

An Evaluation of [HR 17](#) Co-sponsor Testimony
January 20, 2022, State-Federal Relations and Veteran Affairs Committee Hearing
<https://youtu.be/T5I1GmkL7OM?t=8202>

Summary: This hearing, the resulting committee vote, and the Republican-only House passage of HR 17 demonstrate out-of-state fossil fuel industry-funded influence and disinformation at work. Rep. Notter and others [attend Koch Network's Heartland Institute Conferences](#) and return with talking points and materials they distribute in New Hampshire as they misrepresent themselves as science experts on behalf of the Science, Technology, and Energy Committee in committee hearings. This is bad for New Hampshire.

HR 17 Bill Title: "Opposing all federal and state efforts to establish a carbon tax on fuels for electricity and transportation."

Bill Sponsors: Bernardy (R, STE), Notter (R, STE), White (R, STE), Cambrils (R, STE)

Public Testimony ([Gencourt Record](#))

- Support: 4 online (Anne Collyer, Daniel Richardson, Rep. Doug Thomas STE, Rep. Raymond Howard F&G). The only supporting testimony presented in the hearing was from two co-sponsors.
- Opposed: 149 online, 15 written statements. Five citizens presented opposing testimony in the hearing.
- A full text and video recording of Rep. Bernardy's testimony is available [here](#).
- A full text and video recording of Rep. Notter's testimony is available [here](#).

NH House State-Federal Relations and Veteran Affairs Committee vote: Ought to Pass (OTP) down party lines by the Republican majority.

NH House floor vote: Passed. All Democrats and several others voted against it: [House roll call](#).

Details: HR17 was a resolution opposing state and federal legislation of the #1 expert-recommended policy to reduce climate pollution from fossil fuels, a [carbon tax](#). The sponsor also opposed [a border-adjusted cash-back carbon fee on fossil fuel production](#), the most cost-effective and equitable way to decarbonize the economy according to the vast majority of US Economists across the political spectrum ([Economists Statement on Carbon Dividends](#)). Treasury Secretary Janet Yellen says, "We cannot solve the climate crisis without effective carbon pricing." The IPCC says we will fail to achieve our climate goals without carbon pricing and mentions it over 500 times in the mitigation volume of its [Sixth Assessment Report](#).

HR 17 co-sponsor testimony to the State-Federal Relations Committee contained inaccurate statements about basic climate science and economics. It reflected the decades-long tactic to delay addressing carbon pollution from fossil fuels by industry-funded front organizations' PR and political meddling. Their testimonies included long-ago disproven myths and fallacies promoted by Heartland Institute, one of many Koch-funded front groups that promote narratives designed to delay government intervention to address the Koch Industry's industrial pollution.

Representative Notter attends all-expenses-paid Heartland Institute "climate" conferences and defended the Heartland Institute's qualifications while representing the STE in this hearing. She is the House Republican Whip, wielding significant influence in how her party members vote. The House STE Committee is responsible for advising other NH Legislators and committees on matters of science.

The co-sponsor testimony reflects [out-of-state polluter influence and in-state scientific ignorance](#). A comparison of the HR 17 co-sponsors' testimony with publically available information from leading scientific organizations (e.g. [USGCRP NCA4](#) and [IPCC AR6](#)) and the NH 2022 [Climate Assessment Report](#) reveals significant gaps in the co-sponsors' understanding of basic climate science and market economics.

Table of Contents

Evaluation of the HR17 testimony from Representative JD Bernardy	2
1) False claim: carbon dioxide pollution from fossil fuels is a “nominal” problem	2
2) Calling citizens who were waiting to testify in opposition “Environmental Crusaders”	3
3) Computer models and popular media	3
4) A strawman of "alarmism"	5
5) Name calling, false interpretation of climate science methods	5
6) Downplaying the problem	6
7) Ideology and fear tactics	7
8) Ignore the cause, severity, and global scope, and just try to adapt	7
9) Distracting about CO2 and plants	8
10) Arm waving and cherry-picking	8
11) A climate science denier’s alarmist rhetoric	8
12) Making it political and using false equivalencies to sway opinions	9
13) Distraction: talk about another policy that is not a carbon tax	10
14) Another policy that was not a carbon tax	10
15) Questions from Committee and Answers from Rep Bernardy	10
Evaluation of HR17 testimony from Representative Jeanine Notter	14
1) An attempt to establish credibility	14
2) Fake story about the yellow vest protest in France	14
3) Complaint about hearing the same proposals repeated each session	14
4) Fear-mongering about carbon pricing	15
5) Quoting misinformation and alarmist language from Rep. Vose	15
6) ALEC rears its ugly head	16
7) ALEC math: off by a factor of 100 and missing the point	16
8) A historical revision of the 2020 NH Carbon Cash-Back bill	17
9) The Heartland Institute rears its ugly head	17
10) The Heartland Institute “international climate conference”	18
11) How much CO2 is too much?	18
12) “True Science”	19
13) How to Put the Granite State First	19

Evaluation of the HR17 testimony from Representative JD Bernardy

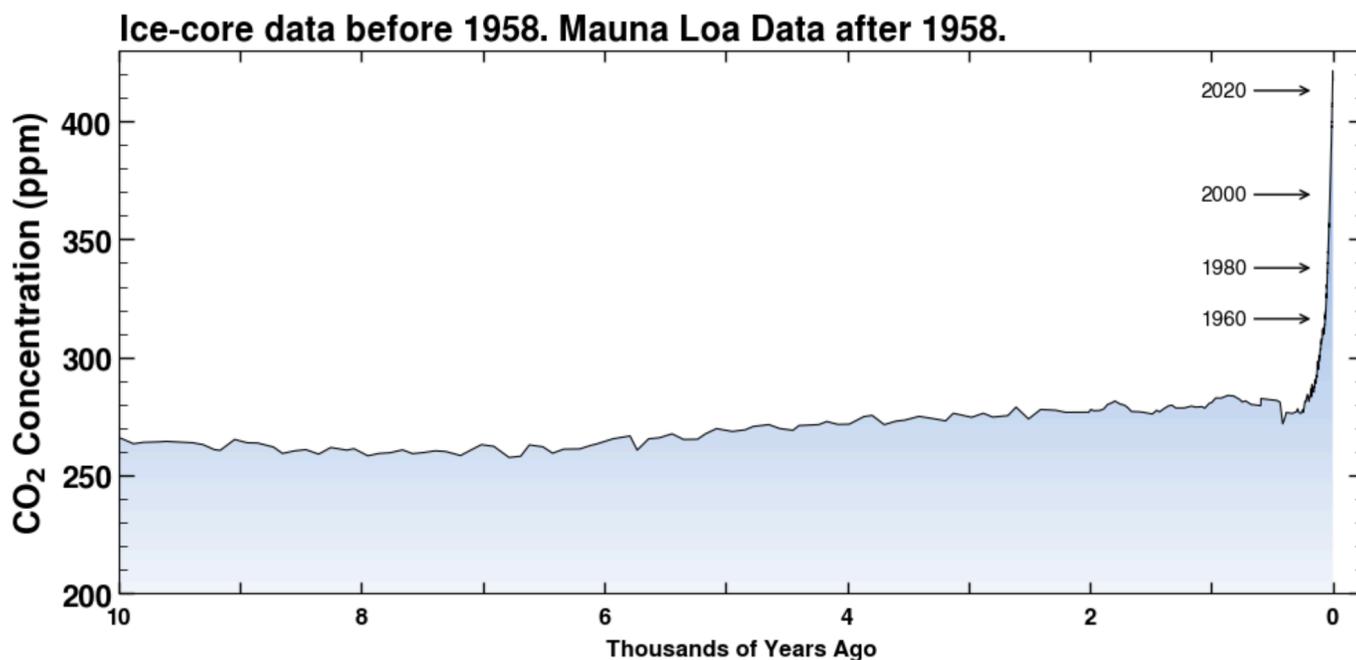
- 1) False claim: carbon dioxide pollution from fossil fuels is a “nominal” problem
<https://www.youtube.com/embed/T5l1GmkL7OM?&start=8222&end=8258&autoplay=1>

Bernardy: “Why would anyone want to propose a carbon tax on fuels for transportation and electricity? Nominally because burning carbon dioxide-based fuels releases carbon dioxide into the environment. What’s wrong with releasing carbon dioxide, the gas that we exhale when we breathe, about 2 pounds a day, into the atmosphere?”

Objection: There is [scientific consensus](#) that carbon emissions from fossil fuels pose a serious pollution problem. This is not just a popular opinion, as implied by the “nominal” phrase. This misidentification of the

nature of the concern is followed by a non-sequitur: *we exhale CO₂, therefore CO₂ emissions from fossil fuels do not pose a threat?*

Correction: Human-caused CO₂ emissions from burning fossil fuels have exceeded the Earth's capacity to maintain a natural balance in the air, resulting in a 50% increase in the atmosphere since pre-industrial times. This has changed fundamental chemical and physical properties of our world, with serious and costly consequences. That additional CO₂ is expected to cause about 1.5°C of global warming, a dangerous amount.



A 10,000-year view of atmospheric CO₂ concentration from <https://keelingcurve.ucsd.edu/>

2) Calling citizens who were waiting to testify in opposition “Environmental Crusaders”

<https://www.youtube.com/embed/T5I1GmkL7OM?&start=8258&end=8270&autoplay=1>

Bernardy: “Well, the environmental crusaders say it will cause global warming and manifold attendant consequences, adverse weather, sea level rises.”

Objection: Labeling the citizens in the room who were waiting to testify “environmental crusaders” was disrespectful. The committee chairman allowed several instances of this name-calling to go unchallenged.

Correction: Environmentalists are not the only ones concerned. The leading scientific organizations in the US and around the world warn, with extreme confidence based on all the evidence, that carbon emissions from fossil fuels are the main cause of global warming since 1900, The warming is causing significant and increasing damage and losses, and we face dire consequences if we remain on our current emissions pathway. Two hundred scientific organizations support this understanding, and none dispute it.

Sources: climate.nasa.gov/scientific-consensus, ipcc.ch/assessment-report/ar6, nca2018.globalchange.gov, [NH 2022 Climate Assessment Report](https://www.nh.gov/2022-climate-assessment-report).

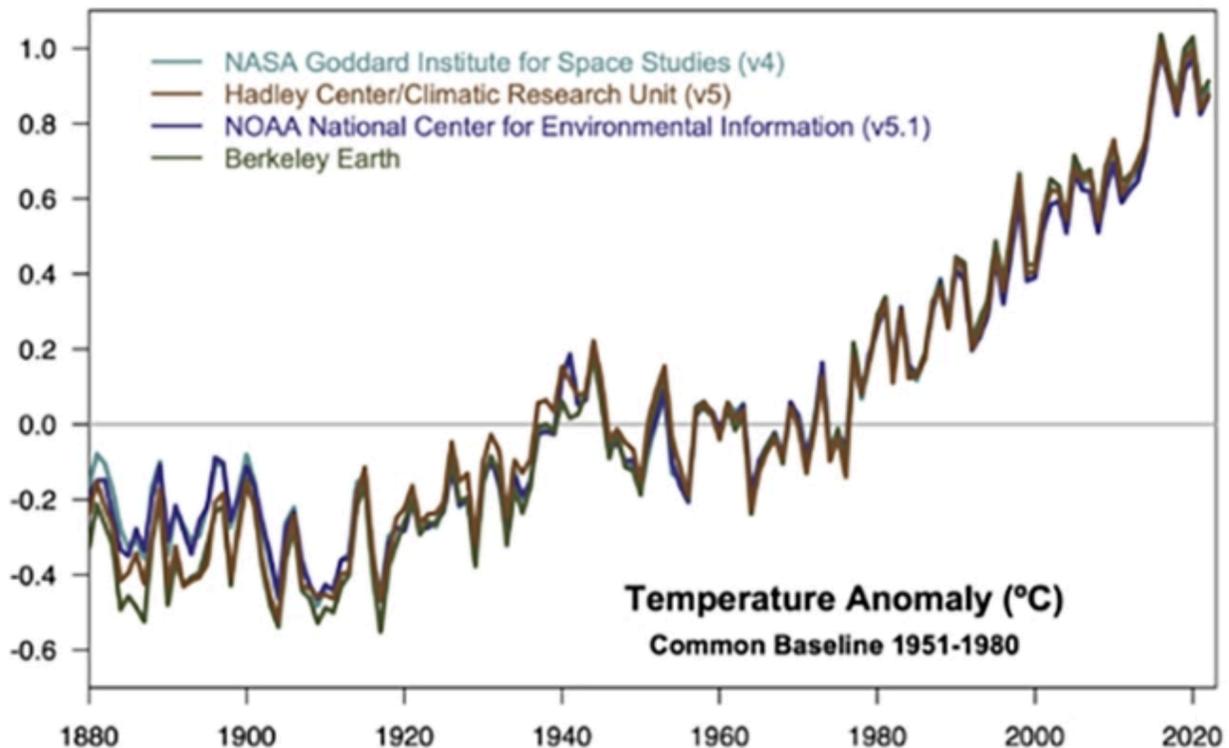
3) Computer models and popular media

<https://www.youtube.com/embed/T5I1GmkL7OM?&start=8270&end=8287&autoplay=1>

Bernardy: “This was predicted by computer models that were first reported by the UN environmental director in 1972. But then it was global cooling because of all the other pollutants that are part of combustion.”

Objection: Climate concerns were identified well before 1972, and scientific organizations never warned about global cooling.

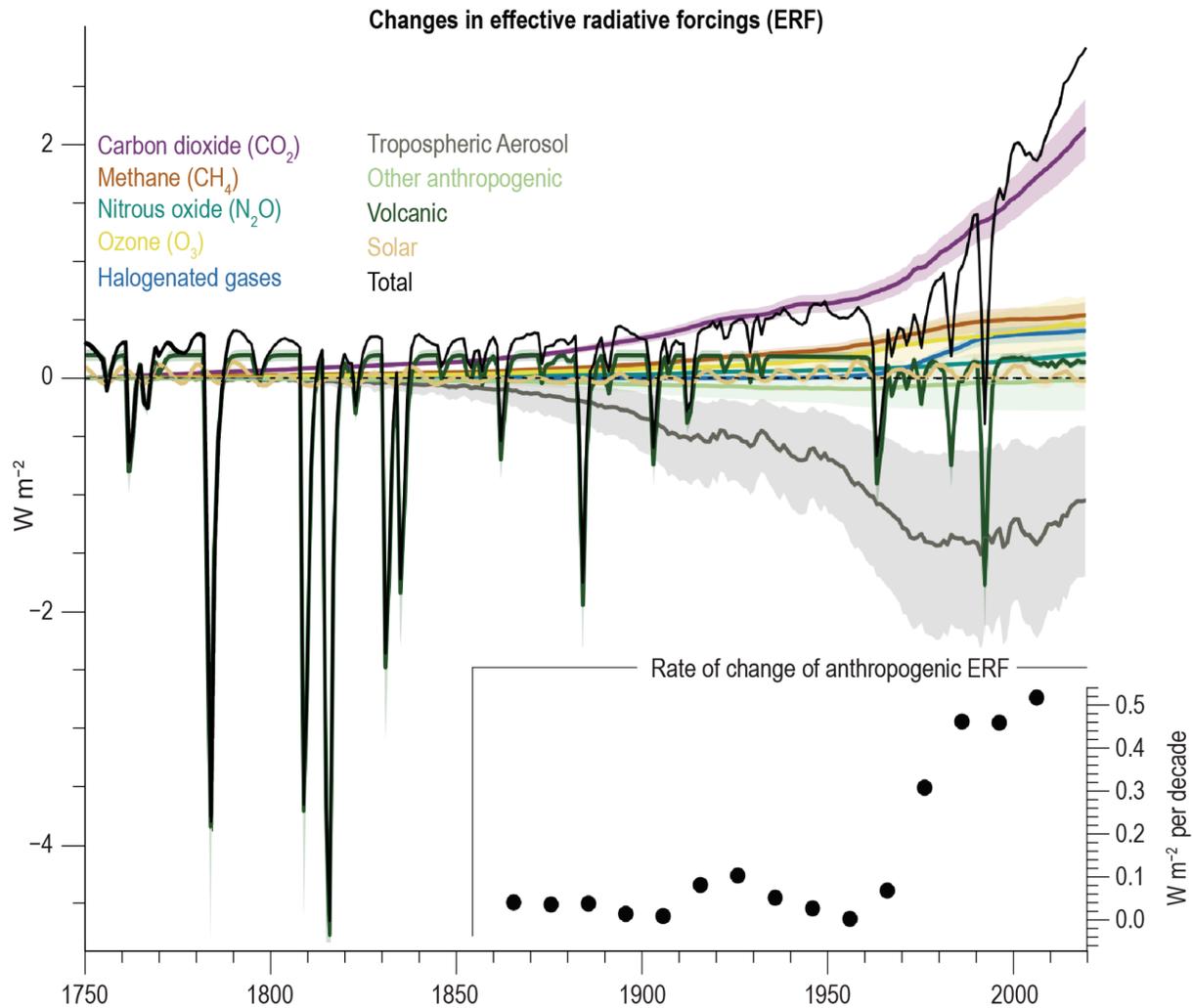
Correction: The basic science of global warming from greenhouse gases in the air goes back to the late 1800s, when Svante Arrhenius predicted emissions from fossil fuels would cause global warming (<http://history.aip.org/climate/timeline.htm>). Concern about the build-up of GHGs from fossil fuel pollution was reported to US Presidents decades before the first computer models existed (*They Knew*, by James Gustave Speth). There was a question within the scientific community in the 1970s about the unexplained 3-decades-long pause of global warming. That scientific discussion was picked up and exaggerated by popular media (e.g. Newsweek), but no scientific organization warned any government about “global cooling”. Global Average Annual Temperatures since 1880 (when reliable record-keeping began):



Multiple meteorological organizations estimate 1.2°C global warming since 1900.

Graph from climate.nasa.gov/scientific-consensus

By around 1960, the science of global warming from fossil fuel pollution was conclusive enough that the scientific community started warning presidents (*They Knew, Gustov Speth*) and the public (*Climate Change 1958: The Bell Telephone Science Hour*) about it. The questions in the 1970s regarding why the climate was not warming as rapidly as anticipated based on the increases in greenhouse gas concentrations were resolved when the extra cooling force of added aerosols (from some extreme volcanic activity and from an increase in human-caused pollution) were identified and incorporated into climate models. See the “Total” line dip into negative territory during that time in the chart below, which reflects our current understanding of all the net climate forcings over time (the energy balance of the Earth based on all the major natural and man-made warming and cooling forcings):



[Figure 2.10 of IPCC AR6 WG1](#)

4) A strawman of "alarmism"

<https://www.youtube.com/embed/T5l1GmKL7OM?&start=8287&end=8303&autoplay=1>

Bernardy: "Since 1982, 89, 90, 2007, 15, 18, and last year, the world is just another ten years from a global warming catastrophe."

Objection: This is a case of confusing popular media headlines with information from scientific organizations in an attempt to discredit the warnings from mainstream scientific organizations.

Correction: Historic climate science predictions from reputable sources such as the USGCRP's National Climate Assessments and IPCC's Assessment Reports have proven to be overly conservative. Past scientific predictions have generally underestimated the damages we are seeing today. However, warnings in popular media frequently do not accurately reflect the nuanced understanding communicated by scientific organizations. The lesson here is don't get your science from popular media, go straight to the summaries in summary scientific reports from major scientific organizations (IPCC, USGCRP, and local Climate Assessment Reports from UNH).

5) Name calling, false interpretation of climate science methods

<https://www.youtube.com/embed/T5l1GmKL7OM?&start=8303&end=8330&autoplay=1>

Bernardy: “Additionally, the computer models focus only on man-made sources of carbon dioxide and completely ignore significant uncontrollable contributions like volcanic eruptions. Importantly, none of the Crusaders’ models correspond to the actual observed climate on Earth.”

Objection: Substitution of the derogatory term “Crusaders” for mainstream climate science experts. The entire statement is false. Climate models have proven accurate because they include all climate forcings, natural and man-made, that operate on timescales that are relevant.

Correction: Climate models are developed using scientific observations and account for all the major climate forcings, natural and man-made. Models are run using past data to evaluate their skillfulness in modeling the impacts of past changes and to project future changes. Annual CO₂ emissions from volcanic activity are far less than the CO₂ emissions from fossil fuels since 1900. The atmospheric CO₂ concentration had been balanced for the past 10,000 years until fossil fuel emissions exceeded the natural uptake capacity after the Industrial Revolution (see the Keeling Curve above).

Even before computer modeling, basic physics and paleoclimate science have projected the climate effect of CO₂ changes from fossil fuels, and they have proven accurate ([Exxon predicted it 40 years ago](#)). We know that doubling the CO₂ concentration in the air from the preindustrial CO₂ concentration (280 ppm) would cause global warming of about +3°C over the following several decades. We have increased the CO₂ concentration by 50% and measured 1.1°C global warming so far. Climate scientists expect to see an additional 0.4°C of global warming over the next couple of decades (Earth’s current energy imbalance implies a warmer equilibrium temperature).

6) Downplaying the problem

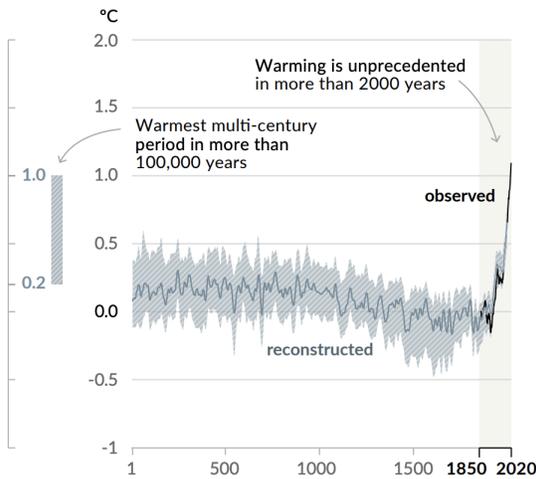
<https://www.youtube.com/embed/T5I1GmKL7OM?&start=8330&end=8335&autoplay=1>

Bernardy: “Global temperature change has been about a half a degree in the last 50 years”

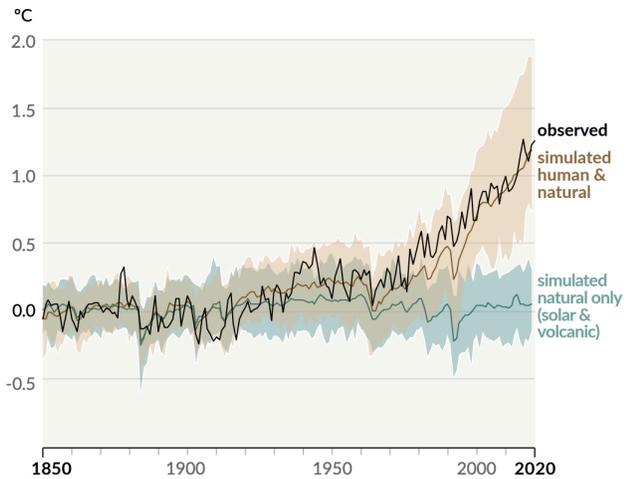
Objection: underestimating the change and downplaying the impacts based on what we know.

Correction: We have warmed the Earth by 1.1°C since 1900, mostly in the last 50 years, and are seeing substantial losses and damages from that warming. Due to latency in the Earth system, another 0.4°C of warming is now built into the Earth system that we’ll see over the next two decades or so regardless of changes we make in CO₂ emissions in the short term. Pollution changes we make now are for what comes after that, and the consequences for us and future generations, and life on Earth, will be tremendous. Every 0.1°C of additional warming makes a big difference in the level of future costs and damages.

a) Change in global surface temperature (decadal average) as reconstructed (1-2000) and observed (1850-2020)



b) Change in global surface temperature (annual average) as observed and simulated using human & natural and only natural factors (both 1850-2020)



[IPCC AR6 WG1 SPM.1](#)

7) Ideology and fear tactics

<https://www.youtube.com/embed/T5I1Gmkl7OM?&start=8335&end=8367&autoplay=1>

Bernardy: “The most disastrous models, model scenarios pushed by the crusaders and a complicit media and big tech, say that these levels will be a degree and a half to four and a half degrees. Disasters sell and support the need for big government solutions, and support the need for more gov’t grants to study the quote-unquote problem.”

Objection: “Crusaders” name-calling again. The IPCC models are mainstream science, accepted by major scientific organizations and scientists. Who “pushes” the conclusions of science is irrelevant in a discussion of science.

Response: The warnings come from major scientific organizations from around the world. These accusations are distractions, ideological, and irrelevant. This seems to be an attempt to distract from the conclusions of [mainstream science](#) by blaming others - the “crusaders” (presumably, he is again including the citizens who are sitting behind him waiting to testify), the complicit media, and big tech.

But 40 years ago, even [Exxon’s climate group](#) accurately projected the consequences seen today based on emissions projections and the associated warming. The warnings come from all levels and major scientific organizations around the world ([state](#), [national](#), and [international](#)) and are undisputed by any scientific organization.

Nobody called for “government grants to study the problem” regarding HR 17. This resolution opposes imposing a polluter fee to reduce pollution. A price on carbon paid by fossil fuel producers is the most cost-effective remedy, according to economists. It is a market-based, small-government solution to a pollution problem.

8) Ignore the cause, severity, and global scope, and just try to adapt

<https://www.youtube.com/embed/T5I1Gmkl7OM?&start=8367&end=8397&autoplay=1>

Bernardy: “Mankind has easily adapted to this modest half-degree temperature change. We’ve lived through warmer periods in the past. The highest recent temperatures occurred during the Dust Bowl era during the 1930s. Previous warmer periods occurred during the Middle Ages, when they grew barley in Greenland, so the Vikings could survive. During the Roman era, they grew grapes in England for wine.”

Objection: This confuses past local, temporary changes in climate with the state of the entire Earth system and minimizes high costs of adaptation. This is an increasing burden citizens must pay in increased taxes, insurance rates, personal costs, and risks. In the last few decades, many NH residents have had to buy air conditioners and now incur high electricity costs to power them during the man-made warmer summers.

Correction: The warmer periods Bernardy mentioned were regional anomalies, not global events, and those periods do not represent humans and life on Earth adapting to the changes that global warming entails.

According to the [IPCC AR6 WG2](#) report, global damages and losses from man-made global warming are severe and growing. The costs for the US are hundreds of billions of dollars a year now and will reach half a trillion dollars a year later this century on the current emissions path. The report says man-made climate change has exacerbated food and water insecurity, extreme weather disasters, declines in people's physical and mental health, premature deaths, species loss and extinctions, and vector-borne diseases.

9) Distracting about CO2 and plants

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=8397&end=8418&autoplay=1>

Bernardy: "The sun's warmth and carbon dioxide allow plants to photosynthesize to grow and produce more abundant grasses, trees, and crop yields. Not remotely an emergency. It's been a positive thing agriculturally for this planet."

Objection: The IPCC reports identify the net changes to agriculture, water and food security, and life on Earth of human-caused global warming as significant net losses.

Correction: Global warming is causing more severe heat waves, droughts, fires, and severe precipitation events and flooding caused by the warming, the IPCC expects crop yields to greatly decrease with 1.5, and even more from 2°C of warming.

10) Arm waving and cherry-picking

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=8418&end=8453&autoplay=1>

Bernardy: "[Le Chatelier's Principle](#) tells us that when a settled system is disturbed, it will adjust to diminish the change that has been made to it. Despite the modest carbon dioxide increase, storms, floods, droughts, have reduced 80% from 1980 to 2016, yet this doesn't stop demagoguing these events. They have always occurred and will continue to occur."

Objection: No source was provided for that statistic. The costs and severity of storms, floods, droughts, heat waves, and fires are increasing due to the increasing CO2 concentration in the air. The Earth's climate takes thousands of years to achieve a new equilibrium, and it will not revert to preindustrial conditions in that time.

Correction: The Earth's global climate has zones of stability and instability. At our current emissions rate, we will warm the Earth up enough to push it out of the current stable zone into a much warmer stable phase - where the loss of albedo drives additional warming, and the release of methane from the melting Arctic will cause further warming, pushing Earth's temperatures above what is suitable for human habitation and capable of supporting the food and water needs of 8 billion people on the planet.

11) A climate science denier's alarmist rhetoric

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=8453&end=8473&autoplay=1>

Bernardy: "There is no climate emergency, and we should not be stampeded into adopting a Climate Crusaders' prescription for raising carbon taxes to lessen the use of these fuels for transportation and electricity."

Objection: There is an urgent, scientifically identified need for policy changes to reduce greenhouse gas pollution from fossil fuels rapidly. Carbon pricing is a polluter fee. It sends a price signal that increases the value of energy efficiency and clean energy solutions. It drives investments, innovation, production, and consumer preferences for cleaner transportation, heating, and electricity production and use.

Correction: According to the major scientific organizations, significant policy changes are needed immediately in order to hold global warming to a reasonably safe level. This will play out over the next few decades, but the ability to hold warming to 1.5°C requires reducing greenhouse gas pollution by 50% by 2030 and to net zero by 2050. Carbon pricing is spreading around the world, and US exporters will pay other countries for it soon if we don't price it here: [Carbon Pricing is Inevitable](#).

12) Making it political and using false equivalencies to sway opinions

<https://www.youtube.com/embed/T5l1GmKL7OM?&start=8473&end=8566&autoplay=1>

Bernardy: "Unfortunately, since the time that I drafted this bill, the Biden Administration has effectively added an overwhelming carbon tax by various anti-energy initiatives."

"Natural gas production & distribution has been discouraged. The Keystone XL Pipeline was canceled immediately after the start of the Administration. Dominion and Duke Energy canceled the Atlantic Pipeline due to quote-unquote legal uncertainties caused by progressive pipeline opponents. The Pen East pipeline was canceled for similar reasons. All new drilling was prohibited on federal lands, so as existing wells are closed, supplies become more limited, and prices go up. Note about 56% of electricity generated in New England is from natural gas. Supplier portions of our electric bills have more than doubled. New Hampshire pays the fifth highest electric rates in the continental US, and they are skyrocketing."

"Natural gas prices for home heating are jumping over 50% as well. On top of that, gasoline prices have surged from two dollars a gallon to three thirty a gallon and even more today since I wrote this. Effectively the Biden Administration has already implemented a massive carbon tax."

Objection: This is a strawman argument to reject carbon pricing based on the shortcomings of other policies.

Correction: After running through a litany of climate policies that have flaws, an attempt is made to use those examples as the reason to take the economists' top-recommended solution off the table. His list is a good reason to support a federal carbon fee and dividend - to prevent the use of expensive, partisan, and less effective policies to address the energy market's failure to account for the costs of carbon pollution from fossil fuels. None of the policies he mentioned was a carbon fee. The weaknesses of other policy options he describes make a good argument to support putting a cash-back price on carbon. Other policies are regressive, less effective, and costly.

"Note: about 50% of electricity generated in New England is from natural gas. Supplier portions of our electric bills have more than doubled. New Hampshire pays the fifth highest rates in the continental US and they're skyrocketing. Natural gas prices for home heating are jumping over 50% as well. On top of that, gasoline prices have surged from \$2 a gallon to 3.30 a gallon." "Effectively, the Biden admin has already implemented a massive carbon tax."

New Hampshire's locally generated energy is mostly nuclear and hydro, and gas is far less, though regionally natural gas is used to produce 50% of what we use. A price on carbon will make NH more, not less, competitive against other regions because most of them use more fossil fuels than us for electricity. And over time, it will end our economic dependence on fossil fuels. [Addressing Inflation, High Gas Prices, and Pollution.](#)

13) Distraction: talk about another policy that is not a carbon tax

<https://www.youtube.com/embed/T5I1GmkL7OM?&start=8566&end=8624&autoplay=1>

Bernardy: "Earlier this administrative session, the Transportation and Climate Initiative, TCI, was rejected by this legislature and the Governor. TCI was another carbon trading scheme that was intended for 13 states from NC to ME. Carbon emissions were to be capped for transportation fuels, and carbon credits sold to fuel suppliers. The TCI was designed to achieve the same carbon reduction by making gas and oil prices more expensive, forcing consumers to ride-share or take mass transit. Rising gas prices caused by the Biden Administration have effectively killed the TCI plan. Resulting in the Governor formally rejecting the initiatives and all the other Governors following suit."

Agreed. TCI would have made transportation more expensive and only been regional. But TCI was not a federal carbon fee, it was a regional cap and spend scheme. If we fail to price carbon at the federal level using a better policy like [Carbon Fee and Dividend](#), TCI is the kind of less effective, less efficient, sector-specific, potentially regressive, regional climate policy that we can expect to increasingly see put in place.

14) Another policy that was not a carbon tax

<https://www.youtube.com/embed/T5I1GmkL7OM?&start=8624&end=8662&autoplay=1>

Finally, the last federal plan, Clean Energy Performance Program, is another carbon reduction program in the pending BBB legislation. It is also designed to make electric prices rise. Bottom line, we don't need to accept false climate models and extremist solutions that cripple our economy and our people. Say no to carbon taxes, and send that message to our federal delegation."

CEPP was a regulation and a payment plan (using tax money to pay power producers to use clean energy sources). It is not a carbon tax. It is not efficient. But it would not have increased electricity prices. But it is another example of the kind of policy we will get if we don't implement a good carbon tax policy like Carbon Fee and Dividend.

15) Questions from Committee and Answers from Rep Bernardy

<https://youtu.be/T5I1GmkL7OM?t=8662>

Rep Baldasaro:

Q: flash-backs of his grandfather in MA, back then the sky was going to fall...global cooling. And I joined the Marines and all I kept hearing for years was we're done. Then I listened to VP Al Gore when I was in the Marines, and all I heard was it's the end of the world - in a couple years we're done. But since then, I've seen the light, and my GF used to tell me, "read the Almanac". Is the Farmers Almanac reliable weather forecast?

A: "There are a lot of people that take that point of view".

The media's global cooling hoax was discussed above. The Farmers Almanac is not science. The response was diplomatic but not science-based.

Q: Why is it always the US that has to do a redistribution of the people's money with this carbon tax. China and other countries, no big deal, we bow to them?

A: These carbon tax initiatives are driven by people like John Kerry, that want us to "lead the way" and are not willing to force the same requirements on China or India or other third-world developing countries into second or first-world countries, to accept the same costs. I can't explain their illogic, but that's what they want to do.

Pricing pollution by charging the fossil fuel industry a polluter fee and giving the money collected to all households on an equal basis each month with no means-testing is not income redistribution. According to economists, it is the most cost-effective and equitable way to rapidly reduce climate pollution (clouncil.org/economists-statement). This answer reflects a lack of awareness that a [Border Carbon Adjustment](#), which we can use when we put an explicit price on carbon pollution in our economy, will let us hold other countries accountable for their climate pollution in trade. China and India will match our price rather than let us collect their pollution money. China has a low carbon price (\$9/tCO₂) in their industrial sector already, but we can get them to raise it to match ours. And other countries will soon be using Carbon Border Adjustment Mechanisms against us ([Carbon Pricing is Inevitable](#)).

Q: For the record, do you sit on STE? (yes). Okay, So you're one of the big geeks that keeps us straight on the information, I appreciate it, thank you.

No, Rep Bernardy has not represented what we know through science in an unbiased, informed way. He shares myths and stories about climate that we often hear from fossil fuel-funded propaganda organizations. He is not keeping this committee straight based on what we know through climate science.

Someone else Q: I learned about the greenhouse effect. CO₂ is going up. 98% of climate scientists tell us things contrary to what you are saying. What do you know about the greenhouse effect? Was my teacher wrong?

A: Sunlight in, IR out. GHGs in the air holds earth 33°K warmer. A paper he referenced (?) analyzed what contributed to that GH effect. The biggest GHG is water vapor, which is responsible for 29.4° of that greenhouse effect. 3.3°C is caused by CO₂. 0.3°C caused by methane. Why they want to no longer have cows fart in the fields. And NO₂. So, those are the facts of the circumstance. So, the rising of the greenhouse gases that you describe are demonstrated cause - ½ a degree centigrade rise from CO₂ and the attendant water vapor changes that happen with that. Because of more cloud formation. 0.06 and 0.08 because of methane and No₂. This is a de minimus amount, a de minimus effect. Additionally, there are two other papers that have recently been published, that basically describe the effect of co₂ in the atmosphere and how it impacts the temperature rise. It effectively says the higher the amount of CO₂ the less the CO₂ has an effect. I reference lachatlier's principal. Basically, the first 100 ppm causes 70% of the impact of temperature, the next 100 ppm get up to 81% of the effect, going up 100 more you get 96% of the effect, and above that the remaining 4% is that last increment of CO₂. Essentially demonstrating the more you add, the less the effect.

He didn't talk about condensing vs noncondensing GHGs. Misled about the decreasing impact of each additional CO₂ rise - the important thing is the current TCS, which tells us we can expect about +3°C warming for a doubling of CO₂ today, and we've increased it by 50% already. Failed to mention that CO₂ is a climate forcing and H₂O is a climate feedback. (IPCC AR5 WG1 FAQ 8.1 How Important Is Water Vapour to Climate Change? Pg 666

https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf).

JD: Basically, when they speak on the floor a lot of us are lost, but they're the knowledgeable ones.

Perhaps Rep Bernardy's number tossing around was intended to confuse? Nobody seemed to know what to ask after that, most looked confused, and he had sidetracked the discussion down a dead end.

Q: I know plants give off CO₂ (use it and expel it). So at night, they do it. And part of the day. When the sun comes out, then you've got photosynthesis. If we cut down all the trees in the rainforests, would that help with global warming?

A: ahh.

Q: by eliminating the CO₂ they emit. Since the plants are large contributors.

A: The greater impact of cutting down the trees is going to cause less sequestering of CO₂. In fact, one of the methods people talk about addressing CO₂ buildup is planting more trees, so that the trees, when they photosynthesize and grow and capture that carbon in their wood, they are reducing the net carbon dioxide in the atmosphere.

The first correct, nonevasive, science-based explanation in Bernardy's testimony! But consider the hill we have to climb with members of the SFRVA committee on the subject of human-caused climate change when we are starting with someone who thinks cutting down the rainforests might help to address global warming.

A continued: If you remember, in my testimony, I made the statement that agriculturally, increased levels of CO₂ have been a good thing for this planet. And if you go to sophisticated greenhouses, and you want to understand how they can push plant growth and get things ready for the season, one of the things they do is tightly isolate those houses and add CO₂ to the air so the plants grow faster. So it's a net positive for plant growth.

Oops - went off track again. Didn't mention that with increased CO₂, plants also require additional water and more nutrients to be able to take advantage of the CO₂. Or the fact that extra CO₂ in the atmosphere is causing increasingly severe droughts, heatwaves, fires, and more severe precipitation and flooding, none of which is good for agriculture.

Q: I am a gardener. Is there a good natural balance that we have on Earth? The balance between the oxygen and Co₂ is fairly static, and would sustain life as we know it and has been for the next few thousand years?

A: I agree. Even though modern industrial society is contributing to a modest increase in CO₂, one of the other recent papers in Climate, describes what the levels of Co₂ have been in the atmosphere. Looked at stable isotopes over the last 435 million years. In that paper, they found a modest negative correlation between the CO₂ in the air and warming.

That one paper's suggestion seems to have been taken out of context, as there is strong support for rising CO₂ levels causing the warming we've seen in the last 70 years, as well as in the paleoclimate records.

There are times in the ancient past when the CO₂ levels were significantly higher than they are now. I do not believe that the modest amount of CO₂ change that we're now seeing is going to have any significant impact on humans. In fact, one of the things that humans are very good at doing is adapting to their environment.

A 50% increase in CO₂ is unprecedented in the history of human civilisation, not a "modest" change. Similarly, the 150% increase in CH₄ is not modest. And we continue to increase both each year.

JD: thank you for your testimony, it was a learning process for me.

Unfortunately, you just heard talking points from front organizations funded by the fossil fuel industry and heard almost nothing that is accepted by the major scientific organizations (other than the correction that trees help pull CO2 out of the air).

Q Massmillon: do you see any parallels between the consequences of denying the pandemic and its resulting consequences, with the long-term effects of denial of carbon emissions?

A: No, but I don't think there was a denial of the pandemic. There was a disagreement about the proper methods to address the pandemic.

From the answer, it would seem that science deniers are consistent across science domains. CDC says we're in a global pandemic, get vaccinated, and wear masks in high-transmission areas. Rep Bernardy was not wearing a mask at any time in the conference room, though NH is currently a high-transmission area.

Evaluation of HR17 testimony from Representative Jeanine Notter

<https://youtu.be/T5l1GmkL7OM?t=9419>

1) An attempt to establish credibility

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9419&end=9456&autoplay=1>

Notter: “Thank you, Mr. Chairman and members of the committee. Like Representative Bernardy and Representative Vose, I too, am on the Committee of Nerds and Geeks, also known as Science, Technology, and Energy. I know it's riveting so wake up everyone. So the past four terms now, I've been on the committee of Science, Technology, and Energy, and many times now, we have heard arguments for and against a carbon tax.”

Objection: This is an attempt to establish credibility. However, Rep Notter apparently has no actual academic science credentials.

Correction: Based on her following testimony, Notter is either unfamiliar with or does not understand the science behind the consensus understanding of mainstream climate science about global warming from fossil fuel emissions and the agreement among economists that a well-designed policy to price carbon emissions from fossil fuels is the most cost-effective, equitable, and far-reaching policy to reduce that pollution. Instead, Notter accepts, without critical review, the myths and propaganda from the fossil fuel industry-funded PR groups she names and whose conferences they reimburse her for attending – ALEC and Heartland Institute.

2) Fake story about the yellow vest protest in France

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9456&end=9467&autoplay=1>

Notter: “I keep some of the past testimony in a folder that has the Eiffel Tower on the cover. It serves as a reminder of the crowds that took to the streets to protest the carbon tax that was imposed on the people of France.”

Objection: France has had a carbon price on fossil fuels for over a decade, and there are no objections to that because the people of France understand the need to address climate pollution and they understand carbon pricing is the most cost-effective approach. The yellow vest protest was in reaction to President Macron's introduction of a new gasoline tax whose revenue would have been used to pay down government debt. That policy was regressive and would have harmed low-income families. A gasoline tax is a poor choice for government revenue generation.

Correction: Objections to a poorly conceived gasoline tax do not indicate rejection of putting a price on climate pollution from fossil fuels in France - it already has one.

3) Complaint about hearing the same proposals repeated each session

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9467&end=9478&autoplay=1>

Notter: “Serving in the New Hampshire legislature, we often hear the same bills over and over each term. In this committee, it was the honor and remember flag that kept coming back.”

Objection: Rep. Notter generally excuses herself from hearings when it is the turn of citizens, business owners, and climate and policy experts to testify to inform NH Representatives about carbon pricing policy speak.

Correction: The problem she describes - repeated climate-related bills coming up each session - is partially due to her practice of failing to listen to opposing viewpoints from experts, the majority of her own constituents, and NH citizens in general. If she listened to them and understood the facts and benefits of a Carbon Fee and Dividend policy, perhaps rather than voting against good bills so that they have to come back again, she could work to make them better and pass good bipartisan legislation. Then these attempts would not keep having to be repeated.

4) Fear-mongering about carbon pricing

<https://www.youtube.com/embed/T511GmkL7OM?&start=9478&end=9511&autoplay=1>

Notter: "So let me tell you what a carbon tax would mean for New Hampshire. New England Convenience Stores and Energy Markets [sic, actually "Marketers"] Association testified that every cent the state charges through this plan will get pushed down the various supply chains and ultimately end up hitting New Hampshire citizens in the wallet. It will affect anyone who drives a car, heats their home or business, or anyone doing construction projects of any kind. Anyone who buys groceries or eats out in a restaurant and on and on and on. This tax will touch everyone in the state multiple times each and every day."

Objection: This is an attempt to shut people down to the idea of supporting the most cost-effective way to reduce climate pollution according to [economists](#). The testimony she repeated from a gas station lobby group is biased against policies that would help us transition to EVs from gasoline-powered vehicles.

Most people agree it should not be free to pollute. The most cost-effective and comprehensive way to reduce carbon emissions is to charge the fossil fuel industry a carbon polluters fee. That cost will trickle down through the economy as the cost of pollution is reflected in the price of goods. That price signal is intended, and is how carbon pricing drives emissions reductions - businesses and people take steps to reduce those costs. But while nearly every economist recommends carbon pricing, they also warn that what we do with the money collected is critical: at least some of it must be used to protect family budgets. That is the foundation of the Carbon Fee and Dividend solution, which returns all the money collected to every person in equal shares each month. When we do so, most families come out financially ahead of where they are right now.

In other words, by ignoring the policy option of returning all the money to people so they come out ahead, Notter uses a scare tactic rather than helping people understand carbon pricing and how it can be used to reduce pollution and protect family budgets.

Correction: If Rep. Notter listened to the facts and reasons for carbon pricing and understood the details of the proposed policies and their benefits, she could work to improve them and pass good bipartisan legislation rather than voting against good bills so that they have to come back again. (But that's not what the fossil fuel industry wants, and it's not what the Koch Network-funded conferences she attends help her understand).

5) Quoting misinformation and alarmist language from Rep. Vose

<https://www.youtube.com/embed/T511GmkL7OM?&start=9511&end=9558&autoplay=1>

Notter: "This domino effect was further explained by representative Michael Vose: the collapse of the New Hampshire economy is what this carbon tax will likely induce. Since surrounding states will not have adopted this tax. Energy prices in those states will become lower than those here. People will drive to neighboring states to buy cheaper gas. Renters, especially those who commute out of state for work, will move there because apartment utilities will be lower since all goods and services vendors in New Hampshire will be subject to the carbon tax, the price of everything will go up. This inflation will cut back on other expenses, such as

labor. Jobs will be lost. Companies may eventually be forced to relocate out of state New Hampshire will fall into a death spiral of economic chaos.”

Objection: This testimony was about a state Carbon Fee and Dividend bill that was introduced in a previous session. It does not apply to a national carbon price because that will cover all states equally. While the HR 17 resolution applied to both state and national carbon pricing, Notter failed to make the distinction here.

Correction: A carbon fee and dividend apply at the state level would use a price that would not approach a level that would cause the problems described by Vose. Any carbon price at the federal level would address all the problems mentioned because there would be a level playing field across all states, and border carbon adjustments would level the playing field in trade with free-polluting countries. Canada is already using Carbon Fee and Dividend as it's main national climate policy, so there will be no issues to our north from either a state or federal carbon legislation. In fact, there is a growing US [carbon price gap](#).

6) ALEC rears its ugly head

<https://www.youtube.com/embed/T511GmkL7OM?&start=9558&end=9567&autoplay=1>

Notter: “At a task force meeting at the [American Legislators Exchange Council](#), a slide was presented to highlight our state and the ridiculous carbon tax proposal.”

Objection: ALEC is a biased and compromised source. Rep Notter likely saw the slide she mentioned on one of the [all-expenses-paid](#) ALEC conferences she attended. ALEC is described by [SourceWatch](#) this way:

“a corporate bill mill. It is not just a lobby or a front group; it is much more powerful than that. Through ALEC, corporations hand state legislators their wishlists to benefit their bottom line. Corporations fund almost all of ALEC's operations.”

Rather than relying on the [IPCC's AR6](#), a report compiled by hundreds of the world's leading climate scientists and economists which mentions carbon pricing over 500 times and strongly recommends cash-back carbon pricing, or the near-universal recommendations for cash-back carbon pricing by leading national and state economists, Notter seems to be guided by the out-of-state, fossil fuel industry-funded front group ALEC.

Correction: Our state legislators should look for policy guidance from national and local economists, not fossil fuel industry-funded front groups. See page 3 for a list of local economists who support carbon fee and dividend at https://drive.google.com/file/d/1qr-s0QyvYTmE5tsLn_KB0mQqdy69Emk/view.

7) ALEC math: off by a factor of 100 and missing the point

<https://www.youtube.com/embed/T511GmkL7OM?&start=9567&end=9593&autoplay=1>

Notter: “New Hampshire is among the lowest in the USA for carbon emissions less than .0029%, let me repeat that, .0029% of the US total. So how can anyone possibly rationalize taxing the people of New Hampshire? And we're talking \$300 to \$800 million dollars for such a minuscule return.”

Objection: ALEC and Rep. Notter got their math wrong here by a factor of 100 by incorrectly converting a decimal value to a percentage. NH produces 0.29% of US GHG emissions, not 100 times less than that.

New Hampshire is responsible for 0.29% of US carbon emissions.

Given that the population of New Hampshire is .4% of US population. It is true that the NH economy is less carbon intensive than the US average. This leads us to the point that ALEC or Notter missed: NH's relatively lower carbon emissions will be an competitive advantage when there is a national price on carbon pollution. It

will make NH more competitive globally and in trade with other states, because they will pay higher pollution costs than NH will. In other words, having a lower-than-average emissions level is another reason for the NH legislature to advocate for carbon pricing rather than against it. Furthermore, if all the money collected from a national carbon fee is returned to households equally, NH citizens will benefit even more than the average across the country. Our state legislators should advocate for carbon fee and dividend rather than against it.

Correction: A 2015 [study by REMI](#) found that people in our region will benefit twice as much as the average American financially from the carbon fee and dividend policy, receiving an average \$1000 net gain per person (after accounting for higher costs) in the tenth year of the policy, compared with a national \$500 per-capita net gain. ([NE Regional Summary, Figure 4](#)). Rather than being a reason for a resolution against putting a price on carbon pollution from fossil fuels, the lower NH carbon emissions are a good reason for the NH House to make a resolution asking Congress to pass Carbon Fee and Dividend legislation.

8) A historical revision of the 2020 NH Carbon Cash-Back Bill

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9593&end=9605&autoplay=1>

Notter: “In 2019, the majority party at the time tabled the carbon tax bill to avoid having the public hear the debate on this disastrous legislation that spells government overreach to the extreme.”

Objection: The NH Carbon Cash-Back bill was tabled to give the 44 New Hampshire towns who would vote on a resolution to support this approach in March. Rather than avoiding a public debate, the plan was to let the public weigh in before the state legislature decided. This was prudent because although economists are in [near-universal support](#) of the cash-back approach, the legislature wanted to be sure NH citizens supported it, too. In March 2020, the towns that voted on it overwhelmingly supported their [Carbon Cash-Back resolutions](#) - 75% of the towns passed it, and many others came close. Even Rep. Notter’s own town of Merrimack voted overwhelmingly (2:1 in favor) to support the version she modified to make it a “study” rather than implement it. However, the 2020 covid-19 shutdown and struggles that summer prevented all but the most urgent of bills from being reconsidered later in the session.

Correction: It is not “government overreach” to address a market failure to account for free pollution with a market-based, revenue-neutral policy. Market failures do not fix themselves, and economists are in near-universal support of the cash-back approach of putting a price on carbon pollution from fossil fuels: [US Economists Statement on Carbon Dividends](#). New Hampshire voters overwhelmingly support doing this, as demonstrated by the 162 citizens in favor compared with 4 against who submitted online testimony to this HR 17 resolution.

9) The Heartland Institute rears its ugly head

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9605&end=9643&autoplay=1>

Notter: “So, as legislators, we sometimes receive literature from the Heartland Institute. You may hear testimony later today from someone who will try to convince you that there that the Heartland Institute is just a tiny little outfit that knows nothing. On the contrary, the Heartland Institute has the respect of tens of thousands of scientists worldwide who dispute that we are in a climate crisis. Keep in mind that the public is only told what those in charge of the media and or Administration want you to know. During a previous administration, only the climate alarmists got federal grants, and those in opposition got canceled.”

Objection: Desmog.com describes the [Heartland Institute](#) as a “**charity that has been at the forefront of denying the scientific evidence for man-made climate change.**” It is funded by fossil fuel billionaires, fossil fuel businesses, and others in the Koch Network. A review of money funneled through the “dark-money ATMs”

[DonorsTrust](#) and [Donors Capital Fund](#) of Heartland's main funding sources offers a clear picture that the fossil fuel industry is paying for disinformation, PR, and influence through this network of shadow organizations.

Notter said Heartland has "the respect of thousands of scientists". Consider that there are millions of people with scientific degrees around the world. The ability of Heartland to find a few thousand, almost none of whom are climate scientists, to support it does not lend it any credibility. In fact, there's not a single scientific organization in the world that supports the opinions about climate change that Heartland promotes in its materials and at its "climate" conferences. Here is a list of 200 scientific organizations that dispute Heartland's opinions: climate.nasa.gov/scientific-consensus.

She opines that "the public is only told what those in charge of the media and or Administration want you to know". This conspiracy theory is easily refuted by an understanding of how the scientific method works, and also that even the fossil fuel industry's own scientists agree with the conclusions of mainstream science:

- [Exxon's scientists knew](#) in the 1980s, but its leaders decided to delay action to address the problem
- Shell made a [video](#) about climate change from fossil fuel emissions in 1992

Correction: No member of the House Science, Technology and Energy Committee should advocate in defense of the Heartland Institute. That organization is a major source of climate disinformation, and there's not a scientific organization anywhere in the world that supports the skepticism it promotes about man-made global warming. About its fossil fuel industry roots and funding: <https://www.desmog.com/heartland-institute/>. The defense of Heartland Institute by an NH State Representative is a sign that person should not be advising other legislative committees on scientific matters.

10) The Heartland Institute's "International Climate Conference"

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9643&end=9663&autoplay=1>

Notter: "I had the opportunity to attend the international climate conference this past October. I took home stacks of books and read every one of them and I filled up this entire notepad with notes just from that conference and those books. And I kept hearing, "No, carbon is good. You need carbon."

Objection: The Heartland Institute's "international climate conference" in October 2021 was the annual fossil fuel industry-funded propaganda event at which PR talking points are pushed on state legislators in the hopes they will bring them back to their states. [Desmog.com](#) describes this annual conference as a place where "**climate change skeptics converge to discuss issues and strategies to oppose climate action.**"

Notter submitted a reimbursement from Heartland for [\\$1316.00](#) for attending this conference. Heartland has apparently calculated that paying the way for key state legislators to hear its messaging is somehow financially worthwhile. Notter seems to have internalized their messages and uses them in her work in the NH legislature.

Correction: One would hope that NH STE Committee members would instead attend conferences where they can learn from mainstream scientists, scientific organizations, economists, and other real policy experts.

11) How much CO2 is too much?

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9663&end=9667&autoplay=1>

Notter: "And we've had more carbon in the air in times past."

Objection: There has not been as much CO2 in the air as there is now for millions of years. When the atmospheric CO2 concentration was last as high as it is now from fossil fuel pollution, global temperatures

were several degrees Celcius higher than they are now, sea level was dozens of feet higher, and life on Earth looked very different than it does today. Those are not conditions that would be good for human civilization or much of the other life on Earth today. AGW is now the third leading cause (and rising) of ecological services decline and the loss of biodiversity on Earth ([IPBES](#)).

Correction: According to experts, a safe level of atmospheric CO2 is 300 ppm-350 ppm. It is now [420 ppm](#) and rising three ppm a year due to carbon emissions from fossil fuels.

12) "True Science"

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9663&end=9667&autoplay=1>

Notter: "So, true science dictates that questions must always be asked. Is science ever really settled? New information pops up every day."

Objection: Who determines what "true science" is? Not industry money. Not media. Not "the Administration". Science is a system that has developed over the last few hundred years to use data, unbiased evaluation, a process of peer-reviewed studies in reputable science journals, and organizations that concentrate scientists in specific fields of study to facilitate communication and progress. No human structure is infallible, but science is a self-correcting mechanism, and it is the best method we have to understand the world in which we live.

When a consensus is reached about a certain understanding, it can be used as a foundation on which to make future progress. There is always the possibility for new data and a different understanding to arise, but until that happens, the scientific consensus understanding is considered "scientific knowledge" on which we can make fully informed decisions. Failure to accept the scientific consensus about an understanding by anyone not fully trained in that field of science is pure folly. There is [scientific consensus](#) that global warming since 1900 is mainly due to greenhouse gas emissions from fossil fuels, and it is dangerous and costly.

Correction: Carl Sagan wrote of the importance of lay people respecting the scientific consensus understanding of the world around us in his book, "The Demon Haunted World. Science as a Candle in the Dark".

13) How to Put the Granite State First

<https://www.youtube.com/embed/T5l1GmkL7OM?&start=9663&end=9667&autoplay=1>

Notter: "So, to sum it all up, a resolution is not a bill, it is a political statement that we do not want to ruin our economy with an unsustainable carbon tax like the one implemented and implemented in France. Put the Granite State first and pass this resolution. Thank you."

Objection: Putting the Granite State first would mean ignoring the gifts and propaganda from polluting industry-supported front groups and doing the hard work of learning the science through academic channels or from our state's academically credentialed experts. It would mean going beyond personal biases and media opinions and listening to our state's science experts, such as our state's official climatologist.

Correction: Hawaii and California state legislatures have produced resolutions asking Congress and the President to pass Carbon Fee and Dividend legislation. New Hampshire should do the same to undo the damage done by the HR 17 resolution and help the federal government put NH citizens and businesses first.