

Questions and Answers about the Energy Innovation and Carbon Dividend Act of 2019

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1. How is the Energy Innovation & Carbon Dividend Act similar to Carbon Fee & Dividend?

These provisions are exactly the same:

- 1.1. The carbon fee is assessed on coal, oil, and natural gas at the first point of sale.
- 1.2. The carbon fee starts at \$15 per metric ton (mt) of potential carbon dioxide equivalent (CO₂-e) emissions and increases by \$10/mt each succeeding year.
- 1.3. Fluorinated greenhouse gases like HFCs are covered.
- 1.4. The carbon fee increases until covered fossil fuel emissions have been reduced by 90 percent.
- 1.5. All net revenue is paid to American households, with adults getting a full share and minors under 19 years old getting a half-share.
- 1.6. The carbon dividend is counted as regular income for federal taxation but not to determine eligibility for mean-tested social programs.
- 1.7. A carbon border fee adjustment is applied to emissions-intensive, trade-exposed goods that are imported or exported.

2. How is the Energy Innovation and Carbon Dividend Act different from Carbon Fee and Dividend?

There are 13 important provisions in the bill that distinguish it from CCL's Carbon Fee and Dividend. These are listed below and explained in more detail to follow:

- 2.1. There is a statutory emissions reduction schedule in the bill.
- 2.2. There are specific conditions that can trigger a scale-up in the annual carbon fee increase.
- 2.3. All children in a household are eligible for a child dividend.
- 2.4. The annual carbon fee increase will be adjusted for inflation.
- 2.5. There are some special provisions for fossil fuels used in agriculture.
- 2.6. There are some special provisions for fossil fuels used by the military.
- 2.7. There is a special carbon fee rate for fluorinated greenhouse gases.
- 2.8. Carbon dividend payments will begin in advance of the first carbon fee collection.
- 2.9. The policy will accommodate CO₂ capture and sequestration under certain conditions.
- 2.10. There are narrow, temporary limits imposed on some greenhouse gas regulations.
- 2.11. The program will end when certain technical and budgetary conditions are met.
- 2.12. The carbon border fee adjustment will apply to exported fossil fuels.
- 2.13. There are two National Academy of Sciences studies that will help ensure program effectiveness and sustainability

2.1. What is the statutory emissions reduction schedule?

The Energy Innovation and Carbon Dividend Act of 2019 mandates an annual reduction of covered greenhouse gas emissions starting in 2025. Starting that year, each year's emissions must hit a target that declines by 5 percent of 2016 emissions. For instance, 2025 emissions must end up 5 percent lower than 2016 emissions, 2026 emissions must end up 10 percent lower, and so on. That continues until 2034, after which the annual drop in the emissions target is reduced to 2.5 percent of 2016 emissions until 2050, when covered emissions drop to 90 percent below 2016 emissions.

If the cut in emissions somehow fails to keep up with this schedule, the annual increase in the carbon fee can be 'ratcheted up' (see "What is the trigger ..." below). This is one of three "environmental integrity" mechanisms tied to the schedule. Another is the restoration and strengthening of EPA authority to regulate greenhouse gases if the scheduled targets have not been met at the 10-year mark, detailed in "What are the limits placed on EPA regulation ..." below.

This provision increases confidence that the carbon fee can activate innovation as intended. It not only gives additional assurance of the effectiveness of the policy, but also gives businesses an additional incentive to move decisively on climate-friendly investments.

2.2. What is the trigger for scaling up the annual carbon fee increase?

The bill sets a target of 90% GHG emissions reductions by 2050, with a set of interim targets that starts in 2025 as described above. Starting in 2025, if the emissions cuts don't keep up with the emissions reduction schedule described above, the annual increase in the carbon fee can be strengthened from \$10 to \$15 per metric ton.

This is more definitive than a similar provision in the Carbon Fee and Dividend, where the Energy Department would have the responsibility to determine if and when a larger fee increase is needed. In effect, the main difference is that the conditions for increasing the fee are made explicit in the Energy Innovation and Carbon Dividend Act, and it's the Treasury Department that carries it out at the direction of Congress.

2.3. What is the change in the number of child dividends available to a household?

The Energy Innovation and Carbon Dividend Act of 2019 does not limit child dividends to two per household as the Carbon Fee and Dividend proposal previously did. All dependent children under 19 years old in an eligible household will be entitled to receive a half-share carbon dividend.

According to the [Dividend Delivery Study](#), this change would reduce the size of the dividends paid to a household with two or fewer children by about 2.4 percent, but would increase total dividends paid to a couple with three or more children. For example, a family with two children would receive about \$1.60 less per month during the first year, but a family with three children would get about \$11 more than they would have under the old policy.

This change will also simplify eligibility determinations and management of the dividend payments, thus reducing administrative cost.

2.4. **What does it mean for the annual fee increase to be adjusted for inflation?**

The Carbon Fee and Dividend and the 2018 version of the Energy Innovation and Carbon Dividend Act did not specify whether an inflation adjustment would be applied to the annual \$10/mt increase. But a cost analysis showed that without an inflation adjustment, the effectiveness of the fee increase would be weakened as the years went by and the value of a dollar diminishes.

The policy needs to remain strong, because the deeper emissions cuts go, the harder it is to get a little more. That's why the bill sponsors felt it was essential to adjust the fee increase for inflation. Making this adjustment also brings the carbon fee within the range of carbon prices recommended in the IPCC SR1.5 report to hold global temperature below 1.5°C.

2.5. **What are the special provisions for agriculture?**

The Energy Innovation and Carbon Dividend Act of 2019 provides a refund of carbon fee costs in fuels — chiefly diesel fuel — used on farms. This is considered an extension of a fuel tax exemption that is already in place for agricultural fuels. It would not apply to other forms of energy such as electricity used on a farm. Although it will provide relief for farmers, in practice it would have little impact on total U.S. greenhouse gas emissions because agricultural fuel-generated emissions account for [less than 1 percent](#) of our total emissions.

Another provision related to agriculture concerns is non-fossil fuel emissions from the carbon fee. Since this policy is focused on fossil-fuel emissions, it does not cover things like methane from livestock and manure and nitrous oxide from farming operations. Although this was implicit in the Carbon Fee and Dividend, the text of this bill makes it explicit by saying that “non-fossil fuel emissions that occur on a farm” are not subject to the carbon fee.

It should also be noted that, although there are no specific provisions spelled out for fertilizer, the CCS refund covered above would give fertilizer manufacturers an opportunity to minimize their embedded carbon fee costs by sending their waste CO₂, which is normally produced in the process, to a sequestration site instead of into the atmosphere.

2.6. **What are the special provisions for the military?**

The Energy Innovation and Carbon Dividend Act of 2019 provides a refund of carbon fee costs in covered fuels used by the military. This would include gasoline, diesel, or other fuels used for ships, planes, and ground transport, plus coal, oil, or natural gas used to generate electricity on military bases and in field operations.

Based on Defense Department fuel procurement reports [here](#) and [here](#), greenhouse gas emissions from our military amount to about 1.2 percent of total U.S. emissions, but accounts for a significant part of taxpayer support for the armed forces. The U.S. military has also been aggressively pursuing alternative sources of energy for strategic and environmental reasons, so we can expect that they will take full advantage of new developments in renewable and low-carbon energy technologies, further reducing their emissions.

2.7. **How are the rules for fluorinated gases different?**

Fluorinated gases are potent greenhouse gases, but are quite different from the others we are familiar with. Unlike CO₂, methane, and nitrous oxide, they are not produced from fossil fuel

combustion or leakage from fossil fuel equipment and pipelines. They are produced industrially for refrigeration and some other applications.

After the Montreal Protocol was signed in 1987 to eliminate the use of Freon® and other chemicals that harm the protective stratospheric ozone layer, they were replaced by other fluorine-containing gases that don't have that effect. Unfortunately, those replacements — hydrofluorocarbons (HFCs) — were later found to have global warming potential (GWP) many thousands of times greater than that of CO₂.

In 2016, countries met in Kigali, Rwanda, and crafted an amendment to the Montreal Protocol that mandates a phase-down of HFCs. In spite of support from both environmental groups and affected industries, U.S. ratification of that amendment has languished due to a patchwork of state rules and court cases. A simple nationwide policy to price HFCs and other fluorinated gases according to their global warming impact could break that logjam.

In Carbon Fee and Dividend, the carbon fee level was proposed to be scaled up according to the widely accepted GWP values for these gases. For example, the carbon fee for CFC-12 (one of the covered gases) would be multiplied by a factor of 10,800. With a carbon fee of \$15 per metric ton, the fee for a metric ton of CFC-12 would be \$162,000.

In the Energy Innovation and Carbon Dividend Act, the effective carbon fee multipliers for fluorinated gases will be 10 percent of their GWP. Experience in other countries (in 2014 Spain enacted a [tax at 2 percent of GWP](#) leading to a [45 percent reduction](#) in one year) has shown that emissions of these gases can be reduced effectively even when the carbon fee is indexed to a small percentage of the GWP.

2.8. What is the provision to start carbon dividend payments before carbon fee collection?

The bill contains a provision for an “advance payment” of the first month’s dividend to all recipients in the month prior to the collection of the carbon fee. This additional payment will be deducted from the fund over the following 36 months so the program remains revenue-neutral. In essence, the fund would “borrow” from future carbon fee receipts to finance that first month’s dividends.

The objective of this provision is to ensure the public receives funds to absorb initial cost increases before prices actually rise.

2.9. What is the provision for CO₂ capture and sequestration?

If carbon dioxide can be captured or scrubbed out of an emissions source and “sequestered” in some permanent form, it doesn’t contribute to global warming. The greatest potential to sequester large amounts of CO₂ is in deep underground storage, far below the earth’s surface. Recent research has shown that a common form of rock called basalt can lock up CO₂ permanently. Scrubbing CO₂ out of industrial gases is well known and widely used when necessary for engineering reasons, but it has not been practiced for environmental reasons because there is currently no financial reward for doing so.

The Energy Innovation and Carbon Dividend Act changes that by providing a refund for companies that collect and sequester CO₂ produced by a covered fuel (coal, oil, or natural gas) in a manner that is “safe, permanent, and in compliance with any applicable local, State, and Federal laws,” as determined by consultation with the EPA. The refund would be equal to the carbon fee that was in place when the CO₂ was created (presumably through combustion). The

Energy Innovation and Carbon Dividend Act also stipulates that the refund would be modified by any amount of “likely” escape into the atmosphere, as determined by the EPA.

In practice, CO₂ capture and sequestration (CCS) could be applied to any power plant or manufacturing process that burns coal, oil, or natural gas and vents the CO₂ to the atmosphere. Another likely application is in ammonia fertilizer manufacture, where pure CO₂ coming out of the process is often released to the atmosphere, but could be compressed and sent to a pipeline that carries it to a sequestration site.

This provision in the bill allows CCS-equipped facilities to compete on a level playing field with low-carbon energy technologies like wind, solar, hydro, and nuclear energy. It doesn't subsidize or fund research into CCS, but simply allows private companies to determine for themselves if they judge the carbon price to be sufficient to justify investing in CCS. The “safe, permanent” language ensures that any concerns about leakage or seismic disruption would be addressed before a sequestration site would be approved.

2.10. **What are the limits placed on EPA regulation of greenhouse gases?**

The Energy Innovation and Carbon Dividend Act includes narrow limits on regulations related to greenhouse gas emissions covered by the carbon fee, so that those emissions are not subject to both the fee and regulation for the first 10 years. After that time, if the emission targets mandated in the bill are not being met, EPA regulatory authority over covered GHG emissions would be restored.

This is one of three ‘environmental integrity’ mechanisms built into the bill, the others being a ratcheting up of the annual increase in the carbon fee from \$10 to \$15 per metric ton per year if targets are not met, and two National Academy of Sciences studies of environmental impacts.

Importantly, the Clean Air Act will remain the law of the land. The Clean Air Act is the foundational EPA authority over greenhouse gases and was confirmed by the Supreme Court's Massachusetts vs. EPA ruling in 2007.

The regulatory limits in this bill affect only three existing mechanisms: (1) the Clean Power Plan (CPP), which never went into effect and is being replaced by the Affordable Clean Energy rule (ACE) proposed by the Trump Administration; (2) permitting rules referred to as ‘New Source Performance Standards’ (NSPS) for new industrial plants that emit greenhouse gases; and (3) permitting rules for plant modifications under the same NSPS provisions. These three mechanisms would be put on hold as long as emissions targets were being met.

This bill explicitly preserves federal authority over greenhouse gas emissions from vehicles that are part of the Corporate Average Fuel Economy (CAFE) Standards, including California's waiver to apply more stringent emission standards.

EPA rules that don't directly regulate covered greenhouse gases will remain untouched and still in effect: pollutants like NO_x, sulfur, ozone, particulates, and mercury; GHG authority over non-road vehicles and aircraft; the Renewable Fuel Standard for GHG reduction in gasoline; and the methane abatement program that applies to leaked and vented methane from oil and gas operations. Additionally, states would retain authority to pass GHG regulations.

There is overwhelming evidence from recent economic literature that a policy like this will effectively reduce GHG emissions far more than any existing or proposed regulation, including the CPP. This is also supported by the [REMI report](#) and by a review of 11 different

revenue-neutral carbon pricing plans in a February 2018 issue of [Climate Change Economics](#). Furthermore, compared to the CPP's 2030 emissions target, this bill's statutory requirements would exceed it by a factor of nine.

The carefully written provisions in this bill allow the carbon fee to simply, affordably, and effectively reduce greenhouse gas from fossil fuels while preserving regulatory authority as a backstop.

2.11. What are the terms under which the program would end?

The carbon fee enacted by the Energy Innovation and Carbon Dividend Act will stop rising when U.S. greenhouse gas emissions have fallen 90 percent below 2016 levels. This is slightly different from the Carbon Fee and Dividend proposal, wherein the target was 90 percent below 1990 levels, but U.S. emissions in 2016 were very close to those in 1990.

The bill has an additional provision for ending the program entirely when the 90 percent reduction target is achieved and the monthly adult carbon dividend is less than \$20/month for three consecutive years. This ensures no hard landing from the end of the program for families that might come to depend on it; it will ease people on with the gradual increase, and ease people off with the gradual replacement of fossil fuels by low-carbon alternatives.

Achieving 90 percent reduction for as long as three years would mean that the transition away from fossil fuel dependency is essentially complete and irreversible. That's a very high bar! Ending the program under those conditions is a reasonable requirement.

2.12. What does it mean for exported fossil fuels to get a refund?

In Carbon Fee and Dividend, only carbon-intensive exports like steel, aluminum, and paper would have been subject to a border carbon adjustment, while exported fossil fuels would pass through without an adjustment. However, in the Energy Innovation and Carbon Dividend Act, exported fossil fuels are considered eligible for the carbon border fee adjustment. Depending on carbon pricing (or lack thereof) in the destination country, exporters of fossil fuels may get a refund under the border fee adjustment.

Specifically, the bill stipulates that the U.S. exporter would get a refund equal to the difference between the U.S. carbon fee and the destination country's carbon price, with the caveat that no exporter would ever get a refund of more than the embedded carbon fee. The effect of this would be to keep the price of exported U.S. fossil fuels on par with their foreign competitors regardless of the carbon price.

In terms of global climate mitigation, this would have little downside because it would only affect which country's coal, oil, or gas is burned, not the total amount burned. Besides, most of our major trading partners have already started instituting carbon pricing, and this policy should, just like the carbon border fee adjustment on emissions-intensive goods, increase the likelihood of more countries joining in.

2.13. What are the National Academy of Sciences studies mandated in the bill?

The bill stipulates that the EPA must engage the National Academy of Sciences (NAS) to conduct two studies once the bill has become law.

The first study, to be completed and made public within 10 years, will analyze the effectiveness of the carbon fee in meeting the law's emissions reduction schedule, forecast the

emissions out to 2050, and make recommendations on whether the carbon fee increases should be adjusted. The report will also detail the effectiveness of the carbon fee for different sectors of the economy, and recommend any further actions to be taken, including regulations, to improve performance if necessary.

The second study, to be completed and made public within 18 months, will analyze how the carbon fee is affecting the use of biomass for energy and the resulting impacts on 'carbon sinks' and biodiversity. The term 'carbon sinks' refers to the removal of CO₂ from the atmosphere through natural processes in plants and soil. Biomass energy is theoretically carbon-neutral as long as the CO₂ released by its use does not exceed the amount that would have been released through natural processes, and that it does not result in land use change that increases emissions. The study aims to ensure that expansion of biomass energy does not upset this balance or increase threats to biodiversity. As with the first NAS study, this one will also make recommendations to mitigate any adverse impacts that are revealed. These two studies constitute the third environmental integrity mechanism built into the bill.

3. Why does CCL support this bill?

CCL is supporting this bill because it's good for the climate, good for people, and consistent with the values we have always articulated to our volunteers.

The aggressive rate of carbon fee increase in this bill guarantees it will exceed Clean Power Plan (CPP) targets and the U.S. emissions target written into the Paris Agreement. In fact, it will put us well on the way to a 90% reduction below 1990 emissions by 2050. It would also result in a reduction of fossil fuel emissions that tracks closely the IPCC recommendations for emissions reduction through 2040 in their October 2018 Special Report (see below).

The 100 percent dividend in this policy ensures that about 60 percent of families in the U.S. end up ahead, particularly lower-income families. This guarantees long-term support for the policy. The carbon border fee adjustment provides a real incentive for other countries to match the price in this bill, as a global response is needed to a global problem.

The regulatory adjustments are narrow, simply preventing redundant regulations, and keeping intact key legislation like the Clean Air Act. This policy would go far beyond the now-defunct CPP regulations it would replace, hitting the CPP targets for 2030 in just 4 years.

In short, CCL is supporting this bill because it is very nearly the proposal we spent nearly 10 years lobbying for, and we believe it will bring us much closer to the livable world for which we strive. We are thrilled to see it in Congress and will work to help it pass.

4. Does this policy affect the ability to litigate based on greenhouse gas emissions?

No. This policy does not limit anyone's ability to litigate based on greenhouse gas emissions.

5. How does the emissions reduction schedule in light of the October 2018 IPCC Special Report?

The IPCC report recommends a reduction of global CO₂-equivalent emissions of at least 40 percent from the 2010 level by 2030 to stay on track for staying below 1.5°C. As written, the emissions reduction schedule in this bill would hit that target for U.S. emissions just one year later, in 2031, and would be within a few percent of the IPCC curve thereafter. Cutting emissions from the world's second-largest emitter by 90 percent would be a huge boost to our chances of staying below 1.5°C this century. No other bill that's been proposed would come close.

Additional perspective on the IPCC report can be found in a [CCL presentation](#) that was given in Washington D.C. on November 12, 2018. CCL has also prepared a [laser talk on the 2018 IPCC Special Report](#).

6. How does this bill relate to the Clean Power Plan?

The Clean Power Plan (CPP) was proposed by the EPA under President Obama, but was never put in place due to lawsuits still pending in the courts. The Trump administration is widely expected to eliminate the policy and has initiated the process for the EPA to repeal the plan.

As mentioned above, the Energy Innovation and Carbon Dividend Act would provide for emissions reduction far in excess of the CPP. This policy would go far beyond the CPP regulations it would replace, hitting its targets for 2030 in just four years.

So while the Energy Innovation and Carbon Dividend Act would limit EPA regulations on emissions covered by the carbon price, including the CPP, the net effect of the policy would far outweigh the CPP and any currently planned greenhouse gas regulations.

This policy would not touch regulations affecting pollutants like NO_x, sulfur, ozone, particulates, and mercury; CAFE mileage standards for cars and trucks; GHG authority over non-road vehicles and aircraft; and the methane abatement program that applies to the oil and gas industry. Additionally, states would retain authority to pass GHG regulations within their borders.

7. How does this policy deal with fugitive (leaked or vented) methane from natural gas production?

Under this policy, natural gas, like other fossil fuels, is assessed a fee based on the greenhouse gases expected to be released when it is burned. But natural gas can also leak directly into the air, and its main component, methane, is a greenhouse gas with a global warming potential 28 to 36 times that of CO₂ over a 100-year period.

Since there are no widely accepted methods to accurately measure methane leakage, this policy does not assess a fee on it, but explicitly preserves federal authority to regulate fugitive methane from oil and gas operations.

For more information see our [laser talk on natural gas](#).

8. How is the 2019 House bill, H.R.763, different from the 2018 House bill, H.R.7173?

The changes for 2019 are primarily technical, but important to ensure effectiveness, facilitate administration of the policy, and improve prospects for passage.

- The basis year for emissions reductions was updated from 2015 to 2016.
- The year of enactment was updated from 2018 to 2020.
- The emissions reduction schedule was updated to stay on target for 90 percent reduction of covered emissions by 2050.
- An inflation adjustment was explicitly included for the annual increase in the carbon fee.
- A carbon fee refund for military use of covered fossil fuels was added.
- A 'biodiversity' element was added to the scope of National Academy of Sciences study of biomass energy.
- Various clarifying words and phrases were added, such as 'metric' before all instances of 'tons.'