

# The Fork In The Road Of The Climate Change Debate

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Al Gore framed the climate debate. He said, human carbon dioxide emissions increase atmospheric carbon dioxide. Carbon dioxide is a greenhouse gas. Greenhouse gases traps heat like a blanket that keeps you warm at night. It was that simple, he told us.

People believe big Al's story. Simplicity sells. But simple is not always correct. A whole lot of people who don't care about correct, push for laws to reduce carbon dioxide emissions. They are the "climate alarmists." They think they are saving the planet.

Since they think Al Gore's basic claims are correct, the alarmists focus on possible consequences of global warming. They believe that finding consequence proves we must stop carbon dioxide emissions. But the climate debate is not about consequences because consequences do not prove their cause.

**The critical questions about climate are about cause-and-effect:**

1. How much do human emissions increase atmospheric carbon dioxide?
2. How much does increased atmospheric carbon dioxide change climate?

In a climate debate, the alarmists must prove the answers to BOTH questions are "significant." If they miss on only one question, they still lose the debate. They have the burden of proof.

President Trump is a "climate realist." He disagrees with the alarmists. Many good atmospheric physicists are climate

realists. They have shown the answer is “insignificant” to both questions.

These answers may seem counter-intuitive if you think the atmosphere is a simple system. But the atmosphere is a complex system and, as good systems engineers know, complex systems are counter-intuitive.

Al Gore and his alarmists think the atmosphere is like a garbage landfill. What we dump in, stays. They could not be more wrong.

Neither nature’s emissions nor human emissions stay in the atmosphere. They merely flow through the atmosphere. The atmosphere is like a lake where a river flows in and lake water flows out over a dam. The lake’s water level will rise or fall until the outflow over the dam equals the inflow from the river.

If the inflow increases, the level will rise until the outflow equals the inflow and the level becomes constant. Conversely, if inflow decreases, the level will decrease until, once again, outflow equals inflow. The faster the inflow, the higher the level to balance the inflow. Fig. 1 illustrates the simple physics model for both the lake and the atmosphere.

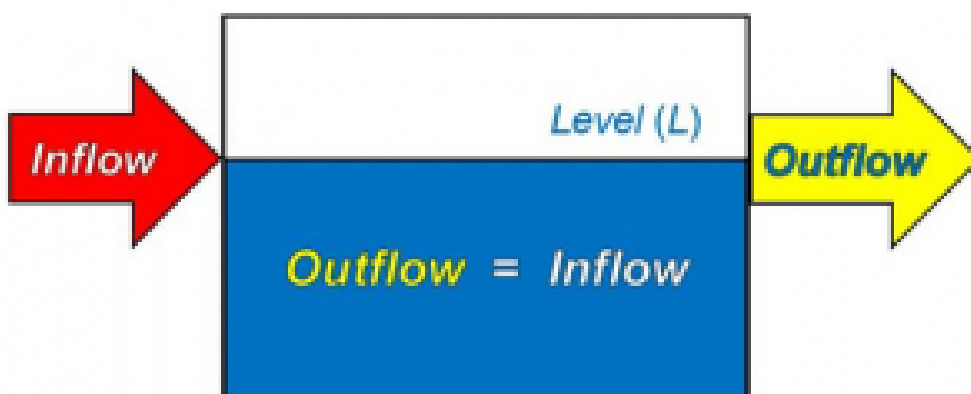


Fig. 1. The Model shows the rate of change of the level equals the difference between Inflow and Outflow. This model applies to both the lake model and the atmosphere model.

**Nature's carbon dioxide emissions are over 20 times human emissions.**

Suppose the first river represents nature's carbon dioxide emissions and a second river represents human emissions. The first river produces 95 percent and the second river produces 5 percent of the total inflow into the lake.

Question: What percent of the water in the lake came from the first river and second river?

If you answered 95 percent came from the first river and 5 percent from the second river, then you passed your physics exam. You are more qualified in physics than any climate alarmist including their PhD's. This intuitive answer is backed up by solid math that good physicists use.

The ratio of natural to human carbon dioxide in the atmosphere is the ratio of their inflows. Nature produces more than 95 percent of the carbon dioxide in our atmosphere and human emissions produce less than 5 percent.

In terms of the often-quoted ppm (or parts per million), these percentages show that human emissions cause an 18-ppm rise, and nature's emissions cause a 392-ppm rise, in atmospheric carbon dioxide. The total of each inflow is today's carbon dioxide level of 410 ppm.

The flows and corresponding levels of natural and human carbon dioxide are independent of each other. It does not matter what natural emissions are. If natural emissions went to zero, the level of carbon dioxide in the atmosphere would fall to 18 ppm and we all would die.

If alarmists could stop ALL human emissions, the present inflow of natural carbon dioxide would maintain the level of carbon dioxide in the atmosphere at 392 ppm.

The Paris Climate Agreement proposed to reduce worldwide human

emissions by 28 percent. Twenty-eight percent of 18 ppm is 5 ppm. The Paris Agreement would have reduced atmospheric carbon dioxide by only 5 ppm, which is insignificant. Even 18 ppm is insignificant. The alarmists have no case.

Alarmists claim human emissions have caused all the rise in atmospheric carbon dioxide since 1750. They claim human emissions have caused the 130-ppm rise from 280 ppm to 410 ppm. They believe the human-produced inflow of 5 percent of the total causes 32 percent ( $130 \text{ ppm} / 410 \text{ ppm}$ ) of the carbon dioxide in the atmosphere. It can't happen.

Climate alarmists don't understand how nature works. They deny the way how nature balances itself. Therefore, they are not good guardians of nature because they flunk simple physics.

### **The IPCC scientists made a critical scientific error.**

The IPCC (Intergovernmental Panel on Climate Change) inserted their critical error into their climate models. This error negates all their alarmists' beliefs and claims.

The IPCC reports are clear. While the IPCC correctly assumes nature's emissions of about 100 ppm per year balance outflow to inflow, the IPCC incorrectly assumes human emissions do not balance. The IPCC assumes 1.5 ppm per year of human emissions gets stuck in the atmosphere and stays there. That 1.5 ppm is coincidentally just enough to support their claim that human emissions have caused all the increase in atmospheric carbon dioxide since 1750.

The IPCC and its believers and scientists began, not with science, but with their emotional, ecological belief that human emissions are bad and natural emissions are good. They have built their whole climate fraud on a foundation of sand.

### **Here's why the core IPCC assumption is invalid.**

First, the IPCC method rejects simple physics that proves the

level, of lake water or atmospheric carbon dioxide, will always adjust outflow to balance inflow. The physics question is NOT whether there is an imbalance of flows. There is. Nature always proceeds toward balance.

The physics question is how much will the level change to achieve this balance. We have already described the answer to this simple physics question.

Second, the atmosphere cannot open its exit door to nature-produced carbon dioxide and close its exit door to human-produced carbon dioxide because it can't tell the difference between nature-produced and human-produced molecules of carbon dioxide.

In physics, the Equivalence Principle means if we cannot tell the difference between two things then they are identical, and nature will process them the same.

Third, even IF nature could identify nature-produced from human-produced carbon dioxide, to treat them differently would violate the Second Law of Thermodynamics, because it would decrease entropy without an input of energy.

For example, if you mix cream in your coffee, it goes in with no effort. But try to take the cream back out of your coffee. It would take an energy source to separate the cream from your coffee. There is no energy source available to separate identical carbon dioxide molecules based upon their history.

In summary, the IPCC claims, and all climate alarmists believe, that nature separates human and natural carbon dioxide molecules – thereby violating the Equivalence Principle – and that nature shuts its exit door for human-produced carbon-dioxide molecules while letting nature-produced carbon-dioxide molecules pass freely – thereby violating the Second Law of Thermodynamics.

**IPCC's Bern model proves the IPCC's climate claims are wrong.**

The IPCC has something it calls the Bern model. The Bern model is a seven-parameter curve fit to the output of IPCC climate models. To satisfy the intended curve fit, the Bern model must have the same mathematical form as the climate models. Therefore, the Bern model tells us a lot about what is in the climate models.

Specifically, the IPCC claims the Bern model simulates how our atmosphere treats human carbon dioxide emissions. The Bern model says a one-year “pulse” of human carbon dioxide inflow that sets the carbon dioxide level to 100 ppm, will cause the level to still be 29 ppm after 100 years and have a permanent level of 15 ppm forever. This is for only one year of emissions.

The Bern model then adds these permanent levels for all successive years. This invalid idea follows the initial assumption that nature does not balance human emissions. It is the reason alarmists claim human carbon dioxide emissions cause permanent and long-range damage. This is why James Hansen claimed in 2008 that we must shut down all coal-electric power plants by 2012 in order to save the planet. Alarmists believe and preach their irrational feelings rather than logical physics.

These alarmist claims derive from the invalid idea that the atmosphere is a garbage dump rather than a reservoir the processes inflows and outflows. The IPCC built these claims into all its climate models. The built-in false claims are why all IPCC climate models are pieces of junk.

Here is a simple way to test the Bern model and thereby all IPCC climate models. According to the Equivalence Principle, the Bern model must hold for natural emissions as well as human emissions, even though the IPCC says it only applies to human emissions.

If we insert natural emissions of 100 ppm per year into the

Bern model, it predicts these natural emissions would add 15 ppm per year permanently to the atmosphere. Therefore, the Bern model predicts that the last 1000 years of natural emissions would have added a permanent increase of 15,000 ppm today. Obviously, this has not happened. This invalid prediction proves the IPCC Bern model and all IPCC climate models are wrong.

### **Here are the steps in the IPCC climate alarmist logic:**

1. Claim human emissions cause all the increase in carbon dioxide.
2. This means nature must restrict outflow of human carbon dioxide.
3. Insert this restriction into climate models.
4. Insert also the false claim that more carbon dioxide increases temperature.
5. Models calculate that human emissions increase carbon dioxide and carbon dioxide increases temperature.
6. Then alarmists claim the climate model output proves human emissions cause climate change.

### **Here are the steps in climate physics logic:**

1. Understand how nature adjusts outflow to balance inflow.
2. Develop simple Model of how nature balances inflow.
3. Show the Model reproduces real data, like carbon-14 data.
4. Show the Model proves that IPCC models are fundamentally wrong.

### **The fork in the road of the climate change debate**

It may be hard for you to believe, but climate realists now come in two opposing flavors: vanilla and chocolate.

The chocolates want to prove the IPCC is fundamentally wrong by using solid, simple arguments like I have summarized above. The chocolate argument is sufficient to cut off the alarmist

argument at its knees. Nothing more is needed. It would be a slam-dunk win in a quick checkmate. The jury would be impressed. The judge would be happy. The chocolates would reverse the EPA Endangerment Finding.

By contrast, the vanillas would begin by trashing physics and admitting that Al Gore, the IPCC, and the alarmists are right about the warming effects of human emissions. Then they would try to prove that global warming brings more benefits than the status quo. That approach opens the door to endless arguments that the alarmists have perfected.

Even worse, the vanillas would reverse the burden of proof from the alarmists to the vanillas.

The vanillas would confuse the jury, upset the judge, lose the climate debate, and forever extinguish the opportunity to win the debate using simple physics.

The alarmists have already noticed the cave-in by the vanillas and expect to easily win a debate or trial if the vanillas are their opponents. The alarmists will simply claim they want to stop all carbon dioxide emissions so they can keep the climate status quo. Checkmate win.

## **Conclusion**

President Trump is right to recognize the climate fraud. Now, it is up to the realist scientists to recognize and promote a debate based on the physics of climate change, rather than on the vanillas plan to admit the alarmists are right and then try to prove warming is good. Yikes.

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This article is written for the layman. To read my preprint that explains the physics of this post, please see "[Why human CO2 does not change climate](#)."



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