-564	-593	-601	-588	-618	-390
Employment	-675	-684	-693	-687	-696	-698	-697	-580
GDP (\$Millions)	-\$80	-\$81	-\$82	-\$82	-\$83	-\$83	-\$83	-\$69
Royalties (\$Millions)	-\$0.5	-\$0.5	-\$0.5	-\$0.6	-\$0.6	-\$0.6	-\$0.6	-\$0.4
State Taxes (\$Millions)	-\$0.1	-\$0.1	-\$0.1	-\$0.1	-\$0.1	-\$0.1	-\$0.1	\$0.0

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on New York's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 635 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 1,130. Oil and natural gas production is projected to be reduced by an average of 390 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by around 620 barrels of oil equivalent.

Across the forecast period, New York is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 580 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 700 jobs. Due to the elimination of the percentage depletion allowance the state is projected to see reduced GDP of around \$70 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$85 million. New York is projected to see average reduced royalty payments of around \$400 thousand annually across the 2021 to 2035 forecast period (\$600 thousand in 2035), and reduced state tax revenues averaging around \$100 thousand in 2035.



Arkansas

The state of Arkansas is projected to see the sixteenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 16)

Table 16: Projected Arkansas State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-854	-1,708	-1,768	-2,597	-2,649	-2,706	-2,770
BOE Production	0	-482	-978	-1,590	-2,690	-2,722	-3,163	-3,933
Employment	0	-189	-379	-394	-497	-526	-544	-575
GDP (\$Millions)	\$0	-\$17	-\$34	-\$35	-\$44	-\$47	-\$49	-\$52
Royalties (\$Millions)	\$0.0	-\$0.7	-\$1.5	-\$2.6	-\$4.3	-\$4.4	-\$4.9	-\$5.9
State Taxes (\$Millions)	\$0.0	-\$0.2	-\$0.5	-\$0.8	-\$1.4	-\$1.4	-\$1.6	-\$1.9

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-2,850	-2,928	-3,000	-3,082	-3,159	-3,250	-3,340	-2,444
BOE Production	-4,379	-5,163	-5,604	-6,193	-6,602	-6,708	-7,131	-3,822
Employment	-599	-630	-649	-670	-680	-685	-694	-514
GDP (\$Millions)	-\$54	-\$57	-\$58	-\$60	-\$61	-\$62	-\$63	-\$46
Royalties (\$Millions)	-\$6.4	-\$7.4	-\$7.8	-\$8.4	-\$8.9	-\$8.9	-\$9.4	-\$5.4
State Taxes (\$Millions)	-\$2.1	-\$2.4	-\$2.5	-\$2.7	-\$2.9	-\$2.9	-\$3.0	-\$1.8

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Arkansas's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 2,445 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 7,130. Oil and natural gas production is projected to be reduced by an average of 3,820 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 7,130 barrels of oil equivalent.

Across the forecast period, Arkansas is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 515 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 695 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$45 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$65 million. Arkansas is projected to see average reduced royalty payments of around \$5.4 million annually across the 2021 to 2035 forecast period (\$9.4 million in 2035), and reduced state tax revenues averaging around \$1.8 million annually (\$3 million in 2035).



Alabama

The state of Alabama is projected to see the seventeenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 17)

Table 17: Projected Alabama State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-166	-328	-480	-629	-776	-909	-1,060
BOE Production	0	-373	-727	-1,443	-2,041	-2,168	-2,512	-3,063
Employment	0	-155	-304	-327	-402	-425	-438	-461
GDP (\$Millions)	\$0	-\$15	-\$28	-\$31	-\$38	-\$40	-\$41	-\$43
Royalties (\$Millions)	\$0.0	-\$0.3	-\$0.6	-\$1.2	-\$1.7	-\$1.9	-\$2.1	-\$2.6
State Taxes (\$Millions)	\$0.0	-\$0.1	-\$0.2	-\$0.4	-\$0.5	-\$0.5	-\$0.6	-\$0.8

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-1,194	-1,317	-1,448	-1,573	-1,685	-1,813	-1,935	-1,021
BOE Production	-3,302	-3,634	-3,821	-4,058	-4,147	-4,079	-4,112	-2,632
Employment	-479	-494	-505	-512	-518	-518	-516	-404
GDP (\$Millions)	-\$45	-\$46	-\$47	-\$48	-\$48	-\$48	-\$48	-\$38
Royalties (\$Millions)	-\$2.8	-\$3.0	-\$3.2	-\$3.4	-\$3.4	-\$3.4	-\$3.4	-\$2.2
State Taxes (\$Millions)	-\$0.8	-\$0.9	-\$0.9	-\$1.0	-\$1.0	-\$1.0	-\$1.0	-\$0.6

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Alabama's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 1,020 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 1,935. Oil and natural gas production is projected to be reduced by an average of 2,630 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 4,110 barrels of oil equivalent.

Across the forecast period, Alabama is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 400 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 515 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$40 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$50 million. Alabama is projected to see average reduced royalty payments of around \$2.2 million annually across the 2021 to 2035 forecast period (\$3.4 million in 2035), and reduced state tax revenues averaging around \$600 thousand annually (\$1 million in 2035).



Utah

The state of Utah is projected to see the eighteenth-largest impact from the elimination of the percentage depletion allowance. The large impacts are due to the state's large existing base of stripper wells. (Table 18)

Table 18: Projected Utah State Impacts of Eliminating Percentage Depletion

	2021	2022	2023	2024	2025	2026	2027	2028
Producing Stripper Wells	0	-316	-612	-890	-1,147	-1,396	-1,658	-1,917
BOE Production	0	-680	-1,370	-3,143	-4,729	-5,039	-5,972	-7,279
Employment	0	-87	-186	-257	-361	-400	-437	-490
GDP (\$Millions)	\$0	-\$8	-\$17	-\$24	-\$34	-\$37	-\$41	-\$46
Royalties (\$Millions)	\$0.0	-\$0.8	-\$1.8	-\$4.3	-\$6.4	-\$6.9	-\$7.9	-\$9.3
State Taxes (\$Millions)	\$0.0	-\$0.3	-\$0.7	-\$1.7	-\$2.6	-\$2.8	-\$3.2	-\$3.7

	2029	2030	2031	2032	2033	2034	2035	Average
Producing Stripper Wells	-2,173	-2,222	-2,271	-2,315	-2,370	-2,420	-2,472	-1,612
BOE Production	-7,984	-8,573	-8,452	-8,651	-8,671	-8,329	-8,411	-5,819
Employment	-530	-557	-547	-552	-536	-518	-510	-398
GDP (\$Millions)	-\$49	-\$52	-\$51	-\$51	-\$50	-\$48	-\$48	-\$37
Royalties (\$Millions)	-\$10.1	-\$10.6	-\$10.0	-\$10.0	-\$9.9	-\$9.3	-\$9.2	-\$7.1
State Taxes (\$Millions)	-\$4.0	-\$4.3	-\$4.0	-\$4.0	-\$3.9	-\$3.7	-\$3.7	-\$2.8

Source: Energy and Industrial Advisory Partners

Eliminating the percentage depletion allowance is projected to have a significant impact on Utah's stripper well industry, with the state projected to see an average reduction in the number of producing stripper wells of around 1,610 across the forecast period. By the end of the forecast period in 2035, the number of producing stripper wells in the state is projected to be reduced by around 2,470. Oil and natural gas production is projected to be reduced by an average of 5,820 barrels of oil equivalent per day across the forecast period. By the end of the forecast period in 2035, daily oil and natural gas production is projected to decline by over 8,410 barrels of oil equivalent.

Across the forecast period, Utah is projected to see reduced employment due to the elimination of the percentage depletion allowance of around 400 jobs on average annually. By the end of the forecast period in 2035, employment is projected to decline by around 510 jobs. Due to the elimination of the percentage depletion allowance, the state is projected to see reduced GDP of around \$37 million on average annually. By the end of the forecast period in 2035, the state is projected to see reduced GDP of around \$48 million. Utah is projected to see average reduced royalty payments of around \$7.1 million annually across the 2021 to 2035 forecast period (\$9.1million in 2035), and reduced state tax revenues averaging around \$2.8 million annually (\$3.7 million in 2035).



NSWA Member Profiles

In addition to the quantitative report, EIAP conducted interviews with NSWA member companies to gain a better understanding of the stripper well industry, its supply chain, the employment impacts of the industry, and the impact of the potential elimination of the percentage depletion allowance. Nine companies, which are representative of the diverse companies involved in the stripper well industry, were interviewed. In the profiles the NSWA members discuss their companies, how they were founded and began to work in the industry, their company's and the industry's employment impacts, the impact of their supply chains, the potential impacts of the elimination of percentage depletion, and other regulatory changes, and the future of their industry. These nine companies, and NSWA's membership as a whole, account for only a small percentage of the companies active in the stripper well industry. These interviews were completed around January 2021.

List of Profiles

Profile 1: Dewey Bartlett, Jr. , Tulsa, Oklahoma.....	48
Profile 2: Seth Hunter , Bakersfield, California.....	50
Profile 3: Jerry James , Marietta, Ohio.....	52
Profile 4: Sam McKown , Newton, West Virginia.....	54
Profile 5: Patrick Montalban , Cut Bank, Montana.....	56
Profile 6: Nick Powell , Iola, Kansas.....	58
Profile 7: Dick Schremmer , Haysville, Kansas.....	60
Profile 8: Darlene Wallace , Seminole, Oklahoma.....	62
Profile 9: Nelson Wood , Mt. Vernon, Illinois.....	64
Profile 10: John Yates, Jr. , Artesia, New Mexico.....	66



Keener Oil and Gas Company

We spoke to Dewey Bartlett, President at Keener Oil and Gas, a Tulsa, Oklahoma-based independent E&P company.

About Keener Oil and Gas Company

We are a family-owned company. My grandfather, whose name was DA Bartlett started the company in the very early 1900s in Titusville, Pennsylvania, which is where oil was first found by drilling in the U.S. My grandfather was a clerk in a general store, and so the story goes and ended up taking the store over when the owner went out of business. He would advance credit to some of the operators, for collateral, he would take their lease, and apparently, somebody didn't pay the bill, so he ended up in the oil business all of a sudden. He then came to Oklahoma in 1910, to Tulsa, and was able to buy a few leases on the outskirts of the Cushing Field, and we've been here ever since. About the time that my father and uncle both died, that's when I got involved with running the company. I worked out in the oil fields with Halliburton for several years and learned the operational side, which was a very, very good experience for me. We've had our ups and downs, but generally, our approach has been successful. Like most small companies, we've had to be pretty versatile, and look for alternative ways to not only make money but to stay in business.

How many employees does Keener Oil and Gas have?

Now we have a total of 5 five employees, including me. We contract out a lot of things. All of our field operations are contracted out, we probably have 10 to 15 pumpers that are contracted out at any one time. We contract out our engineering and geological activities for example.

Where does Keener operate?

We are in a couple of different areas, Seminole County in the southeast of Oklahoma City, is one area that a lot of our production is located. Another area is in Creek County south of a small town called Bristow, which is southwest of Tulsa. We're also concentrated in an area west of Stillwater, Oklahoma, around a community called Orlando. We have operated leases in about 10 different counties. It's very rural, very small towns. Towns where the oil and gas industry has been a significant player for decades and decades. When the oil and gas industry is doing well, the towns were very prosperous, when things slow down, you can really tell. It has a negative effect on those towns. It's very similar to how the industry goes, so goes Oklahoma, Texas, New Mexico, Kansas, etc.

How would eliminating the percentage depletion allowance impact Keener Oil and Gas Company?

The big oil companies have a variety of sources of revenue other than selling crude oil or natural gas. Besides refining crude and processing natural gas, many own plants that produce plastics, chemicals, and fertilizer - all using crude oil or natural gas as feed stock. An advantage of owning those businesses is they usually become more profitable when their cost of feed stock is low, thereby subsidizing their lost revenue from selling crude and natural gas in a declining price market. Lower prices can be very beneficial to the major oil companies.

That's terrific for them. But it's not good for us because, we, the independent oil companies, mostly have only one or two major sources of revenue, and that's selling oil and/or natural gas. Our future



really depends upon a reasonable stable good price of both of those commodities. The percentage depletion allowance is a tax benefit that helps the small companies only, it's really identified and restricted only to small companies, and it does help to a small degree.

When things get a little tight for us financially, it at least gives us a little bit of relief, and it's not a big amount, but it is enough to help keep a person or a few people employed, to have a little bit of extra money left on the side to do some geological research or have some engineering done. It gives us an ability to do a few things that, when prices do recover, then we could take advantage of the research or the work and possibly drill a few more wells or do some workovers. Since we have a finite source of product it is much different than a manufacturing company. Oil is a very finite resource, generally speaking, it does deplete. Percentage depletion makes the economic situation between say, a manufacturing company and an oil company, a little fairer. The percentage depletion allowance recognizes the fact that we do have a depleting asset that will eventually go away.

How would reduced activity impact the communities where you operate?

Most of the additional income from percentage depletion is used for keeping employees. The percentage depletion allowance may be enough to keep somebody employed. If that depletion allowance goes away, so goes that employee. If that employee is laid off or the spending doesn't happen, it impacts the community where he or she lives and works. In small towns in Oklahoma that are in or around oil and gas production, their economic activity is directly related to oil and gas. Everything from privately-owned, companies to public utilities, the electric co-ops for example. Some of the co-ops in Western Oklahoma, their major clients are oil and gas companies. When a well is shut-in, that electric motor doesn't run, and the \$300, or \$500 a month of electricity that it had been using stops immediately. That has a real immediate impact upon that particular co-op supplying electricity to a multi-county area of Oklahoma, and they employ a lot of people. If the percentage depletion allowance was taken away, it would affect everybody in these communities.

***Interview conducted January 2021.**



Vaquero Energy

We spoke to Seth Hunter, Operations Manager at Vaquero Energy, A Bakersfield, California-based independent E&P company.

About Vaquero Energy

Vaquero Energy is a four-generation business that began with my great-grandfather here in California. Obviously, over the course of time, we've evolved in terms of size and have grown through drilling and acquisitions over the course of time. We currently operate in three counties in California and

have approximately 1,800 barrels a day of production. We employ about 60 employees and about 10 full-time contractors.

Where does Vaquero operate?

We are based in Bakersfield, California, and have offices on the central coast in Santa Maria, California. There's a community here that half of our operations are based out of, next to the town of Garey, a very small town, with about 80 people who live in it. We feel that we're very important to the areas we operate in, for example, there's a small store called the Garey Store, a sole proprietorship, and a lot of her business comes from not only my company but also our contractors and neighboring oil and gas companies that eat lunch and buying snacks. There are no majors here in Santa Barbara County or in Kern County in the fields we operate in. Stripper well operators support the oil field supply houses, restaurants, hospitality industry, and other businesses in these areas.

What kind of employees does Vaquero hire?

The majority of our employees are on the operations side, who operate oil wells, associated facilities, and equipment. We also employ welders and various tradesmen who make an oil field function on a day-to-day basis. We also have engineers, geologists, and accountants but the majority of our workforce and contractors are actually blue-collar, hands-on tradesmen that work outside every day. We feel we pay competitively, and we have very low turnover rates. Our employees rely on these types of jobs so that they can live in these communities. Without companies like ours, they might be forced to work in another industry for lower pay. We're definitely in the upper tier in terms of compensation relative to other industries in the areas that we operate. We offer benefits packages, health care, vision, dental, as well as retirement that a lot of other industries just can't offer.

How have market conditions impacted you in the last year?

Greatly. Everybody else in every other industry has been very affected but we're directly affected because of the reduction in demand for crude oil by refineries. That trickled down to our level and the economics of producing a barrel of oil. As a stripper well operator, two-thirds of our wells produce about a barrel of oil per day, and for every barrel of oil, they make nine of water (average well is 90% water and 10% oil). It's costly to produce that small amount of oil and keep a stable workforce when the price is impacted by the economy in general. We have struggled over the last year but we haven't laid anybody off in hopes that the industry will recover in 2021.



How would the elimination of percentage depletion impact your company?

It would trickle down and leave us with less ability to access capital or operating cash. The percentage depletion directly affects the bottom line, and if that bottom line sees a change for the worst, that affects everything, not only our production but the number of employees or contractors that we can employ. We redeploy 100 percent of that cash from percentage depletion in our business and the community. We are a family-owned, privately held company that utilizes percentage depletion to keep our people working during the challenging economic times that have plagued the industry since 2015. It's a commitment to reinvesting into our business to make it last so that I can teach my children the art that is the energy creation business. Beyond that, it affects the community because we support the communities that we operate in, whether that's through our employees spending money or donating time and money for programs in our communities.

How important is the stripper well industry to Kern County and Bakersfield?

It's extremely critical. Kern County, where Bakersfield is located, is the largest in terms of oil production per county in the U.S. That's a fact that gets lost, most people don't think of California as a large energy producer outside of renewables, but it is. The county and the community rely very heavily on the industry because there really isn't anything else other than agriculture in Kern County, which can only support so much employment. If oil and gas were to dry up, then obviously people will have to move on to other places, whether it's in or outside of the state, but there would definitely be an exodus. It's very critical to the community and the county that oil and gas stays a part of the economy.

***Interview conducted January 2021**



ARTEX OIL COMPANY

Artex Oil Company

We spoke to Jerry James, President at Artex Oil Company.

About Artex Oil Company

Artex actually goes back to the 1950s. Mr. Rupe, who is 103 years old, started Artex Oil Company back in the 1950s. Thirty years ago, my business partner Gene Huck and I were engineering consultants and we did a lot of work for Mr. Rupe. He convinced us that we could be good at this and to go into business with him full-time, and so we went into business. Right now, we're concentrated mainly in Ohio doing conventional and unconventional work. We previously had operations out West, but as prices over the last decade have trended down, we've sold most of our western operations but still have a bit in New Mexico.

How many employees does Artex currently have?

We have 15 full-time employees, most of them are engineers and accountants. We do have some field people, too, that are foremen.

What kind of vendors does the company use?

Our list of vendors is 75 companies. It's everything. Oil and gas service companies of course, but everything, the local copier shop, the local computer support company, the local office supply company, cleaning services for the office.

How important is the oil and natural gas industry to Eastern Ohio?

In Eastern Ohio, the oil and gas industry is one of the stalwart industries in the area. What most people don't realize is that the modern oil and gas industry really starts in Ohio. Not taking away anything from our brethren in Pennsylvania. The first well was drilled in Pennsylvania, but within a month, they were drilling wells in Ohio and by the late 1800s, Ohio was the leading producer of oil and gas in the world. That's how Ohio became such a large industrial manufacturing state. We have a lot of manufacturers because we had the energy to run the businesses and we had molecules to make things. Most people forget that there are over 6,000 products made from oil and gas. A lot of those products are made here in Ohio. There are over a thousand businesses in Ohio that make products from plastics. When you have both energy and a market, it's a great place to manufacture things. The oil and gas industry has always been important, and the shale industry has really increased that importance. We did a study with one of the groups I volunteer with and found that if Ohio, West Virginia, and Pennsylvania were our own country, we would be the third-largest natural gas producer in the world, behind only Russia and the rest of the United States. If you look at the energy that comes out of the Appalachian Basin, the energy equivalence is comparable to the Permian Basin. Natural gas is not only cleaner but if you look



at the increase in natural gas production, and the savings to Americans, conservatively, over the last 10 years, it saved consumers \$1.2 trillion.

How would the elimination of Percentage Depletion impact Artex Oil and Gas?

We're a good example of percentage depletion because the majority of the money that we've used to drill is our own company money. We're not a publicly held company. We can't go out and issue stock. Bankers just won't, for a small company, lend you money to drill oil and gas wells. They just won't. We have to drill out of cash flow. Because wells deplete, we have to continually replace our production every year. Hence, we need to reemploy as much capital as we can which is why you have percentage depletion in mineral industries. It's because your asset depletes and you've got to continually replace it. If you had to pay higher taxes, you just wouldn't be able to drill as many wells, and therefore production would decrease. Then the whole American economy will suffer from higher prices. The lack of spending will hurt our communities. We're locals, we're much more engaged with companies that are in the community. The fracturing company we use is a small fracturing company located in Ohio. It's employee-owned. Whereas a lot of big companies may be reluctant to use a local company, we've used them for years. Millions of dollars aren't flowing somewhere else, it's flowing right back to the employees in the company right here. We're very open-minded about using the small companies that are embedded in our communities.

What other regulatory changes are you concerned about?

We're extremely concerned about methane emissions. When you look at stripper wells, they're not very large sources of methane at all. Eliminating methane emissions from them wouldn't make any difference to the climate whatsoever but it would destroy our economics. The new wells that we're drilling, we can afford to put on the methane emission reduction equipment, but our wells that have been out there 20 or 30 years we can't and don't need to. Another thing people don't realize is that a lot of these wells are supplying income for a farmer and their house gas. In the East, for a lot of people, their primary source of energy is from the well itself. They don't have utilities the well is their source of heat. You not only destroy the economics and we'd have to plug the well, but you would eliminate heat for a lot of people.

What else do you think is important for readers of this report to understand?

What most people don't realize is prior to COVID, every recession for the last 50 years was preceded by a spike in energy prices.¹ All energy prices are set on the margin and when you start having public policies that discourage energy production, you're going to send prices up. These recessions can have really negative impacts on the average person. That's what happens when you start banning stripper well production on the margins because it's 10% or 15% of U.S. production. Let's say you've got a husband and wife, they're struggling, raising a couple of kids, and all of a sudden, you double the price of energy. It may be an extra \$5,000 a year. Where's the average couple who's struggling to get \$5,000 a year? All the prices set on the margin, most experts say when you look at the economic equations for every 1% that you adjust supply, the price will move about 10%. You may not be able to travel when you want to travel and you may not be able to work when you want to work because there won't be enough energy to have the lights on at the place you work.

***Interview conducted January 2021**



C.I. McKown and Son, Inc.

We spoke with Sam McKown, President at C.I. McKown and Son, Inc. an independent producer based in Newton, WV.

About C.I. McKown and Son, Inc.

My parents and I started the company. Nine months later, my dad got sick, and I took it over far too young at the age of 22. Early on bought we bought wells from larger companies that were exiting West Virginia, such as Pennzoil and Ashland. Then later we started drilling our own wells. We currently have less than 4,00 wells in central West Virginia, in 12 counties, right in the middle of the state, which are all stripper wells.

How many people does C.I. McKown and Son employ?

We employ just over 20 people directly but also buy equipment and services from other companies. We buy oil and gas-specific items from primarily three suppliers. One is a medium-size regional company. The other two are small, locally owned suppliers that have been around forever. One of them is actually a producer like ourselves who started his own supply house. We buy a lot of auto parts from locally owned suppliers, as well as the larger national chains. We buy a lot of fuel; we buy a lot of electricity. One of our suppliers is in a small town near our office, it used to be a booming oil and gas town, of course, it's not now. He owns an oilfield supply store. He runs it himself and he has one employee. Of his business, I would guess three-quarters of it is from small independents. That's his livelihood, if there were no independent producers, his entire income stream would be gone, and there really aren't that many of us that he caters to, probably 20.

How important is your company and the stripper well industry to West Virginia?

Well, I'm biased, but I think it's very important. While my company is small, small producers on aggregate are very significant. We pay pretty fair. For West Virginia, it's well above the median income and we try to do the right thing. We provide health insurance and a retirement plan so they're good jobs for Central West Virginia. Another thing we've done is, and I've loved to say this for years, I like to be stable. A lot of people in our business tend to ramp up employees, especially when there's a lot of drilling going on. Ramp up employees in the summer and then lay them off in the winter, and that's just something we've never done. When we hire someone, it is full-time, and if they work out, it's for as long as we're in business, and we make that clear. It creates stability for the employees. I just never thought it was good for an employee to always think they may get laid off come November. That's just been my thing.

What would be the impact on C.I. McKown and Son of eliminating Percentage Depletion?

Percentage depletion is very important for us. Things are still bad in the industry, but they've improved a little bit. Percentage depletion is one shining spot in our industry right now. Even though right now most entities are posting operating losses, especially given what gas prices were last year, so depletion doesn't come into play. But one of the reasons we hang around is because hopefully it will be used in the future. I would be lying to you if I told you I was taking full advantage of it right now, just because the industry is so bad. I have always viewed it as just a little bit of relief for the fact that we're in a, by it's very name, depletable industry. By its nature, the value of my business is worth less every year, and



that's different than most industries. I've always thought depletion was a little bit of an offset of that to encourage people to stay in business in a depletable industry.

Other than the ability to utilize percentage depletion how else does the stripper well industry differ from larger producers?

The percentage depletion cutoff is 1,000 barrels, that takes out all of the majors and big independents. They have to use cost depletion. We are just a completely different animal than the bigger companies, I won't even use Exxon and BP as examples, but large independents, or the unconventional gas that we have in the Appalachian basin right now. Our capital is raised completely differently. We sell our own labor. The economics are different. In the early days I bought wells from companies that would not qualify for percentage depletion, the economics of those just didn't work for them anymore. That's why they got rid of them. Without us those wells would hopefully end up plugged and not end up being as I would call it, wards of the state. We have continued to produce wells that otherwise would not have been. One of the reasons we're able to do that is percentage depletion.

How important is the natural gas industry to West Virginia?

We supply local utilities, even more so now because the local utility just bought a big gathering system. A lot of our royalty owners, the checks go out, and they're West Virginia addresses. There is also free gas for most of these surface owners. I would say we supply around 200 homes with free gas. Where we supply the utilities, it keeps their cost of gas down, because they don't have to store it. A lot of the utilities have to buy storage, and we're just a direct supply. Their cost of gas is much lower than it would be otherwise, which they can pass on to consumers.

Are there any other regulatory concerns facing the industry in West Virginia?

Probably one of my biggest concerns about the new administration is where they may go with methane emissions on existing low-volume-producing wells. A vapor recovery unit is a small cost on a well flowing a few hundred barrels a day of condensate, and 5 million cubic feet a day in gas, versus a well that's only flowing five thousand cubic feet of gas a day. The economics just don't work at the smaller levels. Having said that, I love the environment. Nobody wants dirty air and dirty water. The emissions from the unconventional wells producing large volumes could really be significant. But the emissions off of an oil tank that we have on a well, that makes half a barrel a day, pale in comparison to that. I live in Charleston, West Virginia, and I remember as a kid, the air quality used to be so bad it would be nauseating. We've done so much to clean that all up.

***Interview conducted April 2021**



Montalban Oil & Gas Operations

We spoke to Patrick Montalban, President of Montalban Oil & Gas Operations, Inc., based in Cut Bank, Montana.

About Montalban Oil & Gas Operations

Montalban Oil & Gas Operations has been in business since the late '50s. My father started the company

initially, and I took it over from him. My son is the third generation to continue building the company. We currently operate over 410 stripper oil and natural gas wells. However, throughout our career in the industry, we have been involved with every sector of the oil and gas business.

How important are Montalban and the industry to employment in the areas where you operate?

We work hard as operators to treat our employees very well with a good benefits package. Many of our employees have worked for us for over 20 years. Oil and gas companies traditionally pay a much higher wage. is like a few other local industries; such as the rural electric or railroad companies. We've been in the business for a long time and we understand to have a good operation, that you need to have loyal employees.

How important is the industry to the region, especially in rural areas?

You will find that stripper properties that are operated in rural communities are critical to the area because they provide high-paying jobs. Most of the people in the oil and gas business have an average income of between \$50 and \$80 thousand per year. Some of the jobs associated with the industry are rig operators, water haulers, truck drivers, roustabout crews, etc. These service entities would not exist if not for the local stripper well operators. As mentioned before, the stripper well industry is extremely important to rural communities, as it provides high paying jobs. The money stays in the rural communities and adds to the local tax base, providing support for schools, hospitals, and other small businesses, restaurants, bars, grocery stores, etc.

It takes a company the same amount of time, effort, and cost to produce a three-barrel-a-day well as it takes to produce a 300-barrel-a-day well. The bottom line is that stripper wells still create jobs.

What role does the stripper well industry play in producing older fields that may have been developed by larger companies?

The way it works in our business is that a lot of these fields were discovered back in the 1930s and 1940s. The Cut Bank field was discovered in the 1920s. It was developed by independents until the 1940s and 1950s. Then, major oil companies moved in. We had Exxon, Phillips, Conoco, Unocal, just about every major oil corporation here at one time, until they sold out. The latest acquisition that we made, almost a year and a half ago, was a property originally developed by Unocal in the 1940s to 1970s. They sold it to a larger Independent in the early 2000s. This company had it for 18 years, and then we, as a small independent stripper producer, bought it. These stripper properties are always going to return to the local small independents.



How damaging would it be for the industry if percentage depletion were eliminated?

The depletion allowance is extremely important to the oil and gas industry because for stripper businesses these wells are not making 20 to 100 barrels a day. These wells are only making 1/2 a barrel to two barrels a day. When you take away 15% of your income by eliminating the expenses that we are allowed to take on these wells, it is very drastic because of the very low volumes and very low income at low prices for the commodity. It is also very critical to our mineral owners who also take advantage of the depletion allowance.

Many of the incentives that larger companies receive are not available to stripper well producers. The foreign tax credit is an incentive for the major oil companies, to develop natural resources around the world. This is not an incentive that benefits the stripper operator. Intangible drilling costs can be a benefit to stripper operators when the price of oil allows for development with internally generated cash flow. Thus, one of the only tax incentives that benefits small stripper producers is the depletion allowance. The important thing about the depletion allowance is that it enables us to produce half, one, or two-barrel-a-day wells for a longer period-of-time and delays the need to plug and abandon the wells. It allows us to keep our costs down when the price of the commodity is down. If we did not receive the depletion allowances, you would see several wells become much more uneconomic much quicker. If we plug these wells, that income is no longer generated, the jobs are lost that create taxes paid by employees and no money flows back into the local communities.

How important is the depletion allowance when oil prices are low?

Most people do not realize that when the price of oil goes down, our service costs do not go down. One of the largest costs of producing a stripper oil well is electricity. If our price goes from \$50 a barrel to \$20 a barrel, we still have the same cost for electricity and the same cost for chemicals. That is why the depletion allowance is so important to us. We do not see the cost of hauling water, service rigs, backhoes, and other services for these wells decrease. In these rural communities, there are only one or two different service companies from whom you can get a competitive bid. The depletion allowance allows us to operate stripper wells economically at low crude prices.

Can you speak to the pricing differentials companies in areas like Montana receive?

Yes, I think that it is a very critical part of the oil and gas business. When you watch Bloomberg, CNBC, or Fox and see the price of oil, it is based on WTI (West Texas Intermediary). We are currently receiving a \$9.50 differential from that posting. Essentially, our price at the wellhead is \$9.50 less than the posting price people see in the news. In Billings, Montana, where there is local refining, they can pick all the barrels that they want from Alberta and ship them via pipeline. That is what we compete within our area, the Alberta barrel. The important part is to look at the net value of what we receive for our barrels. We are producing in a very rural area and far away from the Cushing area of Oklahoma where prices are set.

***Interview conducted January 2021.**



Colt Energy

We spoke with Nick Powell, Chairman at Colt Energy, an independent producer in Kansas.

How was Colt Energy founded?

The Colt family started this business back in the 1920s. It's an almost 100-year-old company that has always operated in Eastern Kansas. Our

headquarters for operations is Iola, Kansas in Allen county and we produce across Eastern Kansas.

How did you get involved in the oil industry?

I got started in the business working for a trucking company actually, back in the 1970s. The trucking company was consuming about a quarter of a million gallons a day of diesel fuel and I was doing the purchasing of the fuel. They decided to get into the oil and gas E&P business like many other utilities and transportation companies were doing as a result of the oil embargo. We were being allocated 80% of last year's sales by suppliers of diesel. They started a company called Overland Energy as a subsidiary and got into investing with other E&P companies and I managed that. In 1981, the trucking industry was deregulated, and they got out of the energy business and I decided to stay in the oil business and stay in Kansas and then I made an acquisition of the Mack P Colt Energy company in 1986. That was really my move into the industry and we then changed the name to Colt Energy. We grew from about 125 barrels a day up to 800 barrels a day by 1998. In 1998, the price of oil then dropped drastically again from the mid-30s back down to 12. We currently do about 400 barrels a day of crude oil production and just under 2,000 cubic feet a day in gas production.

How many people does Colt Energy employ?

We've got 32 full-time employees currently and a few part-time people on top of that. Of those about six of them are based in Kansas City, and most of the rest are based in Allen County, but we also have some down in the south, so for the most part in smaller towns. Most are field employees, not college-educated. We have our pumpers to manage our leases, we have crews to do our own small scale well workovers like repairing downhole problems, then we have a team that repairs and installs tank batteries and production lines. We do all those things in-house. We outsource all of our drilling and completion work.

How many new wells did Colt Energy drill in the last year?

We drilled four this year so far including some in December and some in January that were more exploratory. If pricing stays where it currently is for another few months, we'll probably be looking at starting a drilling program in the spring or summer. We operate in an old field and we're just drilling to see what's left behind. Our wells are generally less than 1,200 feet in depth. Typically, 500 to 1,300 feet in depth for oil and for gas, a little deeper. Our average well makes a barrel a day or less. That's what separates us from larger companies and it's why we're the type of people who can take advantage of percentage depletion because it only covers the first thousand barrels a day. The majors have single wells that produce a thousand barrels a day. We're on the lower end of wells in Kansas that produce on average 5 barrels or less per day with an average production of a barrel a day or less per well.

**What would be the impact on Colt Energy of eliminating Percentage Depletion?**

When you look at percentage depletion for these stripper wells, most of these old wells have already used up all their costs depletion and so the only way to be able to reduce the tax burden is through percentage depletion. These are also low-margin wells because it costs a lot more in terms of man-hours to manage so many wells to get so little oil, so we've got higher operating costs per barrel, high lifting costs, whereas the majors might be \$10 a barrel, we've got thinner margins, no cost depletion, and so that percentage depletion of 15% of gross income on a well that may only have 30% operating margin when oil and gas prices are good, it's a big impact on your taxable income and then dollars that can be put back into drilling and hiring. I think most companies like us, stripper oil producers, they pretty much end up putting everything back in the ground that they are earning in order to maintain their production. So, if you eliminate percentage depletion then you just take that off our cash flow and we drill less, see slower to no growth rates, and fewer, if any, people hired.

How would that impact Kansas and the communities where you operate?

Kansas, in particular, is almost exclusively a stripper well state. We have a lot of old wells where if you just eliminated percentage depletion, you'd take a big chunk of wells and they'll just knock-off into the uneconomic category. We're people-intensive, when we're putting dollars into new wells, the ratio of that money going to people instead of steel and drilling rigs is much more people-intensive. A bigger share of our investment goes back into jobs instead of steel that is imported from overseas, it drives right back into local hiring.

That hiring helps small communities that are struggling. In states like Kansas, we've become a pretty good employer in the areas we operate in, we have good jobs in the industry. We pay an average of over \$20 an hour. Our field employees average 45 hours a week based on nine-hour days, and we provide health insurance, 401(k) matching, and vacations. Many of the people we hire were making less than \$15 an hour or making \$15 an hour with no benefits. You lose those jobs, that's a loss for the communities as well. In a town of 6,000 including the surrounding community, these jobs are important. In these communities, there are not very many employers who offer jobs that pay \$55,000-60,000 a year or better plus full benefits.

***Interview conducted January 2021**



Bear Petroleum / Gressel OFS

We spoke to Dick Schremmer, President of Bear Petroleum and Gressel OFS, based in Haysville, KS.

About Bear Petroleum

I started Bear Petroleum in 1985. I had previously been with Gulf Oil, where I was a production supervisor for 12 years. I went out on my own in 1985 and put some money together to drill a few wells, and then I've just grown the company from there. We operate in 24 counties in Kansas and one county in Oklahoma. We're scattered from the Colorado line belt to Eastern Kansas all the way North to Nebraska.

How many people does Bear Petroleum employ?

Bear Petroleum doesn't have any employees. I also own a service company named Gressel Oil Field Service. We use that company for most of our services and supplies such as acid, cement, wireline, and all those types of things. We run our payroll through the service company, Gressel. Pre-pandemic, we were at 48 employees and we're at 27 now. We had to make some major adjustments last spring when the low prices hit because we didn't know how long it was going to last. We shut down two wells servicing crews and a tank truck, and a couple of other things. We're pretty self-sustaining, do electrical service work, we have acid, cement, a wireline company as well as field supply stores and downhole pump shops, and a packer and plug and tool rental business. We've got 13 well service rigs though we're down to just two crews, we're trying to get more started up as we've been working four or five contract crews lately. We use a few different tank trucks and pulling units from outside the company.

You mentioned Bear Petroleum operates in 25 counties, what are those counties like?

They are all be rural counties except for Sedgwick County, which would be the county that Wichita, Kansas is in. Other than that, most of them are really rural. When you get up to Western Kansas, up to Morton County and out in those areas, and up North in Decatur County up by the Nebraska line, it gets pretty rural.

How do the jobs you offer compare to others available in the communities where you operate?

Oh, there's no doubt they're good jobs. Our minimum wage, we start people out as \$13 per hour on the well-servicing rig. If they're around very long at all, they're making \$18 or \$20. Other jobs like wireline, propane, acid, they are all Department of Transportation certified and pay even more. I have to have more experienced and qualified drivers for those jobs, with hazmat licensing. We've got good-paying jobs for the industry and we have full health insurance and 401ks we fund and safety programs. In these communities, the people that work for us are doing very well.



What would be the impact on these communities if oil and gas jobs were to go away?

Well, it would be huge because these people wouldn't have the money to go to restaurants and they wouldn't have health insurance to go to the doctor. It'd make a big difference. There's just lots of money out being spent that comes from the industry. In Kansas, in many years, oil and gas is the second biggest moneymaker for the state. It creates a lot of jobs and creates a lot of tax dollars for roads, schools, all those kinds of things.

What has been the impact on Bear Petroleum of recent low oil prices?

Our biggest cost in producing stripper wells in Kansas is our electrical rates. We've got wells that lift a lot of water to get a barrel of oil and due to those high lifting costs, we just couldn't afford to produce those back through June. We didn't have any choice but to shut them down. Then once you're shut down, there's always an expense to starting back up. You have to have your cash flow up to where you can afford to turn these wells back on. As we've come into the end of the year, we still have wells down that we shut down last March but we're trying to get them back on now but want to make sure we've got the money to pay our bills at the end of the month.

What is your biggest regulatory concern right now?

Methane emissions regulations are one of our biggest concerns. The initial study on methane emissions looked at wells around the Dallas–Fort Worth airport, and those wells were leaking pretty badly. They just took those numbers and just ran them across the board for the rest of the United States. I'm part of the Kansas Independent Oil and Gas Association and we funded a study to see what kind of methane we were leaking. They came up with hardly anything. As a matter of fact, they sent their meters in for repair because they didn't think they were working because they weren't coming up with any methane gas. That tells us that the stripper wells are not the big problem with methane gas.

When they come out with a one size fits all regulation, such as all wells have to include new equipment for each installation regulation, we're out of business. Our economics just don't work. We're independent and we own the wells. We're putting our own money in it – it's not investor money, it's not Wall Street money, it's not stock money. It's money that we've gone out and raised and we put back into the industry ourselves.

Is there anything else you think readers should know about the industry?

The Midwest, and Kansas again, we're actually the oil reserve for the country. When we need it, when the price goes up, that's when we can afford to produce it. When the nation has too much oil and the price goes down, we don't produce as much oil because we can't afford to do it with our lifting costs. You give us \$60, \$70, we'll go out there and start producing the oil and drilling wells and getting things done. Without that, when you go to a gas pump, the price of gasoline will be higher, people may not be able to afford to heat and cool their house.

***Interview conducted January 2021**



Columbus Oil Company

We spoke to Darlene Wallace, President of Columbus Oil Company.

About Columbus Oil Company

Columbus Oil Company was established by my husband in 1971 in Seminole County, Oklahoma. It is still based in the city of Seminole, Oklahoma. Seminole is still pretty active in the oil and gas business. Back in the '70s, it was the largest oil field at the time, but now, almost everything is stripper wells. He started it in '71, we married in '79, he died in 2004 and I've been running it ever since. It's very small. It's always been somewhat of a mom's and pop's organization. Right now, it's just me, my field manager and we source everything else out. My field manager has been with me now for 27 years. We operate 20 wells in Seminole and Pottawatomie County which are side by side. We can drive to all of our wells in one day even though it's a rural area.

What kind of services does Columbus oil contract for to support your operations?

For paperwork and administration, I contract things out to our accountants, all my pumpers are contracted. We have five of those. The people that do work on the wells themselves, pumping units, roustabouts, hot oil treatments, trucks that haul water all are contracted. We also buy supplies here in town. We have electricians that we use, welders, chemical companies, whatever goes on in the oil business we use.

How important is the stripper well business for the communities where Columbus Oil is located?

It's a good business for rural areas. You have the opportunity not to live in a crowded urban area and get that small-town atmosphere. Everybody knows everybody. That includes in the business, we know all the service companies, they know us, we do business with everybody, so we support each other.

All of our wells are vertical. They're all stripper wells. Most of the oil companies in this area are small stripper well producers employing eight or nine people, many even smaller, the husband takes care of the field, the wife takes care of the books, and they have one person that helps them do everything else. For everything in this town, including the schools, the oil business is probably 80% of the tax revenue. It trickles down to the grocery stores, to the restaurants, to the churches. We're a member of the Chamber of Commerce for the town. All those things that our community has, the oil and gas industry helps keep alive. When times are good, we give money to all these organizations. We have a junior college where we give out two scholarships every year. Most of the producers in this area are like that, we're just a small community of people helping each other make a living.

How important is percentage depletion to companies like Columbus Oil?

I am truly one of the smaller producers. I've got some wells that I haven't switched back on since April when we had to shut down all of the wells for two months until prices got back up to \$30 a barrel. Percentage depletion has allowed me to keep my wells in really top-notch running condition. If a well goes down, I have the money in reserve to fix it or to do an acid job or change a pump. Percentage depletion helps small producers keep wells viable. If you don't take care of your wells, they can't produce. If I can't change my pumps every year or so they wear out just like everything else and wells



start declining. When you change a pump out, you've got to buy the pumps, you got to have the crew that does it, you've got tank trucks out there to flush it out. All these things cost money and percentage depletion helps us do them and keep wells running. Without that, we'd see a decline in the industry that the areas we live in really can't afford.

How could these areas be affected?

Seminole is pretty small, it's only about 6,800 people, but we are the largest city in the county. It would be devastating if the oil and gas business really gets any worse for this town. Oil companies do things like buying the equipment for the football, basketball, track, and cheerleading teams. I was born and raised in the DFW area and lived in New York City for two years when I left home after high school. In big cities like New York or Dallas, you do not see how these things affect people because there's so much industry in large towns. We have a huge low-income housing development because getting those people to move to rural areas helps them get housing, health care, and jobs. You see people who can't get a job in the city come down here without an education, without a lot of skills, and they can get a pretty decent job when the oil field is going well. We know our neighbors from the churches and community centers, and if you know your neighbor hasn't worked for six months you see if you can't help him get a job. That's how small rural towns do things, we work with what we've got and to make it good for everybody.

***Interview conducted January 2021.**



Wood Energy

We spoke to J. Nelson Wood, CEO at Wood Energy, Inc.

About Wood Energy

Our company had its beginning in 1952 in Illinois. It was formed by my mother and father. My mother got in the oil business in 1938, my dad in 1948. They eventually formed a partnership and created our company in 1952. They're are both now deceased, and I've taken over. We started as and remain a small independent company drilling and operating oil wells in the Illinois Basin. We operate around 160 wells, the average production two barrels a day.

How many people does Wood Energy employ?

We presently are at 13 full time employees due to the downturn and the pandemic. Historically, we have been around 25 employees. My three supervisory personnel have high school educations, but they command six-figure wages because of their abilities and their leadership. Southern Illinois particularly is an economically depressed area and there are not a lot of jobs with those types of salaries. All of our jobs, our laborers, rig hands, and roustabouts all make more than minimum wage. I have several long-term employees that have been with me in excess of 10 years.

What types of goods and services does Wood Energy purchase?

Wood Energy purchases casing, tubing, rods, and other products to operate and drill wells from supply stores, hardware stores, and plumbing supply stores. We outsource a lot of our well repairs, infrastructure repairs, pipe repairs, that sort of thing to third parties. There are several companies that have existed here since the 1950s or 1960s, they're still in business and our spending hits them directly because if I'm not buying supplies from them, hiring them and not having them do work for us, they're impacted and so are all of their employees. It's a chain that hits a lot of people.

How has the oil price downturn impacted you?

In April, we did not sell a barrel of oil. That's the first time our company has not sold any oil in a month since 1952. We were hanging on trying to survive, but it's been very difficult. Due to the layoffs we are all taking on more responsibility and duties to keep the doors open. As is the case with any business of commodities, we are governed by that commodity price. Because of the slight recovery in oil prices, we're starting to see a little activity, not near as much as there needs to be, but I do see things improving a bit slowly because we can't turn things right back on, particularly the wells that were shut in as the pandemic raged. For many of those, you can't just flip the switch and turn them back on. We're having to go back in and do repairs. We're in the process of that, and I think many other companies are. We're certainly not back up to optimum levels. As far as drilling, I have projected that I'm going to try to drill two new wells this year, that's what I hope to do, which is down from my normal average of five to six wells a year, so it's about half or less than half of what I normally would have done.



How would eliminating the percentage depletion allowance impact the industry in Southern Illinois and the communities where it operates?

Eliminating the depletion allowance would be devastating because the wells we have are stripper wells, therefore we have to go back out and replace barrels that deplete every year. Every company in Illinois has a minimum of around 5% a year of loss in production due to natural declines in the reservoirs. If you're not replacing those barrels, either by drilling or acquiring new production you are withering away. If you have a 20-year life cycle, then you're completely without anything. If you're not going back and drilling and finding new production, you go away and your employees go away. The depletion allowance allows us to take that money to drill and acquire more wells to keep our company viable. When that resource has been depleted, we can't go back and tap it anymore. We're not like a factory that can keep producing widgets. We have to have incentives to go back out. They're not subsidies, we're not handed a check by the government for this. This is just a deduction, just like any normal business does under normal business activity.

Eliminating the depletion allowance would impact everyone that touches our company and most importantly our employees' lives. In Illinois, we had over 4,000 direct employees in the oil and gas industry. That exceeds coal or any other natural resource in Illinois and those jobs would be at risk.

How does the stripper well industry differ from the rest of the oil and natural gas sector?

We are typically lumped in with major integrated companies, with all of the oil and gas industry, but are a separate and distinct part of the industry. We are small business people who risk capital and explore to find new oil in the U.S. not overseas. Independents find almost all the new oil and gas in the continental United States and develop it. If we're gone, then we have to go to unstable sources overseas such as Saudi Arabia and other OPEC countries. It helps shape our foreign policy; it does many things. The stripper well industry is the small independents, but collectively we amount to a lot. Most areas where stripper well companies operate are also in economically depressed areas. We are in areas that need jobs and need the stable jobs that we provide.

***Interview conducted January 2021**



Abo Empire

We spoke with John Yates, Jr., President and Co-owner at Abo Empire oil and gas company, an independent producer in New Mexico.

About Abo Empire

The company started when my sister and I merged our previous family companies into another company. A lot is owed to our ancestors including Grandparents, whom we never met, because they were already deceased before we were born, and our parents who laid the groundwork for the businesses that we participate in because of their foresight and risk-taking acumen. We had some remnant of leaseholds, leftover properties that were mostly marginal, some undrilled federal acreage in New Mexico, and we had working interests in other people's operated properties. We operate in Eddy County and Lea County here in New Mexico. Those are the two prominent counties in New Mexico, then in the Delaware Basin. My sister and I decided that our family would continue on in the industry in a smaller way. We called our new company Abo Empire. Most of our production now is from stripper wells and as a small producer, we are challenged here in New Mexico with all the regulatory issues. Most of our wells don't make enough production, especially at low oil prices, or low gas prices, to be very economic, even in good times, and they are especially uneconomic in bad times. Our bread and butter is just trying to make these marginal wells pay.

How many employees does Abo Empire have?

We have about 20 employees. Whenever there are low oil prices, people don't appreciate the fact that we're continuing to produce, and we still have to pay our employees. Your costs don't come down with the price of oil. Our employees mostly have been fine, we didn't have to lay anybody off. Lots of people around us did, a lot of businesses went under. A lot of the employees here have been with us for a long time. Some of these people have worked for us as many as 40 years, and others 30, and some 20. Most of our employees are long-time employees.

What types of services do you buy to support your operations?

Most people that are in the field, that are pumping wells and working on wells. Mainly because our production that we operate is mostly really marginal so we use outside contractors to pump the wells. We hire pulling and workover units. Occasionally, we ourselves drill, but mainly our partners do and hire drilling rigs and fracturing crews. It's sometimes the kind of thing where a guy lives up by a well and checks on it every day. It can be like a mom-and-pop type thing.

How do these jobs compare to others available in the communities where you operate?

For sure, these are good jobs. I would say most of our bookkeeping folks have mostly just learned the job by doing, for example, who don't have advanced education, but there are some people that have degrees or have parts of degrees. A lot of what our people do is just by experience. I think that for every job that's in the office, the 15 to 20 employees that we have, there's probably a multiplying factor of two and a half to four times, of other jobs that are created in the community that would be lost if these



jobs went away. The state of New Mexico receives a third of the state budget from our industry as well so anything that impacts the industry will impact that also.

How would the elimination of the percentage depletion allowance impact companies like Abo Empire in New Mexico?

I think it would really hurt the small independent operators if percentage depletion were eliminated. To me, percentage depletion is for the small producers. It may not be good for the majors of the world who make different decisions because they have upstream and downstream operations. It's helpful to build capital so that we can reinvest. It would get a lot harder to operate marginal wells as the economics just wouldn't make sense. In New Mexico, it could probably shut-in prematurely 30% to 40% of oil and gas production over a six or a seven-year time frame. What people don't understand is that oil and gas production is strategic for the U.S. and that we need to support plenty of reliable cost-effective energy. Cost-effective strategies where we don't pay high prices for electricity and saddle people with costs that they just can't afford.

Is there anything else you think readers should understand about the oil and gas industry?

Many of the countries where oil is produced have terrible environmental records. In the U.S., the industry is far better at doing things right. We're much better stewards of the land here in the U.S. than in many other countries. We're also innovators that have brought a lot of new things to the fore in the last 60 years including fracking which started basically after World War II. My dad was at the forefront of trying it over here, he was probably the first operator in the Permian to frack a well and it worked. Of course, he had to learn about it. He was an avid reader, he found out about it and he took a big risk, but it worked. We are always trying to uncover new technologies that are coming to the fore to make production more efficient, and also potentially even be more benign to the environment. These technologies may really take off, but it takes a lot of money upfront and we don't know what the results could be. The domestic industry is good at is promoting novel technologies and startups. Finally, when state and federal governments provide encouragement by making terms reasonable to justify taking risks, by having risk profiles commensurate with the potential of suitable rewards that is the key to encouraging entrepreneurship and stewardship.

***Interview conducted January 2021**

Appendices

Glossary of Terms

Cost Depletion – one of two accounting methods used to allocate the costs of extracting natural resources, such as oil and natural gas, and to record those costs as operating expenses to reduce pretax income.

Exploration & Production (E&P) – the early stage of energy production, which includes searching for and extracting oil and gas.

Gross Domestic Product (GDP) – the total value of goods produced, and services provided in a country, state, or another area during one year.

Gross Income – for a business, also known as gross profit or gross margin, includes the gross revenue of the firm less the cost of goods sold, but it does not include all of the other costs involved in running the business.

Idle Well – a well that is not producing or injecting and has received state approval to remain idle.

Intangible Drilling Costs (IDC) – costs related to drilling and necessary for the preparation of wells for production, but that have no salvageable value. These include costs for wages, fuel, supplies, repairs, survey work, and ground clearing. They compose roughly 60 to 80 percent of total drilling costs and are 100 percent deductible in the year incurred.

Investment Capital – the money used to acquire plants, equipment, and other items needed to build products or offer services. Investment capital is also referred to as financial capital. In the context of the oil and natural gas industry, it typically refers to outside investment capital.

Major Oil & Gas Companies – typically the largest of all oil and gas companies that are vertically integrated and directly involved in exploration, production, refining, transportation, and marketing.

Marginal Well – A marginal well definition is about economic viability, whether the extraction of oil and gas is profitable. To define a particular well as marginal well depends on oil prices, and the cost of production, unlike a stripper well that has a definite output attached. Stripper wells tend to be marginal wells but a marginal well might not be a stripper well.

Net Income – calculated as sales minus cost of goods sold, selling, general and administrative expenses, operating expenses, depreciation, interest, taxes, and other expenses.

Percentage Depletion – a tax provision that allows oil and natural gas producers to recoup some of the costs involved in exploring for and producing oil and natural gas. Percentage depletion is calculated by



applying a 15% reduction to the taxable gross income of a productive well's property. The reduction is determined on a property-by-property basis and is limited to the taxpayer's first 1,000 barrels of oil (or 6,000 Mcf of natural gas) of production per day. It is also capped at the net income of a well and limited to 65 percent of the taxpayer's net income.

Plugged and Abandoned – wells that have had plugging operations during the calendar year. It does not include wells that have been plugged back up-hole to kick the well, etc. This category does not necessarily exclude those with site restoration remaining to be completed.

Royalty Owners – ownership of a portion of a resource or the revenue it produces. A company or person that owns a royalty interest does not bear any operational costs needed to produce the resource, yet they still own a portion of the resource or revenue it produces.

Stripper Well – For tax purposes, a stripper well is defined as any oil or natural gas well whose maximum daily average oil production does not exceed 15 barrels of oil or any natural gas well whose maximum daily average gas production does not exceed 90 Mcf, per day, during any 12-month consecutive time period.

Temporary Abandonment – Cessation of work on a well pending determination of whether it should be completed as a producer or permanently abandoned. A temporary abandoned well can include wells that were formerly producing but are temporarily abandoned waiting on a decision to restart or plug.



Methodology

Data Development

As part of the development of this report, a detailed review of the potential implications of the elimination of the percentage depletion allowance was conducted. This report focuses on the potential effects of the elimination of percentage depletion and considers the potential implications of eliminating the provision. As such, this analysis is inherently forward-looking and subject to significant changes based on the actual adoption and implementation of any proposed policy changes by Congress, the executive branch, and regulators such as the Department of the Treasury and the Internal Revenue Service.

Limitations

Given the large degree of volatility and uncertainty in oil and gas markets as well as the global economy, the assumptions and forecasts contained in this report are based on reasonable readings of conditions when this report was developed. Uncertainty around commodity pricing and global economic conditions may have a significant impact on the projections developed for this study. This report has utilized revised forecasts for 2021 and 2022 oil and natural gas prices and attempted to forecast the impacts of current global economic conditions and commodity prices. EIAP makes no representations as to the impacts of the potential policy proposal addressed in this report. The report's projections of the effects that the elimination of the percentage depletion allowance would impose on the oil and natural gas industry are an independent, good faith view arising from reasonable assumptions based on the authors' expertise and experience. Energy and Industrial Advisory partners provided this independent study while expressly disclaiming any warranty, liability, or responsibility for completeness, accuracy, use, or fitness to any person or party for any reason.

Scenario Development

The study's data development was undertaken by developing a model that accounts for all the major potential implications of the elimination of the percentage depletion allowance. The major sections of the model are: a producing wells model that assesses and forecasts active stripper wells and production, operational and other costs, and break-even points for currently producing wells; a drilling and completion model that forecasts future drilling activity and the potential impacts of eliminating percentage depletion on new activity; a spending model that both estimates well breakeven costs and assesses the spending implication of the stripper well industry; a royalty model that assesses the impact of royalties on well profitability and also calculates the royalty payment implications of eliminating percentage depletion; a government revenue model which uses forecast production levels and other relevant forecasts, such as commodity pricing, tax rates, and operators' ability to claim percentage depletion based on recent production profiles; and an economic model which utilizes the projected



spending, royalties, government revenue levels, as well as assumptions about the nature of spending and its geographic distribution to forecast associated economic activity including employment and gross domestic product.

Following the creation of a "Base Case" forecast for active stripper wells, production, and U.S. drilling and completion activity, the potential effects of the elimination of the percentage depletion allowance were then calculated to develop the "Percentage Depletion Elimination Case" or "PD Elimination Case". This case considered how the elimination of the Percentage Depletion allowance would impact existing wells' lifecycles and production, new well drilling activity, spending, royalties, state taxes, and corporate taxes.

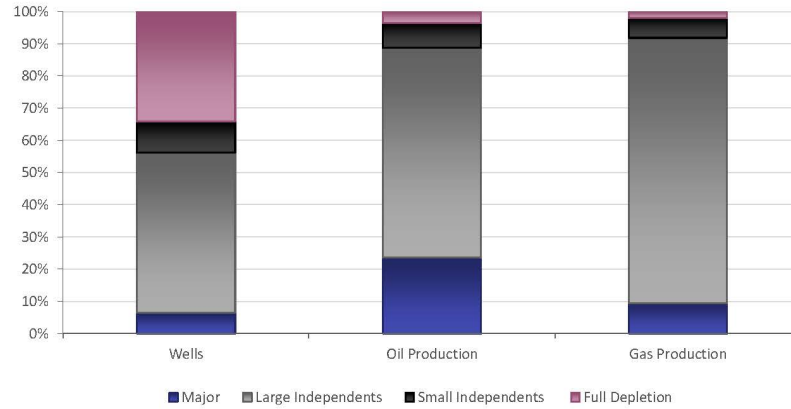
Forecast Stages

To develop the Base Case forecast, EIAP initially utilized historical well data for producing wells in the U.S. For each producing well, a best fit decline curve was developed utilizing historical production data. Well gross income estimates were then calculated based on a forecast of oil and natural gas prices, as well as estimated differentials (the difference between prices for oil and natural gas in different markets due to transportation and storage costs and other local factors). Each well's forecast production profile was then fitted with estimated operating costs, royalty payments, and tax payments based on the well's location, characteristics, and production profile to calculate the well's estimated net income. The well owner's ability to claim the percentage depletion allowance was then utilized to develop a Base Case forecast (the forecast if the percentage depletion allowance was not eliminated) for the well's future production and the likelihood that a well may be permanently abandoned or become an idle well at a given time in the forecast with the percentage depletion allowance in place. Note, that this report did not develop a forecast for plug and abandonment activity or associated spending. In addition to the producing wells forecast, a new drilling and completion forecast was developed based on forecasts of basin by basin and state by state activity levels based on the commodity price forecast.

To calculate the impacts of the percentage depletion allowance on both the economics of wells in the Base Case, as well as the potential implications of the elimination of the percentage depletion allowance the depletion percentage that all active operators could claim was calculated by multiplying 15% times a ratio of one thousand barrels of oil equivalent divided by their 2020 average daily combined production of barrels of oil and barrels of oil equivalent of gas. For demonstrative purposes, these operators were assigned to a category of either major oil companies (who can claim no depletion), large independents with depletion rates less than one percent, small independents with depletion rates between five and fifteen percent, or full depletion operators with full depletion rates of fifteen percent. (Figure 12)



Figure 12: 2020 Wells and Production by Depletion Class



Source: Energy and Industrial Advisory Partners

State by state depletion rates based on the state’s active operator mix for wells eligible for percentage depletion was then calculated, with these figures then utilized to calculate the impact of percentage depletion on operators’ net revenues, and the net revenue impact on both currently producing wells and new drilling and completion activities. It was assumed that operators utilized cost depletion in the first three years of a well’s life to account for the large upfront costs E&P companies incur when drilling and completing new wells. This was completed by adding back the net revenue due to the percentage depletion allowance to each well’s revenues, leading to wells remaining economic to operate for longer periods of time, as well as by assuming additional net revenues were reinvested in drilling and completion of new wells. Newly drilled wells’ development costs decline curves and economics are based on modeled production profiles from wells drilled in the last five years in a given state, with well economics and the impact of the percentage depletion allowance modeled in the same fashion as currently producing wells.

Spending Methodology

The spending analysis developed for this report attempts to account for the totality of capital and operational spending associated with oil and natural gas project development throughout a project’s lifecycle. This includes spending during a project’s development such as engineering, hardware procurement, drilling, facilities, gas gathering infrastructure, and construction as well as spending during a project’s producing life including operational expenditures, transportation, and gas processing.

Spending for each project was divided into five primary categories, with each category accounting for one general activity type required to find, develop, or operate an oil and natural gas well. Costs for each category were developed based on location, well type, well profile, and well depth.



After the overall spending forecast for stripper well activity was developed, spending was allocated to individual states based on the location of spending as well as data about the oil and natural gas industry's supply chain based on the category of spending. Domestic spending is allocated based on a category-by-category analysis of supply chains and Bureau of Economic Analysis data to provide state-specific spending allocations. Distributions are constant throughout the two scenarios presented in this report, although it is possible and perhaps likely that reduced activity levels may lead to changes in supply chains and thus spending distributions.

Economic Methodology

To develop the employment and gross domestic product analysis presented in this report, the Bureau of Economic Analysis' RIMS II input-output multipliers were used. These multipliers provide state-level employment and gross domestic product estimates based on industry-specific spending levels. For the purpose of this report, economic activity was also divided into direct (directly related to industries involved in the oil and natural gas supply chain) and indirect and induced (industries not directly involved in the oil and natural gas supply chain as well as economic activity due to increased wages) employment and gross domestic product.

The following RIMS industry categories were used in the development of the report to account for spending by the oil and natural gas industry (all RIMS categories were used in the output of data):

- Oil and gas extraction
- Mining and oil and gas field machinery manufacturing
- Steel product manufacturing from purchased steel
- Construction
- Drilling oil and gas wells
- Professional, scientific and technical services
- Natural gas distribution

Royalty Methodology

To calculate potentially lost royalty payments due to the elimination of percentage depletion, estimates of average royalty rates on a state-by-state basis were calculated along with projections for royalties projected to be produced by stripper well production across the forecast period in the Base Case. Utilizing the same royalty percentages utilized in the base case, estimates of reduced royalties based on reduced oil and natural gas production and projections of overall gross revenues from this production were then calculated. Additionally, assumptions around recipients of royalties as well as the likelihood that these royalties would be spent or saved were utilized to calculate the potential economic impacts of reduced royalty payments.



Government Revenue Methodology

This report considers two potential impacts on government revenues due to the elimination of the percentage depletion allowance. First, the impact of reduced oil and natural gas production on state-level severance and ad valorem taxes was calculated based on state-level tax rates. Secondly, the impact on federal corporate taxes of both reduced production and its impacts on company revenues' and profits', as well as the higher effective tax rate operators would experience as a result of the elimination of percentage depletion. The study does not account for personal income taxes, county, and local taxes, or property taxes. As such, the negative tax implications for government entities would in all likelihood be larger than those projected in this report due to additional negative tax implications for local, state, and federal governments.

The elimination of percentage depletion would impact federal government revenues in a number of ways, some of which (such as reduced personal income taxes) are not accounted for in this report. The impact on federal corporate taxes of eliminating the percentage depletion allowance would be twofold. First, effective tax rates for stripper well producers would rise as producers could no longer claim the allowance. Secondly, reduced revenues and profits due to reduced oil and natural gas production would shrink the tax base. As with the other impacts of eliminating the percentage depletion allowance, the effects of reduced production are projected to grow over the forecast period, reducing the positive tax implications of increased effective tax rates. It is also important to note that the following calculations of the tax impacts are estimates, and do not take into account the impacts of net operating losses (NOL) which can be carried over by producers or provisions which may allow producers to reduce effective tax rates. Excluding the impacts of NOLs likely leads to an overstatement of the positive tax implications of eliminating the percentage depletion allowance. The corporate tax impacts of eliminating percentage depletion were calculated based on a state-by-state analysis of net revenues for both the Base Case and Percentage Depletion Elimination Case combined with the calculated depletion allowances for stripper well producers.

Average Calculation

For the purposes of this report, a 15-year activity and spending forecast was created. Due to the likely delay in the implementation of changes to the percentage depletion allowance, the potential impacts of the elimination of the percentage depletion allowance were only considered beginning in the second year (2022) of the forecast. As such, the 15-year averages used throughout the report include one year (2021) as a baseline which excludes potential impacts of eliminating the percentage depletion allowance and 14 years which include these impacts. These averages thus inherently understate the potential impacts of changes to the allowance, which should be assumed to be conservative.



Data Tables

Table 19: Producing Stripper Wells Base Case

	2021	2022	2023	2024	2025	2026	2027	2028
AK	31	30	29	27	27	28	30	33
AL	5,648	5,622	5,567	5,445	5,399	5,380	5,293	5,356
AR	4,009	3,997	4,000	3,967	3,969	3,931	3,899	3,880
CA	36,795	36,890	37,103	37,911	37,559	36,844	36,855	36,849
CO	27,363	26,396	25,581	24,666	24,201	23,826	23,629	23,440
FL	10	10	10	10	9	9	9	8
IL	27,562	27,387	27,218	26,997	26,796	26,551	26,316	26,099
KS	97,813	98,035	98,600	98,616	98,671	98,385	98,119	97,914
KY	11,810	11,754	11,729	11,730	11,631	11,547	11,475	11,412
LA	24,865	24,350	23,812	23,689	23,493	23,420	23,171	22,998
MI	17,015	16,520	16,021	15,408	14,856	14,478	14,255	13,983
MS	2,005	1,969	1,930	1,945	1,873	1,796	1,752	1,707
MT	8,182	8,268	8,271	8,264	8,098	7,855	7,707	7,596
ND	2,561	2,547	2,485	2,408	2,407	2,393	2,348	2,343
NE	3,433	3,419	3,413	3,455	3,458	3,351	3,388	3,435
NM	34,615	33,420	32,076	31,194	30,133	29,052	28,519	28,579
NY	8,639	8,642	8,658	8,457	8,176	8,086	7,999	7,914
OH	35,355	34,988	34,651	34,130	33,648	33,054	32,464	31,896
OK	58,198	57,383	55,436	53,387	51,279	49,717	48,476	47,259
PA	74,477	70,091	68,765	67,507	66,357	65,236	64,194	63,239
SD	92	89	88	87	87	87	86	88
TX Permian	76,192	75,684	75,445	74,878	74,526	74,113	73,821	73,588
TX Rest of	127,845	126,990	126,644	126,198	125,799	124,162	122,153	121,170
UT	8,070	7,866	7,694	7,401	7,209	7,036	7,012	7,002
WV	52,782	51,974	51,064	50,217	49,154	48,298	47,461	46,642
WY	17,536	17,069	16,873	16,441	15,369	15,131	14,938	14,591
Total	759,905	751,392	743,166	734,437	724,185	713,765	705,368	699,020

Source: Energy and Industrial Advisory Partners



Table 19: Producing Stripper Wells Base Case (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	35	37	40	43	45	48	54
AL	5,334	5,283	5,287	5,280	5,242	5,269	5,283
AR	3,880	3,877	3,863	3,861	3,847	3,853	3,858
CA	36,990	37,030	37,141	37,278	37,307	37,360	37,457
CO	23,238	23,136	23,046	22,883	22,852	22,785	22,775
FL	8	8	8	7	7	7	7
IL	25,919	25,690	25,493	25,208	24,983	24,723	24,499
KS	97,769	97,651	97,564	97,455	97,388	97,342	97,267
KY	11,358	11,310	11,269	11,233	11,201	11,173	11,149
LA	22,613	22,635	22,619	22,565	22,306	22,251	22,181
MI	13,600	13,153	12,805	12,435	12,070	11,729	11,391
MS	1,669	1,658	1,640	1,620	1,604	1,591	1,572
MT	7,484	7,441	7,407	7,398	7,361	7,331	7,286
ND	2,329	2,340	2,381	2,461	2,560	2,668	2,799
NE	3,483	3,512	3,513	3,561	3,601	3,630	3,632
NM	27,637	26,706	26,918	26,579	26,230	26,212	25,571
NY	7,833	7,754	7,679	7,605	7,535	7,467	7,402
OH	31,462	30,860	30,382	29,605	29,047	28,375	27,838
OK	45,763	43,856	42,605	41,135	39,944	38,284	36,421
PA	62,328	61,443	60,583	59,753	58,948	58,165	57,406
SD	91	91	91	91	94	94	95
TX Permian	73,053	71,771	71,651	71,361	71,424	71,574	71,801
TX Rest of	120,120	119,136	117,805	114,996	113,886	112,868	111,938
UT	6,988	6,944	6,899	6,839	6,822	6,788	6,763
WV	45,822	45,830	45,846	45,866	45,888	45,555	45,305
WY	14,505	14,363	14,263	14,206	14,326	14,449	14,631
Total	691,311	683,516	678,798	671,323	666,518	661,591	656,380

Source: Energy and Industrial Advisory Partners



Table 20: Percentage Depletion Elimination Case Producing Stripper Wells

	2021	2022	2023	2024	2025	2026	2027	2028
AK	31	29	28	26	25	25	27	29
AL	5,648	5,456	5,239	4,965	4,770	4,604	4,384	4,296
AR	4,009	3,143	2,292	2,199	1,372	1,282	1,193	1,109
CA	36,795	36,097	35,505	35,480	34,344	32,901	32,153	31,565
CO	27,363	25,135	23,955	22,475	21,693	21,015	20,513	20,033
FL	10	10	10	9	9	8	8	7
IL	27,562	26,465	25,405	24,338	23,330	22,321	21,359	20,450
KS	97,813	95,634	93,820	91,531	89,348	87,803	86,313	84,912
KY	11,810	11,579	11,380	11,210	11,058	10,921	10,796	10,681
LA	24,865	23,846	22,834	22,261	21,642	21,160	20,540	20,015
MI	16,094	15,346	14,606	13,787	13,045	12,475	12,056	11,606
MS	2,005	1,938	1,870	1,856	1,759	1,658	1,591	1,525
MT	8,182	8,096	8,047	7,989	7,657	7,186	6,897	6,648
ND	2,561	2,482	2,356	2,171	2,112	2,042	1,865	1,736
NE	3,433	3,417	3,375	3,380	3,380	3,238	3,239	3,249
NM	34,615	32,960	31,194	29,921	28,503	27,100	26,242	25,949
NY	8,639	8,530	8,435	8,131	7,760	7,578	7,405	7,239
OH	35,355	34,193	33,085	31,842	30,668	29,432	28,240	27,108
OK	58,198	56,037	52,825	49,116	45,053	41,741	38,497	35,517
PA	71,477	68,463	65,604	62,914	60,421	58,047	55,832	53,776
SD	92	88	86	84	83	82	80	81
TX Permian	76,192	73,987	72,103	69,963	68,099	66,248	64,589	63,065
TX Rest of	127,845	124,025	120,795	117,594	114,556	110,510	106,313	103,201
UT	8,070	7,550	7,082	6,512	6,062	5,640	5,354	5,085
WV	52,782	51,217	49,580	48,066	46,375	44,931	43,544	42,212
WY	17,536	16,739	16,233	15,510	14,214	13,732	13,307	12,760
Total	758,983	732,464	707,741	683,330	657,334	633,681	612,340	593,854

Source: Energy and Industrial Advisory Partners



Table 20: Producing Stripper Wells Base Case (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	31	33	36	38	40	43	49
AL	4,140	3,966	3,839	3,707	3,557	3,456	3,348
AR	1,030	949	862	779	688	603	518
CA	31,111	30,729	30,408	30,108	29,871	29,659	29,486
CO	19,558	19,181	18,829	18,430	18,152	17,858	17,620
FL	7	7	6	6	6	5	5
IL	19,606	18,755	17,962	17,138	16,389	15,646	14,957
KS	83,595	82,333	81,128	79,924	78,794	77,711	76,633
KY	10,575	10,476	10,382	10,296	10,214	10,135	10,061
LA	19,330	19,019	18,693	18,345	17,858	17,553	17,254
MI	11,074	10,504	10,031	9,554	9,093	8,665	8,250
MS	1,466	1,432	1,391	1,350	1,313	1,279	1,241
MT	6,407	6,232	6,070	5,931	5,833	5,742	5,640
ND	1,692	1,673	1,684	1,723	1,788	1,870	1,975
NE	3,260	3,252	3,219	3,228	3,230	3,223	3,191
NM	24,496	23,112	23,001	22,420	21,853	21,580	20,609
NY	7,081	6,929	6,785	6,647	6,516	6,391	6,273
OH	26,129	25,044	24,096	22,943	22,005	21,012	20,158
OK	32,553	29,535	27,210	24,932	22,780	20,571	18,484
PA	51,835	49,987	48,231	46,559	44,979	43,478	42,055
SD	83	82	82	81	82	82	82
TX Permian	61,361	59,129	57,970	56,746	55,888	55,181	54,607
TX Rest of	100,176	97,357	94,402	90,413	87,962	85,720	83,677
UT	4,815	4,722	4,628	4,524	4,452	4,368	4,291
WV	40,913	40,391	39,889	39,404	38,935	38,336	37,817
WY	12,461	12,125	11,839	11,599	11,512	11,437	11,412
Total	574,784	556,955	542,673	526,825	513,791	501,606	489,692

Source: Energy and Industrial Advisory Partners



Table 21: Base Case Stripper Well BOE/D Oil and Natural Gas Production

	2021	2022	2023	2024	2025	2026	2027	2028
AK	273	341	413	511	624	718	811	914
AL	21,628	21,054	19,603	18,489	17,573	16,407	15,405	15,091
AR	22,631	22,588	22,694	23,448	24,530	24,440	24,649	25,121
CA	150,345	150,609	152,241	157,938	159,141	155,409	155,117	155,210
CO	143,297	140,256	136,300	134,532	134,943	132,400	132,429	133,300
FL	109	110	105	102	100	93	88	85
IL	16,391	16,375	16,364	16,682	17,007	16,874	16,736	16,605
KS	112,287	111,386	108,226	107,338	106,781	103,629	101,418	99,986
KY	22,652	22,152	20,948	20,402	19,694	18,611	17,870	17,383
LA	45,971	45,572	45,085	46,531	47,342	47,087	46,967	47,228
MI	42,830	41,345	39,901	38,429	36,462	33,861	32,851	31,990
MS	10,813	10,521	10,031	10,048	9,588	8,997	8,583	8,242
MT	22,169	22,145	21,363	21,059	20,396	19,057	18,268	17,689
ND	20,923	21,937	23,012	24,747	27,383	29,454	31,415	33,881
NE	6,273	6,279	6,257	6,491	6,669	6,504	6,636	6,804
NM	182,737	182,337	178,597	181,012	182,993	182,050	185,463	193,339
NY	4,150	4,043	3,780	3,533	3,286	3,034	2,865	2,750
OH	26,967	26,726	26,534	26,825	27,134	26,781	26,671	26,751
OK	198,032	197,521	188,020	179,320	177,154	164,832	159,918	155,715
PA	46,984	45,846	45,733	46,707	45,992	44,190	43,439	43,921
SD	428	421	430	440	453	459	466	498
TX Permian	229,351	226,723	226,629	229,928	239,571	241,403	243,932	247,413
TX Rest of	373,599	369,381	367,196	378,215	375,064	390,800	391,812	398,543
UT	55,060	53,483	53,374	51,046	49,385	46,763	45,768	45,244
WV	213,517	201,727	176,472	168,113	165,977	160,543	158,727	158,906
WY	102,853	100,084	100,497	101,607	98,329	96,910	96,778	96,378
Total	2,072,269	2,040,958	1,989,806	1,993,491	1,993,574	1,971,307	1,965,084	1,978,985

Source: Energy and Industrial Advisory Partners



Table 21: Base Case Stripper Well BOE/D Oil and Natural Gas Production (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	1,006	1,092	1,179	1,260	1,337	1,405	1,476
AL	14,359	13,763	13,215	12,770	12,475	11,510	10,991
AR	25,400	26,157	26,311	26,456	26,379	26,103	26,150
CA	155,788	156,092	153,021	152,647	151,685	149,689	149,434
CO	132,497	133,238	132,394	131,759	131,119	129,700	129,621
FL	80	75	67	59	57	55	53
IL	16,526	16,369	15,800	15,410	15,112	14,616	14,326
KS	98,112	96,819	93,808	92,179	90,467	87,520	85,520
KY	16,742	16,300	15,645	15,189	14,699	14,066	13,634
LA	46,766	47,589	47,165	47,416	47,298	47,395	47,439
MI	30,622	29,493	28,234	27,246	26,190	25,008	24,108
MS	7,964	7,811	7,455	7,256	7,041	6,570	6,198
MT	17,060	16,715	16,046	15,680	15,208	14,181	13,298
ND	36,208	38,756	41,140	44,150	46,977	47,945	49,750
NE	6,955	7,088	7,020	7,137	7,232	7,244	7,273
NM	193,943	195,804	201,448	205,094	207,542	209,766	209,853
NY	2,601	2,514	2,385	2,289	2,177	2,070	2,051
OH	26,723	26,726	26,381	26,095	25,897	25,366	25,187
OK	147,474	142,248	137,536	134,858	127,968	122,687	118,905
PA	43,599	43,448	42,968	42,779	42,450	41,723	41,351
SD	527	544	546	558	580	598	610
TX Permian	249,619	250,511	250,898	254,090	257,937	261,962	264,943
TX Rest of	401,426	406,835	405,766	403,327	404,210	403,711	402,988
UT	43,986	42,850	41,092	39,588	38,115	36,570	35,580
WV	156,727	159,099	160,257	162,371	163,490	161,354	161,519
WY	96,032	96,257	95,101	94,456	94,281	82,003	70,326
Total	1,968,743	1,974,196	1,962,878	1,962,117	1,957,625	1,930,819	1,912,583

Source: Energy and Industrial Advisory Partners



Table 22: Percentage Depletion Elimination Case Stripper Well BOE/D Oil and Natural Gas Production

	2021	2022	2023	2024	2025	2026	2027	2028
AK	273	336	406	494	597	687	773	867
AL	21,628	20,681	18,876	17,046	15,532	14,239	12,893	12,028
AR	22,631	22,106	21,716	21,858	21,840	21,718	21,486	21,188
CA	150,345	147,395	145,516	143,879	138,091	131,405	127,565	124,490
CO	143,297	133,825	128,140	120,805	117,242	113,857	111,192	108,263
FL	109	108	101	95	89	80	74	69
IL	16,391	15,824	15,261	14,649	14,065	13,456	12,867	12,303
KS	112,287	108,666	102,974	97,241	92,216	88,245	84,550	81,219
KY	22,652	21,823	20,325	19,024	17,835	16,766	15,790	14,910
LA	45,971	44,653	43,276	42,833	41,908	41,032	39,991	39,101
MI	42,830	40,605	38,450	35,450	32,208	29,336	27,519	25,615
MS	10,813	10,358	9,705	9,327	8,535	7,859	7,310	6,812
MT	22,169	21,685	20,769	19,841	18,346	16,578	15,395	14,348
ND	20,923	21,679	22,497	23,302	25,173	26,985	28,274	29,976
NE	6,273	6,277	6,179	6,184	6,194	5,968	5,998	6,041
NM	182,737	179,943	174,035	170,528	167,168	164,901	164,638	166,789
NY	4,150	3,990	3,682	3,315	2,972	2,710	2,486	2,290
OH	26,967	26,128	25,351	24,469	23,671	22,877	22,113	21,387
OK	198,032	192,952	179,292	161,400	149,208	133,293	121,601	110,570
PA	46,984	44,822	43,755	42,784	40,478	38,300	36,551	35,515
SD	428	416	420	415	414	416	417	438
TX Permian	229,351	221,779	216,935	210,630	210,553	208,442	206,528	205,092
TX Rest of	373,599	360,925	350,701	345,259	328,127	335,153	325,971	319,078
UT	55,060	52,803	52,004	47,903	44,656	41,724	39,796	37,965
WV	213,340	201,138	175,570	166,626	163,951	158,315	156,053	155,774
WY	102,853	99,165	98,691	97,841	92,912	90,881	89,572	87,674
Total	2,072,092	2,000,083	1,914,627	1,843,198	1,773,983	1,725,223	1,677,402	1,639,801

Source: Energy and Industrial Advisory Partners



Table 22: Percentage Depletion Elimination Case Stripper Well BOE/D Oil and Natural Gas Production (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	952	1,033	1,116	1,199	1,273	1,342	1,411
AL	11,058	10,129	9,394	8,712	8,028	7,430	6,879
AR	21,021	20,994	20,707	20,263	19,778	19,396	19,019
CA	122,077	119,865	117,930	116,112	114,526	113,215	112,192
CO	105,427	103,076	100,647	97,890	95,753	93,966	92,406
FL	63	57	50	43	41	39	37
IL	11,798	11,256	10,768	10,208	9,731	9,237	8,799
KS	78,175	75,398	72,921	70,607	68,499	66,270	64,195
KY	14,106	13,376	12,706	12,094	11,532	11,010	10,530
LA	37,968	37,711	37,082	36,615	36,057	35,969	35,588
MI	23,703	21,850	20,302	18,819	17,447	16,269	15,110
MS	6,424	6,125	5,806	5,536	5,272	4,898	4,567
MT	13,422	12,691	11,995	11,400	10,899	10,179	9,480
ND	31,992	34,155	36,540	39,148	41,620	42,984	45,047
NE	6,084	6,095	6,061	6,094	6,118	6,126	6,094
NM	163,336	160,160	162,645	162,609	162,440	163,350	160,858
NY	2,109	1,966	1,821	1,696	1,576	1,481	1,433
OH	20,777	20,102	19,526	18,811	18,253	17,669	17,185
OK	99,134	90,072	83,409	77,682	70,365	65,063	60,552
PA	34,399	33,223	32,177	31,277	30,502	29,788	29,144
SD	458	465	467	472	486	499	505
TX Permian	203,409	200,565	201,159	201,523	202,811	205,798	206,781
TX Rest of	312,528	306,002	298,918	288,758	282,600	278,597	271,987
UT	36,003	34,277	32,641	30,937	29,444	28,241	27,170
WV	153,266	155,205	156,046	157,759	158,544	156,346	156,294
WY	86,312	85,575	83,854	82,475	81,643	70,051	58,868
Total	1,596,002	1,561,421	1,536,688	1,508,740	1,485,237	1,455,214	1,422,129

Source: Energy and Industrial Advisory Partners



Table 23: Percentage Depletion Elimination Case State Oil and Natural Gas Industry Spending Reductions

	2021	2022	2023	2024	2025
AK	\$0	-\$5,289,876	-\$5,307,779	-\$5,365,462	-\$5,432,120
AL	\$0	-\$2,966,082	-\$16,267,208	-\$16,135,761	-\$20,956,070
AR	\$0	-\$3,384,415	-\$21,245,114	-\$18,452,458	-\$25,130,314
CA	\$0	-\$40,998,416	-\$304,792,244	-\$324,643,316	-\$436,558,674
CO	\$0	-\$165,584,003	-\$227,740,937	-\$274,469,193	-\$329,681,728
FL	\$0	-\$5,351	-\$15,671	-\$37,246	-\$56,745
IL	\$0	-\$4,315,565	-\$43,571,240	-\$45,401,302	-\$60,253,326
KS	\$0	-\$53,767,126	-\$203,411,189	-\$222,928,871	-\$292,176,226
KY	\$0	-\$1,919,902	-\$16,378,659	-\$16,415,546	-\$21,462,452
LA	\$0	-\$114,989,864	-\$184,611,306	-\$204,367,065	-\$244,884,198
MI	\$0	-\$3,406,377	-\$38,217,685	-\$36,695,253	-\$48,216,756
MS	\$0	-\$1,234,960	-\$10,679,571	-\$11,197,593	-\$15,461,321
MT	\$0	-\$5,088,430	-\$21,105,870	-\$19,209,197	-\$26,670,835
ND	\$0	-\$312,547,959	-\$376,999,268	-\$442,394,051	-\$510,510,330
NE	\$0	-\$1,475,422	-\$10,269,505	-\$9,516,403	-\$12,870,396
NM	\$0	-\$341,655,748	-\$438,120,648	-\$522,437,172	-\$622,476,726
NY	\$0	-\$4,265,889	-\$7,876,806	-\$9,301,762	-\$11,543,541
OH	\$0	-\$81,297,546	-\$140,160,427	-\$153,600,345	-\$182,621,221
OK	\$0	-\$151,041,007	-\$275,947,625	-\$307,133,807	-\$403,029,009
PA	\$0	-\$92,132,137	-\$125,411,793	-\$148,235,861	-\$180,664,785
SD	\$0	-\$367,731	-\$608,641	-\$658,400	-\$822,113
TX Permian	\$0	-\$1,111,889,556	-\$1,405,503,144	-\$1,649,688,109	-\$1,980,048,891
TX Rest of	\$0	-\$582,484,296	-\$911,749,460	-\$1,038,455,968	-\$1,268,693,075
UT	\$0	-\$8,260,670	-\$20,649,834	-\$27,999,552	-\$40,136,950
WV	\$0	-\$44,453,785	-\$159,531,612	-\$145,364,636	-\$189,459,216
WY	\$0	-\$75,030,003	-\$136,802,360	-\$157,291,186	-\$197,637,797
Total	\$0	-\$3,209,852,116	-\$5,102,975,596	-\$5,807,395,514	-\$7,127,454,815

Source: Energy and Industrial Advisory Partners



Table 23: Percentage Depletion Elimination Case State Oil and Natural Gas Industry Spending Reductions(Continued)

	2026	2027	2028	2029	2030
AK	-\$5,471,874	-\$5,506,735	-\$5,556,503	-\$5,598,836	-\$5,636,716
AL	-\$22,556,602	-\$23,695,213	-\$26,007,398	-\$27,957,827	-\$29,438,110
AR	-\$27,645,989	-\$29,067,542	-\$32,138,030	-\$34,639,425	-\$37,838,630
CA	-\$501,336,089	-\$535,765,232	-\$573,635,038	-\$608,263,858	-\$640,353,313
CO	-\$339,868,198	-\$350,787,841	-\$367,478,076	-\$379,524,891	-\$393,108,791
FL	-\$60,300	-\$66,984	-\$75,821	-\$80,182	-\$83,869
IL	-\$69,960,727	-\$75,846,406	-\$81,441,751	-\$86,867,709	-\$92,079,525
KS	-\$319,436,629	-\$330,726,687	-\$344,598,035	-\$356,913,917	-\$369,022,508
KY	-\$22,821,290	-\$23,482,787	-\$25,078,322	-\$26,202,248	-\$27,389,914
LA	-\$253,748,591	-\$259,978,658	-\$267,135,690	-\$272,880,710	-\$279,003,883
MI	-\$52,760,570	-\$55,816,277	-\$60,971,368	-\$64,704,461	-\$67,810,464
MS	-\$17,235,398	-\$18,041,183	-\$19,014,953	-\$19,889,728	-\$20,955,442
MT	-\$30,974,795	-\$33,511,939	-\$36,119,889	-\$38,252,182	-\$40,517,997
ND	-\$514,431,615	-\$518,816,172	-\$524,569,386	-\$528,102,842	-\$530,772,341
NE	-\$14,569,452	-\$15,284,974	-\$16,461,635	-\$17,662,059	-\$18,894,984
NM	-\$638,363,850	-\$653,884,563	-\$679,142,155	-\$702,103,309	-\$726,432,173
NY	-\$11,795,662	-\$11,969,243	-\$12,334,944	-\$12,604,251	-\$12,851,399
OH	-\$190,008,297	-\$194,443,266	-\$199,780,380	-\$204,712,315	-\$209,524,467
OK	-\$467,613,198	-\$501,964,517	-\$540,273,918	-\$564,630,227	-\$585,997,272
PA	-\$206,411,350	-\$210,292,532	-\$217,040,755	-\$222,497,274	-\$227,394,823
SD	-\$913,938	-\$968,822	-\$1,045,199	-\$1,137,791	-\$1,228,309
TX Permian	-\$2,034,696,024	-\$2,070,860,533	-\$2,107,887,642	-\$2,140,880,976	-\$2,170,196,142
TX Rest of	-\$1,333,029,366	-\$1,386,642,800	-\$1,450,191,859	-\$1,502,597,515	-\$1,559,920,822
UT	-\$45,420,594	-\$49,637,505	-\$56,040,434	-\$60,937,888	-\$64,267,332
WV	-\$207,794,241	-\$229,111,934	-\$260,889,514	-\$285,095,259	-\$313,278,782
WY	-\$208,879,840	-\$220,000,574	-\$234,219,923	-\$245,617,353	-\$258,276,267
Total	-\$7,537,804,480	-\$7,806,170,918	-\$8,139,128,617	-\$8,410,355,032	-\$8,682,274,275

Source: Energy and Industrial Advisory Partners



Table 23: Percentage Depletion Elimination Case State Oil and Natural Gas Industry Spending Reductions (Continued)

	2031	2032	2033	2034	2035
AK	-\$5,660,430	-\$5,288,207	-\$5,679,106	-\$5,684,638	-\$5,701,319
AL	-\$30,546,523	-\$31,263,357	-\$32,078,388	-\$31,862,273	-\$31,638,435
AR	-\$40,122,346	-\$42,855,152	-\$43,875,285	-\$44,374,304	-\$45,440,531
CA	-\$645,778,858	-\$663,350,252	-\$650,390,337	-\$647,791,320	-\$644,644,474
CO	-\$401,449,489	-\$411,040,436	-\$416,188,479	-\$418,879,518	-\$423,860,252
FL	-\$76,891	-\$73,189	-\$74,305	-\$73,797	-\$74,635
IL	-\$93,916,098	-\$98,108,972	-\$95,194,427	-\$95,907,580	-\$96,032,625
KS	-\$369,966,331	-\$361,507,461	-\$368,547,882	-\$365,986,017	-\$362,587,067
KY	-\$27,426,348	-\$28,101,781	-\$27,077,666	-\$26,306,802	-\$25,663,033
LA	-\$281,741,793	-\$284,041,453	-\$287,364,739	-\$288,944,397	-\$291,176,713
MI	-\$69,001,085	-\$71,749,537	-\$70,156,256	-\$69,568,372	-\$69,243,481
MS	-\$21,056,986	-\$21,757,362	-\$21,155,073	-\$20,866,211	-\$20,432,303
MT	-\$40,953,630	-\$42,866,300	-\$41,539,232	-\$40,045,090	-\$38,519,690
ND	-\$531,318,017	-\$533,953,916	-\$535,983,022	-\$536,215,487	-\$536,394,146
NE	-\$19,156,368	-\$19,564,199	-\$19,891,492	-\$20,196,428	-\$20,468,724
NM	-\$742,218,775	-\$762,283,888	-\$768,617,217	-\$775,409,517	-\$785,599,737
NY	-\$12,994,289	-\$11,150,552	-\$13,118,482	-\$13,065,757	-\$13,105,104
OH	-\$211,818,303	-\$214,573,851	-\$214,351,649	-\$214,991,864	-\$215,345,235
OK	-\$597,880,761	-\$612,286,589	-\$613,142,407	-\$612,804,716	-\$613,877,517
PA	-\$230,937,151	-\$229,556,252	-\$236,577,853	-\$237,232,193	-\$237,950,950
SD	-\$1,255,482	-\$1,243,699	-\$1,339,905	-\$1,389,940	-\$1,430,533
TX Permian	-\$2,172,830,220	-\$2,188,547,203	-\$2,199,227,487	-\$2,210,263,738	-\$2,222,507,518
TX Rest of	-\$1,588,489,419	-\$1,595,720,564	-\$1,641,659,681	-\$1,659,948,352	-\$1,682,948,369
UT	-\$63,265,078	-\$63,923,679	-\$61,244,341	-\$58,999,146	-\$57,658,356
WV	-\$340,117,522	-\$372,040,059	-\$391,874,189	-\$402,892,894	-\$415,022,728
WY	-\$264,917,957	-\$272,964,921	-\$278,469,504	-\$267,848,249	-\$250,119,997
Total	-\$8,804,896,147	-\$8,939,812,831	-\$9,034,818,402	-\$9,067,548,599	-\$9,107,443,471

Source: Energy and Industrial Advisory Partners



Table 24: Percentage Depletion Elimination Case State Tax Reductions

	2021	2022	2023	2024	2025
AK	\$0	-\$2,661	-\$5,134	-\$11,089	-\$17,235
AL	\$0	-\$86,150	-\$171,229	-\$356,109	-\$505,700
AR	\$0	-\$241,095	-\$495,168	-\$834,002	-\$1,401,713
CA	\$0	-\$1,712,152	-\$3,658,449	-\$7,955,270	-\$11,937,411
CO	\$0	-\$2,631,340	-\$3,410,465	-\$6,019,026	-\$7,807,458
FL	\$0	-\$1,194	-\$3,564	-\$8,800	-\$13,417
IL	\$0	-\$401,606	-\$820,615	-\$1,570,375	-\$2,272,777
KS	\$0	-\$2,028,291	-\$4,068,236	-\$8,258,442	-\$12,093,280
KY	\$0	-\$177,719	-\$351,611	-\$820,438	-\$1,125,625
LA	\$0	-\$879,673	-\$1,765,458	-\$3,744,350	-\$5,517,180
MI	\$0	-\$372,155	-\$755,466	-\$1,614,293	-\$2,330,111
MS	\$0	-\$132,081	-\$265,486	-\$620,834	-\$916,968
MT	\$0	-\$422,046	-\$863,504	-\$1,221,740	-\$2,083,119
ND	\$0	-\$225,575	-\$458,642	-\$1,328,573	-\$2,009,982
NE	\$0	-\$1,024	-\$35,445	-\$144,853	-\$224,396
NM	\$0	-\$1,375,842	-\$2,676,215	-\$6,438,017	-\$9,756,327
NY	\$0	-\$5,614	-\$10,725	-\$25,246	-\$36,741
OH	\$0	-\$170,753	-\$348,534	-\$720,099	-\$1,065,973
OK	\$0	-\$3,253,025	-\$6,373,360	-\$13,793,475	-\$21,639,910
PA	\$0	-\$100,975	-\$198,409	-\$409,322	-\$578,699
SD	\$0	-\$4,130	-\$8,193	-\$20,608	-\$32,713
TX Permian	\$0	-\$5,385,462	-\$10,771,619	-\$22,435,823	-\$33,443,174
TX Rest of	\$0	-\$6,138,637	-\$12,292,324	-\$25,536,663	-\$36,944,092
UT	\$0	-\$336,228	-\$706,042	-\$1,705,401	-\$2,572,135
WV	\$0	-\$187,232	-\$335,334	-\$626,015	-\$880,822
WY	\$0	-\$389,848	-\$775,996	-\$1,683,793	-\$2,405,116
Total	\$0	-\$26,662,508	-\$51,325,223	-\$107,899,653	-\$159,612,072

Source: Energy and Industrial Advisory Partners



Table 24: Percentage Depletion Elimination Case State Tax Reductions (Continued)

	2026	2027	2028	2029	2030
AK	-\$19,964	-\$23,440	-\$28,467	-\$32,133	-\$35,689
AL	-\$540,513	-\$622,537	-\$750,777	-\$810,271	-\$889,236
AR	-\$1,417,194	-\$1,596,909	-\$1,909,144	-\$2,093,901	-\$2,413,661
CA	-\$13,645,480	-\$15,594,228	-\$17,247,923	-\$18,892,358	-\$20,214,194
CO	-\$8,231,557	-\$9,293,446	-\$10,725,121	-\$11,551,702	-\$12,743,309
FL	-\$14,202	-\$15,596	-\$17,454	-\$18,477	-\$19,267
IL	-\$2,639,990	-\$2,989,295	-\$3,323,139	-\$3,651,789	-\$3,949,741
KS	-\$12,971,063	-\$14,098,009	-\$15,382,885	-\$16,378,836	-\$17,492,007
KY	-\$1,137,970	-\$1,246,827	-\$1,417,364	-\$1,498,792	-\$1,628,778
LA	-\$6,188,067	-\$6,989,934	-\$7,914,125	-\$8,518,859	-\$9,381,339
MI	-\$2,517,817	-\$2,891,585	-\$3,337,141	-\$3,589,754	-\$3,893,313
MS	-\$1,002,066	-\$1,104,229	-\$1,210,790	-\$1,307,784	-\$1,420,691
MT	-\$2,545,586	-\$2,901,657	-\$3,291,718	-\$3,583,071	-\$3,926,225
ND	-\$2,231,823	-\$2,780,275	-\$3,365,554	-\$3,589,459	-\$3,863,240
NE	-\$254,773	-\$297,826	-\$346,622	-\$393,232	-\$442,549
NM	-\$10,586,273	-\$12,444,923	-\$15,232,594	-\$17,429,928	-\$19,996,595
NY	-\$38,420	-\$44,267	-\$52,507	-\$56,184	-\$62,157
OH	-\$1,207,579	-\$1,379,926	-\$1,574,084	-\$1,731,857	-\$1,898,590
OK	-\$24,890,934	-\$29,942,470	-\$34,794,587	-\$37,503,577	-\$40,504,648
PA	-\$622,685	-\$723,755	-\$872,482	-\$954,091	-\$1,056,743
SD	-\$36,657	-\$41,133	-\$48,358	-\$55,553	-\$62,039
TX Permian	-\$37,989,588	-\$42,557,526	-\$47,249,860	-\$51,231,519	-\$54,738,459
TX Rest of	-\$42,918,313	-\$49,387,933	-\$57,374,016	-\$63,400,481	-\$70,437,885
UT	-\$2,758,947	-\$3,172,458	-\$3,709,880	-\$4,044,156	-\$4,255,823
WV	-\$979,123	-\$1,185,150	-\$1,397,922	-\$1,551,203	-\$1,750,888
WY	-\$2,673,250	-\$3,096,912	-\$3,591,684	-\$3,955,766	-\$4,095,879
Total	-\$180,059,834	-\$206,422,246	-\$236,166,199	-\$257,824,730	-\$281,172,945

Source: Energy and Industrial Advisory Partners



Table 24: Percentage Depletion Elimination Case State Tax Reductions (Continued)

	2031	2032	2033	2034	2035
AK	-\$37,064	-\$37,272	-\$39,291	-\$39,412	-\$41,721
AL	-\$923,630	-\$977,957	-\$1,000,028	-\$984,728	-\$995,533
AR	-\$2,521,003	-\$2,740,203	-\$2,887,604	-\$2,890,233	-\$3,044,883
CA	-\$19,377,033	-\$20,075,733	-\$20,373,485	-\$19,931,576	-\$20,281,707
CO	-\$13,102,255	-\$13,855,664	-\$14,413,456	-\$14,484,963	-\$15,044,727
FL	-\$17,538	-\$16,800	-\$16,974	-\$16,688	-\$16,808
IL	-\$3,887,109	-\$4,018,057	-\$4,156,663	-\$4,154,437	-\$4,268,763
KS	-\$16,610,029	-\$17,033,378	-\$17,335,312	-\$16,813,655	-\$16,992,657
KY	-\$1,540,744	-\$1,582,494	-\$1,593,087	-\$1,496,224	-\$1,498,044
LA	-\$9,289,229	-\$9,829,003	-\$10,154,034	-\$10,272,096	-\$10,558,008
MI	-\$3,888,783	-\$4,051,372	-\$4,149,809	-\$4,102,654	-\$4,178,110
MS	-\$1,348,115	-\$1,401,139	-\$1,442,085	-\$1,389,944	-\$1,398,958
MT	-\$3,833,072	-\$4,012,699	-\$4,015,035	-\$3,764,815	-\$3,653,578
ND	-\$3,763,523	-\$4,055,900	-\$4,340,869	-\$4,253,208	-\$4,328,372
NE	-\$412,943	-\$442,809	-\$469,215	-\$465,618	-\$488,379
NM	-\$20,945,214	-\$22,561,020	-\$23,734,599	-\$24,179,078	-\$25,518,360
NY	-\$62,496	-\$65,419	-\$66,356	-\$64,861	-\$67,879
OH	-\$1,897,625	-\$1,986,221	-\$2,065,287	-\$2,061,909	-\$2,130,058
OK	-\$41,308,743	-\$43,122,524	-\$43,736,270	-\$43,605,283	-\$44,265,479
PA	-\$1,103,743	-\$1,173,054	-\$1,217,542	-\$1,215,400	-\$1,243,573
SD	-\$60,478	-\$64,548	-\$70,016	-\$71,947	-\$76,174
TX Permian	-\$53,298,812	-\$55,696,632	-\$57,975,472	-\$58,745,556	-\$60,377,051
TX Rest of	-\$71,908,071	-\$75,764,728	-\$79,537,332	-\$81,321,148	-\$84,145,406
UT	-\$3,982,578	-\$3,990,743	-\$3,944,888	-\$3,703,153	-\$3,685,834
WV	-\$1,893,724	-\$2,076,770	-\$2,229,584	-\$2,257,870	-\$2,356,538
WY	-\$4,115,620	-\$4,204,912	-\$4,309,488	-\$4,576,172	-\$5,246,131
Total	-\$281,129,174	-\$294,837,050	-\$305,273,781	-\$306,862,626	-\$315,902,730

Source: Energy and Industrial Advisory Partners



Table 25: Percentage Depletion Elimination Case State Royalties Paid Reductions

	2021	2022	2023	2024	2025
AK	\$0	-\$8,188	-\$15,797	-\$34,120	-\$53,031
AL	\$0	-\$295,370	-\$587,072	-\$1,220,946	-\$1,733,829
AR	\$0	-\$741,830	-\$1,523,595	-\$2,566,159	-\$4,312,962
CA	\$0	-\$8,502,412	-\$18,167,566	-\$39,505,234	-\$59,280,227
CO	\$0	-\$7,455,463	-\$9,662,985	-\$17,053,906	-\$22,121,131
IL	\$0	-\$1,070,949	-\$2,188,306	-\$4,187,666	-\$6,060,739
KS	\$0	-\$3,744,537	-\$7,510,589	-\$15,246,354	-\$22,326,056
KY	\$0	-\$410,121	-\$811,411	-\$1,893,318	-\$2,597,596
LA	\$0	-\$2,513,352	-\$5,044,165	-\$10,689,571	-\$15,763,370
MI	\$0	-\$765,576	-\$1,554,102	-\$3,320,831	-\$4,793,371
MS	\$0	-\$365,764	-\$735,191	-\$1,719,232	-\$2,539,297
MT	\$0	-\$755,241	-\$1,008,376	-\$2,186,271	-\$3,727,687
ND	\$0	-\$686,533	-\$1,395,866	-\$4,043,484	-\$6,117,336
NE	\$0	-\$3,805	-\$131,653	-\$538,027	-\$833,470
NM	\$0	-\$2,935,129	-\$5,709,259	-\$13,734,436	-\$20,813,497
NY	\$0	-\$48,655	-\$92,954	-\$218,799	-\$318,422
OH	\$0	-\$915,528	-\$1,868,733	-\$3,860,956	-\$5,715,428
OK	\$0	-\$8,036,886	-\$15,745,948	-\$34,077,997	-\$53,463,306
PA	\$0	-\$1,346,328	-\$2,645,457	-\$5,457,630	-\$7,715,991
SD	\$0	-\$8,261	-\$16,385	-\$41,215	-\$65,425
TX Permian	\$0	-\$16,829,568	-\$33,661,309	-\$70,111,946	-\$104,509,918
TX Rest of	\$0	-\$19,183,239	-\$38,413,512	-\$79,802,070	-\$115,450,286
UT	\$0	-\$840,570	-\$1,765,106	-\$4,263,502	-\$6,430,338
WV	\$0	-\$514,137	-\$920,825	-\$1,719,034	-\$2,418,734
WY	\$0	-\$727,716	-\$1,448,525	-\$3,143,080	-\$4,489,551
Total	\$0	-\$78,705,158	-\$152,624,688	-\$320,635,784	-\$473,650,998

Source: Energy and Industrial Advisory Partners



Table 25: Percentage Depletion Elimination Case State Royalties Paid Reductions (Continued)

	2026	2027	2028	2029	2030
AK	-\$61,429	-\$72,124	-\$87,589	-\$98,871	-\$109,812
AL	-\$1,853,188	-\$2,134,411	-\$2,574,094	-\$2,778,071	-\$3,048,810
AR	-\$4,360,597	-\$4,913,565	-\$5,874,289	-\$6,442,773	-\$7,426,648
CA	-\$67,762,363	-\$77,439,689	-\$85,651,807	-\$93,817,942	-\$100,382,072
CO	-\$23,322,745	-\$26,331,431	-\$30,387,842	-\$32,729,822	-\$36,106,041
IL	-\$7,039,974	-\$7,971,452	-\$8,861,703	-\$9,738,104	-\$10,532,643
KS	-\$23,946,577	-\$26,027,093	-\$28,399,172	-\$30,237,850	-\$32,292,937
KY	-\$2,626,085	-\$2,877,294	-\$3,270,841	-\$3,458,751	-\$3,758,717
LA	-\$17,680,192	-\$19,971,239	-\$22,611,785	-\$24,339,597	-\$26,803,826
MI	-\$5,179,509	-\$5,948,402	-\$6,864,976	-\$7,384,637	-\$8,009,101
MS	-\$2,774,952	-\$3,057,866	-\$3,352,958	-\$3,621,557	-\$3,934,221
MT	-\$4,555,260	-\$5,192,440	-\$5,890,443	-\$6,411,811	-\$7,025,877
ND	-\$6,792,505	-\$8,461,706	-\$10,242,992	-\$10,924,442	-\$11,757,686
NE	-\$946,299	-\$1,106,210	-\$1,287,452	-\$1,460,577	-\$1,643,752
NM	-\$22,584,050	-\$26,549,170	-\$32,496,201	-\$37,183,847	-\$42,659,404
NY	-\$332,970	-\$383,651	-\$455,056	-\$486,929	-\$538,697
OH	-\$6,474,679	-\$7,398,754	-\$8,439,770	-\$9,285,701	-\$10,179,676
OK	-\$61,495,248	-\$73,975,514	-\$85,963,098	-\$92,655,895	-\$100,070,306
PA	-\$8,302,466	-\$9,650,070	-\$11,633,096	-\$12,721,212	-\$14,089,910
SD	-\$73,315	-\$82,267	-\$96,716	-\$111,106	-\$124,079
TX Permian	-\$118,717,464	-\$132,992,269	-\$147,655,814	-\$160,098,496	-\$171,057,683
TX Rest of	-\$134,119,729	-\$154,337,289	-\$179,293,801	-\$198,126,502	-\$220,118,392
UT	-\$6,897,366	-\$7,931,145	-\$9,274,700	-\$10,110,389	-\$10,639,557
WV	-\$2,688,667	-\$3,254,417	-\$3,838,687	-\$4,259,595	-\$4,807,931
WY	-\$4,990,067	-\$5,780,903	-\$6,704,476	-\$7,384,096	-\$7,645,641
Total	-\$535,577,693	-\$613,840,370	-\$701,209,359	-\$765,868,571	-\$834,763,417

Source: Energy and Industrial Advisory Partners



Table 25: Percentage Depletion Elimination Case State Royalties Paid Reductions (Continued)

	2031	2032	2033	2034	2035
AK	-\$114,042	-\$114,684	-\$120,895	-\$121,267	-\$128,373
AL	-\$3,166,730	-\$3,352,996	-\$3,428,667	-\$3,376,212	-\$3,413,255
AR	-\$7,756,931	-\$8,431,393	-\$8,884,936	-\$8,893,025	-\$9,368,871
CA	-\$96,224,801	-\$99,694,488	-\$101,173,101	-\$98,978,614	-\$100,717,335
CO	-\$37,123,056	-\$39,257,713	-\$40,838,124	-\$41,040,729	-\$42,626,727
IL	-\$10,365,624	-\$10,714,818	-\$11,084,435	-\$11,078,498	-\$11,383,369
KS	-\$30,664,668	-\$31,446,236	-\$32,003,653	-\$31,040,595	-\$31,371,059
KY	-\$3,555,564	-\$3,651,909	-\$3,676,355	-\$3,452,824	-\$3,457,024
LA	-\$26,540,653	-\$28,082,865	-\$29,011,526	-\$29,348,846	-\$30,165,736
MI	-\$7,999,782	-\$8,334,251	-\$8,536,750	-\$8,439,745	-\$8,594,969
MS	-\$3,733,241	-\$3,880,077	-\$3,993,466	-\$3,849,076	-\$3,874,038
MT	-\$6,859,182	-\$7,180,619	-\$7,184,799	-\$6,737,037	-\$6,537,982
ND	-\$11,454,201	-\$12,344,045	-\$13,211,339	-\$12,944,545	-\$13,173,307
NE	-\$1,533,788	-\$1,644,718	-\$1,742,798	-\$1,729,437	-\$1,813,980
NM	-\$44,683,124	-\$48,130,176	-\$50,633,811	-\$51,582,032	-\$54,439,167
NY	-\$541,634	-\$566,967	-\$575,085	-\$562,125	-\$588,288
OH	-\$10,174,499	-\$10,649,525	-\$11,073,455	-\$11,055,344	-\$11,420,737
OK	-\$102,056,895	-\$106,537,999	-\$108,054,315	-\$107,730,700	-\$109,361,772
PA	-\$14,716,579	-\$15,640,717	-\$16,233,893	-\$16,205,328	-\$16,580,974
SD	-\$120,956	-\$129,097	-\$140,032	-\$143,894	-\$152,348
TX Permian	-\$166,558,789	-\$174,051,975	-\$181,173,349	-\$183,579,862	-\$188,678,283
TX Rest of	-\$224,712,721	-\$236,764,776	-\$248,554,164	-\$254,128,588	-\$262,954,394
UT	-\$9,956,446	-\$9,976,857	-\$9,862,220	-\$9,257,882	-\$9,214,584
WV	-\$5,200,158	-\$5,702,802	-\$6,122,427	-\$6,200,100	-\$6,471,042
WY	-\$7,682,490	-\$7,849,169	-\$8,044,378	-\$8,542,187	-\$9,792,777
Total	-\$833,496,553	-\$874,130,873	-\$905,357,974	-\$910,018,491	-\$936,280,391

Source: Energy and Industrial Advisory Partners



Table 26: Percentage Depletion Elimination Case GDP Reductions \$Millions

	2021	2022	2023	2024	2025	2026	2027	2028
AK	\$0	-\$4	-\$5	-\$5	-\$6	-\$6	-\$6	-\$7
AL	\$0	-\$15	-\$28	-\$31	-\$38	-\$40	-\$41	-\$43
AR	\$0	-\$17	-\$34	-\$35	-\$44	-\$47	-\$49	-\$52
CA	\$0	-\$123	-\$324	-\$359	-\$463	-\$511	-\$539	-\$568
CO	\$0	-\$144	-\$206	-\$246	-\$298	-\$310	-\$321	-\$338
FL	\$0	-\$21	-\$33	-\$36	-\$44	-\$46	-\$47	-\$48
IL	\$0	-\$53	-\$105	-\$113	-\$140	-\$151	-\$157	-\$163
KS	\$0	-\$58	-\$151	-\$173	-\$225	-\$243	-\$252	-\$264
KY	\$0	-\$14	-\$28	-\$31	-\$38	-\$40	-\$41	-\$43
LA	\$0	-\$95	-\$152	-\$172	-\$208	-\$217	-\$224	-\$232
MI	\$0	-\$31	-\$66	-\$70	-\$87	-\$92	-\$95	-\$100
MS	\$0	-\$15	-\$27	-\$30	-\$38	-\$40	-\$41	-\$43
MT	\$0	-\$5	-\$13	-\$14	-\$19	-\$22	-\$24	-\$26
ND	\$0	-\$150	-\$185	-\$218	-\$253	-\$257	-\$260	-\$265
NE	\$0	-\$2	-\$6	-\$6	-\$9	-\$10	-\$10	-\$11
NM	\$0	-\$163	-\$211	-\$258	-\$312	-\$322	-\$333	-\$351
NY	\$0	-\$36	-\$56	-\$61	-\$73	-\$76	-\$77	-\$79
OH	\$0	-\$114	-\$186	-\$203	-\$243	-\$254	-\$259	-\$266
OK	\$0	-\$186	-\$314	-\$360	-\$461	-\$511	-\$543	-\$579
Other States	\$0	-\$96	-\$150	-\$162	-\$194	-\$203	-\$207	-\$211
PA	\$0	-\$111	-\$163	-\$185	-\$225	-\$245	-\$250	-\$258
SD	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$1
TX Permian	\$0	-\$853	-\$1,128	-\$1,323	-\$1,601	-\$1,658	-\$1,695	-\$1,734
TX Rest of	\$0	-\$1,651	-\$2,606	-\$2,886	-\$3,494	-\$3,676	-\$3,774	-\$3,898
UT	\$0	-\$8	-\$17	-\$24	-\$34	-\$37	-\$41	-\$46
WV	\$0	-\$38	-\$100	-\$104	-\$136	-\$148	-\$164	-\$187
WY	\$0	-\$44	-\$78	-\$93	-\$118	-\$125	-\$133	-\$142
Grand Total	\$0	-\$4,044	-\$6,372	-\$7,201	-\$8,799	-\$9,286	-\$9,584	-\$9,952

Source: Energy and Industrial Advisory Partners



Table 26: Percentage Depletion Elimination Case GDP Reductions \$Millions (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	-\$6.9	-\$7.1	-\$7.2	-\$7.1	-\$7.4	-\$7.4	-\$7.4
AL	-\$44.7	-\$46.1	-\$47.2	-\$47.8	-\$48.3	-\$48.3	-\$48.2
AR	-\$53.8	-\$56.7	-\$58.5	-\$60.5	-\$61.4	-\$61.9	-\$62.7
CA	-\$595.7	-\$620.3	-\$623.6	-\$636.0	-\$630.6	-\$628.9	-\$628.1
CO	-\$349.7	-\$363.3	-\$370.8	-\$379.5	-\$384.8	-\$387.1	-\$391.7
FL	-\$49.1	-\$50.1	-\$50.8	-\$51.1	-\$51.3	-\$51.5	-\$51.6
IL	-\$168.7	-\$174.1	-\$176.5	-\$179.7	-\$178.5	-\$179.5	-\$179.6
KS	-\$273.5	-\$283.3	-\$283.2	-\$280.7	-\$285.3	-\$283.3	-\$282.0
KY	-\$43.9	-\$45.3	-\$45.5	-\$46.1	-\$45.8	-\$45.4	-\$45.1
LA	-\$237.8	-\$244.5	-\$247.0	-\$250.0	-\$252.9	-\$254.2	-\$256.1
MI	-\$103.8	-\$107.1	-\$108.6	-\$110.7	-\$110.2	-\$110.2	-\$110.1
MS	-\$43.8	-\$45.1	-\$45.4	-\$46.0	-\$46.0	-\$45.9	-\$45.7
MT	-\$27.1	-\$28.9	-\$29.0	-\$30.2	-\$29.7	-\$28.7	-\$27.8
ND	-\$267.3	-\$269.6	-\$270.0	-\$272.0	-\$273.6	-\$273.5	-\$273.6
NE	-\$11.6	-\$12.4	-\$12.5	-\$12.8	-\$13.0	-\$13.2	-\$13.4
NM	-\$366.8	-\$383.8	-\$393.6	-\$406.6	-\$412.3	-\$416.5	-\$424.1
NY	-\$80.0	-\$81.2	-\$82.2	-\$81.6	-\$82.6	-\$83.0	-\$82.9
OH	-\$271.8	-\$277.5	-\$280.8	-\$283.3	-\$283.8	-\$284.9	-\$285.1
OK	-\$602.6	-\$624.8	-\$636.1	-\$649.5	-\$652.5	-\$653.2	-\$655.4
Other States	-\$215.0	-\$218.5	-\$221.4	-\$222.4	-\$223.0	-\$224.0	-\$223.7
PA	-\$264.7	-\$270.7	-\$274.9	-\$275.6	-\$280.2	-\$281.2	-\$281.7
SD	-\$0.6	-\$0.6	-\$0.6	-\$0.6	-\$0.7	-\$0.7	-\$0.7
TX Permian	-\$1,769.8	-\$1,801.2	-\$1,804.9	-\$1,821.7	-\$1,834.2	-\$1,844.3	-\$1,855.2
TX Rest of	-\$4,007.5	-\$4,114.4	-\$4,177.3	-\$4,209.6	-\$4,258.3	-\$4,287.6	-\$4,307.8
UT	-\$49.3	-\$51.9	-\$50.9	-\$51.4	-\$50.0	-\$48.3	-\$47.6
WV	-\$203.2	-\$223.5	-\$241.4	-\$262.2	-\$276.4	-\$282.8	-\$291.7
WY	-\$150.1	-\$158.7	-\$162.6	-\$168.1	-\$172.1	-\$164.0	-\$153.2
Grand Total	-\$10,258.8	-\$10,560.7	-\$10,702.6	-\$10,842.9	-\$10,945.1	-\$10,989.3	-\$11,032.1

Source: Energy and Industrial Advisory Partners

Table 27: Percentage Depletion Elimination Case Employment Reductions by Sector

	2021	2022	2023	2024	2025	2026	2027	2028
Accommodation	0	-276	-432	-488	-596	-628	-648	-672
Admin., Support, WM, Remediation	0	-2,472	-3,870	-4,290	-5,195	-5,463	-5,598	-5,768
Ag., Forestry, Fishing, Hunting	0	-258	-410	-477	-590	-627	-653	-684
Arts, Ent, Rec	0	-406	-638	-722	-883	-933	-962	-999
Construction	0	-1,703	-2,842	-3,002	-3,606	-3,798	-3,855	-3,934
Durable Goods MFG	0	-8,736	-13,783	-14,781	-17,655	-18,481	-18,724	-19,058
Ed. Services	0	-617	-971	-1,090	-1,329	-1,401	-1,443	-1,495
Fin., Ins.	0	-1,678	-2,597	-2,938	-3,580	-3,769	-3,882	-4,021
Food & Drinking Places	0	-1,537	-2,416	-2,709	-3,299	-3,477	-3,578	-3,704
Government	0	-2	-4	-9	-14	-16	-18	-21
Health Care & Social Assistance	0	-2,630	-4,130	-4,640	-5,654	-5,961	-6,139	-6,361
Households	0	-223	-351	-395	-482	-509	-524	-544
Information	0	-406	-638	-725	-887	-936	-967	-1,004
MGMT of companies & enterprises	0	-495	-779	-903	-1,114	-1,180	-1,227	-1,282
Mining, Quarrying, & O&G Ext.	0	-4,132	-6,719	-8,195	-10,371	-11,084	-11,732	-12,507
Nondurable Goods MFG	0	-803	-1,278	-1,465	-1,803	-1,910	-1,980	-2,065
Other Services	0	-1,301	-2,032	-2,278	-2,769	-2,916	-2,999	-3,102
Prof., Sci, & Tech. Services	0	-3,460	-5,446	-6,230	-7,652	-8,093	-8,385	-8,745
Real Estate	0	-2,734	-4,266	-4,781	-5,812	-6,119	-6,291	-6,504
Retail	0	-2,711	-4,261	-4,760	-5,787	-6,096	-6,266	-6,479
Transp. & Warehousing	0	-1,429	-2,247	-2,496	-3,027	-3,185	-3,268	-3,372
Utilities	0	-141	-223	-261	-324	-343	-360	-383
Wholesale trade	0	-1,221	-1,923	-2,111	-2,547	-2,676	-2,734	-2,808
Grand Total	0	-39,373	-62,260	-69,746	-84,975	-89,600	-92,232	-95,512

Source: Energy and Industrial Advisory Partners



Table 27: Percentage Depletion Elimination Case Employment Reductions by Sector (Continued)

	2029	2030	2031	2032	2033	2034	2035
Accommodation	-693	-713	-723	-732	-739	-742	-745
Admin., Support, WM, Remediation	-5,917	-6,056	-6,135	-6,190	-6,230	-6,259	-6,274
Ag., Forestry, Fishing, Hunting	-709	-734	-742	-755	-764	-767	-772
Arts, Ent, Rec	-1,030	-1,059	-1,073	-1,086	-1,096	-1,100	-1,104
Construction	-4,017	-4,083	-4,145	-4,158	-4,165	-4,187	-4,178
Durable Goods MFG	-19,408	-19,688	-19,946	-20,003	-20,031	-20,128	-20,090
Ed. Services	-1,539	-1,582	-1,604	-1,623	-1,637	-1,644	-1,649
Fin., Ins.	-4,138	-4,251	-4,303	-4,351	-4,391	-4,411	-4,429
Food & Drinking Places	-3,811	-3,914	-3,966	-4,012	-4,045	-4,062	-4,075
Government	-22	-25	-25	-26	-27	-27	-28
Health Care & Social Assistance	-6,548	-6,729	-6,819	-6,901	-6,961	-6,991	-7,015
Households	-560	-576	-584	-591	-596	-599	-601
Information	-1,036	-1,066	-1,080	-1,094	-1,104	-1,109	-1,114
MGMT of Companies & Enterprises	-1,327	-1,373	-1,389	-1,411	-1,428	-1,434	-1,444
Mining, Quarrying, & O&G Ext.	-13,093	-13,721	-13,919	-14,274	-14,529	-14,534	-14,651
Nondurable Goods MFG	-2,135	-2,204	-2,231	-2,264	-2,289	-2,299	-2,311
Other Services	-3,189	-3,274	-3,316	-3,353	-3,380	-3,395	-3,406
Prof., Sci, & Tech. Services	-9,036	-9,328	-9,452	-9,596	-9,698	-9,733	-9,778
Real Estate	-6,686	-6,861	-6,949	-7,023	-7,078	-7,109	-7,132
Retail	-6,661	-6,836	-6,927	-7,002	-7,058	-7,089	-7,110
Transp. & Warehousing	-3,463	-3,550	-3,598	-3,634	-3,661	-3,677	-3,687
Utilities	-399	-417	-428	-440	-448	-450	-453
Wholesale Trade	-2,875	-2,936	-2,974	-2,996	-3,012	-3,025	-3,028
Grand Total	-98,293	-100,978	-102,329	-103,515	-104,367	-104,770	-105,074

Source: Energy and Industrial Advisory Partners



Table 28: Percentage Depletion Elimination Case Employment Reductions by State

	2021	2022	2023	2024	2025	2026	2027	2028
AK	0	-31	-37	-41	-46	-48	-49	-51
AL	0	-155	-304	-327	-402	-425	-438	-461
AR	0	-189	-379	-394	-497	-526	-544	-575
CA	0	-1,124	-2,907	-3,218	-4,137	-4,567	-4,806	-5,064
CO	0	-1,367	-1,960	-2,304	-2,775	-2,878	-2,967	-3,096
FL	0	-241	-378	-410	-491	-514	-523	-534
IL	0	-497	-997	-1,080	-1,335	-1,442	-1,498	-1,557
KS	0	-641	-1,684	-1,907	-2,465	-2,663	-2,761	-2,880
KY	0	-139	-289	-307	-377	-396	-404	-418
LA	0	-950	-1,513	-1,680	-2,024	-2,110	-2,163	-2,227
MI	0	-315	-684	-728	-903	-960	-994	-1,045
MS	0	-171	-313	-344	-426	-453	-465	-480
MT	0	-46	-137	-133	-180	-205	-220	-235
ND	0	-1,177	-1,458	-1,709	-1,988	-2,014	-2,042	-2,075
NE	0	-18	-73	-73	-97	-108	-114	-123
NM	0	-1,703	-2,204	-2,651	-3,179	-3,268	-3,362	-3,512
NY	0	-303	-479	-517	-618	-644	-652	-663
OH	0	-1,160	-1,895	-2,070	-2,478	-2,592	-2,645	-2,713
OK	0	-2,018	-3,398	-3,838	-4,870	-5,386	-5,692	-6,034
Other States	0	-998	-1,562	-1,681	-2,007	-2,100	-2,128	-2,167
PA	0	-1,003	-1,482	-1,667	-2,013	-2,194	-2,233	-2,293
SD	0	-2	-3	-3	-4	-5	-5	-5
TX Permian	0	-7,979	-10,560	-12,278	-14,792	-15,291	-15,595	-15,922
TX Rest of	0	-16,281	-25,694	-28,253	-34,102	-35,814	-36,671	-37,759
UT	0	-87	-186	-257	-361	-400	-437	-490
WV	0	-361	-943	-992	-1,294	-1,414	-1,570	-1,790
WY	0	-419	-742	-882	-1,115	-1,183	-1,254	-1,343
Grand Total	0	-39,373	-62,260	-69,746	-84,975	-89,600	-92,232	-95,512

Source: Energy and Industrial Advisory Partners



Table 28: Percentage Depletion Elimination Case Employment Reductions by State (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	-52	-53	-54	-53	-55	-55	-56
AL	-479	-494	-505	-512	-518	-518	-516
AR	-599	-630	-649	-670	-680	-685	-694
CA	-5,306	-5,521	-5,551	-5,659	-5,612	-5,597	-5,590
CO	-3,192	-3,297	-3,360	-3,427	-3,465	-3,485	-3,517
FL	-545	-555	-562	-565	-567	-569	-569
IL	-1,615	-1,668	-1,691	-1,723	-1,711	-1,720	-1,722
KS	-2,983	-3,086	-3,089	-3,056	-3,105	-3,086	-3,071
KY	-430	-441	-445	-449	-445	-442	-438
LA	-2,279	-2,333	-2,357	-2,379	-2,402	-2,415	-2,429
MI	-1,084	-1,119	-1,135	-1,157	-1,152	-1,151	-1,150
MS	-493	-508	-512	-518	-517	-517	-514
MT	-248	-261	-264	-275	-268	-260	-253
ND	-2,096	-2,114	-2,117	-2,132	-2,144	-2,145	-2,146
NE	-131	-140	-141	-144	-147	-149	-151
NM	-3,645	-3,787	-3,874	-3,986	-4,028	-4,065	-4,126
NY	-675	-684	-693	-687	-696	-698	-697
OH	-2,777	-2,835	-2,869	-2,895	-2,901	-2,912	-2,915
OK	-6,265	-6,478	-6,591	-6,717	-6,744	-6,753	-6,769
Other States	-2,207	-2,239	-2,269	-2,276	-2,280	-2,290	-2,287
PA	-2,345	-2,391	-2,426	-2,426	-2,465	-2,474	-2,476
SD	-6	-6	-6	-6	-7	-7	-7
TX Permian	-16,217	-16,477	-16,525	-16,657	-16,750	-16,837	-16,920
TX Rest of	-38,735	-39,668	-40,252	-40,499	-40,904	-41,166	-41,308
UT	-530	-557	-547	-552	-536	-518	-510
WV	-1,946	-2,144	-2,316	-2,517	-2,655	-2,716	-2,803
WY	-1,412	-1,491	-1,527	-1,576	-1,613	-1,541	-1,442
Grand Total	-98,293	-100,978	-102,329	-103,515	-104,367	-104,770	-105,074

Source: Energy and Industrial Advisory Partners



Table 29: Percentage Depletion Elimination Case Direct Employment Reductions by State

	2021	2022	2023	2024	2025	2026	2027	2028
AK	0	-16	-19	-20	-22	-23	-24	-25
AL	0	-68	-134	-146	-181	-191	-198	-210
AR	0	-101	-202	-211	-267	-282	-292	-309
CA	0	-511	-1,285	-1,437	-1,850	-2,040	-2,150	-2,267
CO	0	-541	-780	-903	-1,083	-1,122	-1,151	-1,193
FL	0	-108	-169	-183	-219	-229	-233	-238
IL	0	-213	-433	-473	-588	-637	-664	-693
KS	0	-357	-940	-1,064	-1,375	-1,486	-1,541	-1,608
KY	0	-65	-138	-143	-175	-185	-188	-194
LA	0	-409	-651	-715	-856	-891	-910	-933
MI	0	-136	-299	-323	-403	-429	-447	-472
MS	0	-91	-165	-183	-226	-240	-247	-255
MT	0	-22	-69	-64	-84	-95	-101	-107
ND	0	-582	-723	-847	-985	-999	-1,012	-1,029
NE	0	-10	-40	-40	-54	-60	-64	-68
NM	0	-854	-1,102	-1,315	-1,570	-1,613	-1,654	-1,720
NY	0	-160	-253	-273	-326	-340	-344	-349
OH	0	-473	-775	-852	-1,023	-1,072	-1,097	-1,128
OK	0	-925	-1,557	-1,749	-2,212	-2,444	-2,577	-2,728
Other States	0	-474	-741	-798	-953	-997	-1,010	-1,029
PA	0	-407	-603	-673	-810	-882	-895	-917
SD	0	-1	-2	-2	-2	-3	-3	-3
TX Permian	0	-2,740	-3,632	-4,180	-5,014	-5,173	-5,263	-5,360
TX Rest of	0	-6,040	-9,530	-10,421	-12,553	-13,167	-13,454	-13,820
UT	0	-39	-83	-118	-166	-184	-202	-228
WV	0	-195	-498	-538	-704	-771	-861	-986
WY	0	-228	-404	-483	-611	-649	-689	-739
Grand Total	0	-15,763	-25,226	-28,152	-34,314	-36,204	-37,270	-38,608

Source: Energy and Industrial Advisory Partners



Table 29: Percentage Depletion Elimination Case Direct Employment Reductions by State
(Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	-25	-26	-26	-26	-27	-27	-27
AL	-219	-226	-232	-236	-239	-238	-238
AR	-323	-340	-350	-362	-368	-370	-375
CA	-2,377	-2,474	-2,485	-2,534	-2,515	-2,508	-2,506
CO	-1,226	-1,260	-1,283	-1,305	-1,316	-1,323	-1,333
FL	-242	-246	-249	-251	-251	-252	-252
IL	-720	-745	-755	-770	-766	-770	-771
KS	-1,666	-1,723	-1,726	-1,708	-1,735	-1,725	-1,716
KY	-199	-203	-205	-207	-205	-204	-202
LA	-953	-972	-983	-990	-998	-1,003	-1,008
MI	-491	-509	-516	-527	-526	-525	-525
MS	-263	-271	-273	-277	-276	-276	-275
MT	-112	-118	-119	-124	-121	-118	-114
ND	-1,040	-1,049	-1,051	-1,058	-1,064	-1,064	-1,065
NE	-73	-78	-79	-81	-82	-83	-84
NM	-1,780	-1,843	-1,883	-1,935	-1,952	-1,969	-1,995
NY	-355	-360	-365	-361	-366	-367	-366
OH	-1,157	-1,184	-1,198	-1,210	-1,214	-1,219	-1,221
OK	-2,831	-2,925	-2,976	-3,031	-3,043	-3,047	-3,054
Other States	-1,048	-1,064	-1,078	-1,081	-1,083	-1,088	-1,087
PA	-936	-953	-966	-965	-979	-983	-983
SD	-3	-3	-3	-3	-4	-4	-4
TX Permian	-5,449	-5,527	-5,550	-5,587	-5,610	-5,638	-5,660
TX Rest of	-14,156	-14,468	-14,676	-14,751	-14,878	-14,966	-15,002
UT	-246	-259	-254	-256	-249	-241	-237
WV	-1,073	-1,186	-1,283	-1,396	-1,474	-1,508	-1,558
WY	-778	-822	-843	-870	-891	-850	-794
Grand Total	-39,740	-40,835	-41,406	-41,899	-42,233	-42,365	-42,452

Source: Energy and Industrial Advisory Partners



Table 30: Percentage Depletion Elimination Case Indirect and Induced Employment Reductions by State

	2021	2022	2023	2024	2025	2026	2027	2028
AK	0	-15	-19	-21	-23	-24	-25	-26
AL	0	-87	-170	-181	-221	-234	-240	-251
AR	0	-88	-177	-183	-230	-244	-252	-265
CA	0	-613	-1,622	-1,781	-2,288	-2,527	-2,656	-2,797
CO	0	-826	-1,180	-1,402	-1,692	-1,756	-1,816	-1,903
FL	0	-133	-209	-227	-272	-285	-290	-297
IL	0	-284	-564	-607	-747	-805	-834	-865
KS	0	-284	-744	-843	-1,089	-1,177	-1,220	-1,272
KY	0	-74	-152	-164	-201	-212	-216	-225
LA	0	-540	-861	-966	-1,168	-1,219	-1,253	-1,294
MI	0	-179	-385	-405	-500	-531	-548	-573
MS	0	-80	-148	-162	-200	-212	-218	-224
MT	0	-24	-68	-69	-96	-110	-119	-128
ND	0	-595	-735	-862	-1,002	-1,015	-1,029	-1,046
NE	0	-8	-32	-32	-43	-48	-51	-54
NM	0	-850	-1,102	-1,336	-1,609	-1,655	-1,708	-1,792
NY	0	-143	-226	-244	-292	-305	-309	-314
OH	0	-687	-1,120	-1,218	-1,455	-1,520	-1,549	-1,585
OK	0	-1,093	-1,841	-2,089	-2,657	-2,942	-3,115	-3,306
Other States	0	-525	-821	-883	-1,055	-1,103	-1,118	-1,138
PA	0	-596	-879	-994	-1,202	-1,312	-1,337	-1,376
SD	0	-1	-1	-1	-2	-2	-2	-2
TX Permian	0	-5,240	-6,928	-8,098	-9,778	-10,117	-10,332	-10,562
TX Rest of	0	-10,241	-16,164	-17,831	-21,549	-22,647	-23,217	-23,938
UT	0	-48	-103	-140	-195	-216	-235	-263
WV	0	-166	-445	-455	-590	-643	-710	-804
WY	0	-191	-338	-400	-504	-534	-565	-604
Grand Total	0	-23,610	-37,034	-41,594	-50,661	-53,397	-54,962	-56,905

Source: Energy and Industrial Advisory Partners



Table 30: Percentage Depletion Elimination Case Indirect and Induced Employment Reductions by State (Continued)

	2029	2030	2031	2032	2033	2034	2035
AK	-27	-28	-28	-28	-29	-29	-29
AL	-260	-268	-273	-277	-279	-279	-279
AR	-277	-290	-299	-308	-313	-315	-319
CA	-2,929	-3,047	-3,066	-3,125	-3,096	-3,089	-3,083
CO	-1,966	-2,037	-2,077	-2,122	-2,149	-2,161	-2,185
FL	-303	-309	-313	-314	-316	-317	-317
IL	-895	-923	-936	-952	-945	-950	-951
KS	-1,317	-1,362	-1,363	-1,348	-1,370	-1,361	-1,354
KY	-231	-238	-239	-242	-240	-238	-236
LA	-1,326	-1,361	-1,374	-1,389	-1,404	-1,412	-1,421
MI	-593	-610	-619	-630	-626	-626	-625
MS	-231	-237	-239	-242	-241	-241	-240
MT	-136	-144	-145	-151	-148	-143	-138
ND	-1,056	-1,065	-1,067	-1,074	-1,080	-1,080	-1,081
NE	-58	-62	-62	-64	-65	-65	-66
NM	-1,865	-1,944	-1,990	-2,052	-2,077	-2,097	-2,131
NY	-320	-324	-329	-326	-330	-331	-331
OH	-1,620	-1,652	-1,672	-1,685	-1,687	-1,693	-1,694
OK	-3,435	-3,553	-3,616	-3,686	-3,701	-3,705	-3,715
Other States	-1,159	-1,176	-1,191	-1,195	-1,197	-1,202	-1,200
PA	-1,409	-1,438	-1,460	-1,462	-1,486	-1,491	-1,493
SD	-3	-3	-3	-3	-3	-3	-3
TX Permian	-10,768	-10,950	-10,975	-11,070	-11,140	-11,199	-11,260
TX Rest of	-24,580	-25,200	-25,576	-25,748	-26,026	-26,200	-26,306
UT	-284	-298	-293	-296	-287	-277	-273
WV	-873	-958	-1,033	-1,121	-1,180	-1,208	-1,245
WY	-634	-669	-685	-706	-722	-691	-648
Grand Total	-58,552	-60,143	-60,923	-61,616	-62,134	-62,405	-62,622

Source: Energy and Industrial Advisory Partners



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