

We will not reach the 2-degree target

NZZ am Sonntag Interview with
Nobel laureate William Nordhaus

Nobel Opinion with Nobel laureate William Nordhaus, Sterling Professor of Economics
and Professor of Forestry and Environmental Studies

Abstract

“It’s impossible to reach the 2-degree target yet,” says Nobel laureate William Nordhaus. Global climate protection targets would be out of reach even if the economy were to be rapidly reoriented, says the American economist from Yale University. CO₂ emissions must therefore be put at an effective price. This interview was conducted by NZZ am Sonntag journalists Birgit Voigt and Jürg Meier in the course of a UBS Center Opinions event in Zurich.

Birgit Voigt and Jürg Meier, NZZ am Sonntag: Global CO₂ emissions are still rising, Australia has been on fire for weeks. Do we have any chance to prevent catastrophic global warming?

William Nordhaus: A catastrophe is still quite far away. And we can still prevent it. But the question is whether we will. In any case, we haven't done much about climate change yet.

What do you mean?

In 2019, the fight against climate change put a price on about 20 percent of global greenhouse gas emissions. It averages about \$2 per ton of CO₂ emitted. But a meaningful price would have to be \$40 or even \$100, according to some calculations, to counter CO₂ emissions – but certainly not \$2. Therefore, we are not even close to where we should be, even with a less ambitious strategy.

Do you still see positive developments?

After all, there are now more countries that put a price on CO₂ emissions in the first place. A decisive step will then be to increase CO₂ prices and harmonize today's national systems globally. This requires not only the political will, but also coordination of the climate policies of all countries. I am hopeful about this.

Why? The U. S., as the world's second-largest emitter, has opted out of climate protection.

This is not correct. The Trump administration has said goodbye to this issue. It is thus out of step even with large segments of conservative Americans. George Shultz, who was Secretary of State under Ronald Reagan, now advocates a carbon tax. There are many conservative economists who have similar views.

What advice would you give President Trump if you could meet him?

President Trump is not interested in the consequences of our actions for the future of the planet. He cares only about his own political future. It is futile to hope that he will be open-minded about such issues. His views are completely unscientific.

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When might the U. S. rejoin the fight against climate change?

The U.S. is a producer of fossil fuels. In such countries, climate policy is fundamentally a difficult issue. But let's wait for the next presidential elections. All Democratic candidates support measures against climate change. At some point, the U.S. will return to sanity. We were just very unlucky in the last presidential election.

You won the Nobel Prize in Economics in 2018 for your work addressing climate change over decades. But the issue only landed on the political agenda thanks to Greta Thunberg. Have you been living in an ivory tower for too long?

I think Greta has so much credibility because she is so young and because she suffers from autism. After all, she herself repeatedly points out her illness. Greta Thunberg has become a symbol for telling

the truth in times of misinformation. But I don't know if she has really changed the attitude of people or politics.

You yourself have been criticized by both climate skeptics and climate activists. The skeptics use your theories to argue that the fight against climate change is not affordable at all.

That's not what my model says. International climate policy wants to limit global warming to less than two degrees. For this so-called 2-degree target, there is already a whole range of model calculations, which I also use.

And what do they say?

Half of the models come to a clear conclusion: it is impossible to achieve the 2-degree target.

Why?

Because the system is too inert. The Earth has already warmed by one degree, and temperatures are continuing to rise, rapidly. Even if we manage the fastest possible turnaround toward zero emissions, CO₂ will continue to accumulate in the atmosphere, because we can't just shut down our economy. What I'm saying now is that at some point, it's going to be enormously expensive to even come close to achieving goals like the 2-degree target. And then my question is: Is it reasonable to incur enormously high costs to slow the temperature rise by just a tenth of a degree?

Is it?

The facts say it's not. But, of course, the facts are incomplete because we haven't done enough research on many areas.

Do you think the 2-degree target is problematic?

Such targets are indicative and are taken seriously, but they do not correspond to economic realities. The target was set without asking how much it would cost to achieve it.

What would it cost?

Take, for example, the so-called 1.5-degree target, which has also been researched and which would be even more difficult to achieve than the 2-degree target. The cost estimates show: You would have to put a price of \$20,000 on average for emitting one ton of CO₂. Today, no country has a price that is even remotely comparable. Switzerland, for example, currently charges 96 francs on fuels such as heating oil – but not on gasoline and diesel – and is thus practically at the top in an international comparison.

Your model says the optimal balance between economic costs and climate protection costs would result in 3 degrees of warming in 2100. But 3 degrees is a very strong warming. Why do you call this result optimal?

If we aim for a balance between the burden on the economy and the benefits of climate protection, that's about where we would end up. Today, however, we can neither precisely quantify all the costs nor the total benefits of climate protection. We still have an inadequate understanding of many effects.

This leads to an accusation that climate activists are making against you. They criticize you for constantly underestimating the true costs of climate change in your work.

Which is true: We know too little about the melting of the great icefield or about the consequences of a changed monsoon. These risks are all very significant. But we are still far from doing what even the most cautious models and estimates recommend. That's why we should first make sure we implement it. Then, once we're on the path to those goals, we need to worry about what else might be needed.

Is the CO₂ price that your models recommend even high enough? Gasoline, for example, would become only slightly more expensive, and we would continue to drive cars as usual, which would not help climate protection.

This argument is wrong, as we can see from countries that already tax gasoline. People drive less there. The same effect can be observed when cigarettes or alcohol become more expensive. But we shouldn't focus on gasoline anyway.

Why not?

Coal is our real problem. It is not taxed practically anywhere in the world, or even subsidized in many countries.

China is even still building an enormous number of new coal-fired power plants.

The Chinese burn 45 percent of the world's coal. As long as we don't solve this problem – or as long as the Chinese don't solve it – we won't get very far in climate protection.

Is something happening there?

China has introduced a cap-and-trade system. Under this system, CO₂ emissions are capped. It is difficult to judge whether this system will be effective. But at least they're starting with it.

More and more other countries are also putting a price on CO₂. Surely that must give you cause for optimism.

Of course, that's positive. It's just that most of these systems are unfortunately very poorly designed.

Why?

Governments want to show that they are doing something in the fight against climate change. They beat their chests, but in reality they do as little as possible and hope that other countries will pay for measures that lead to a global reduction in CO₂. Afterwards, all those who have done nothing at all also profit from this.

This so-called free-riding is the central problem of climate protection. How can it be contained?

The problem with today's climate agreements is that they are voluntary. There are no negative consequences if you don't join or if you leave. When Canada discovered its oil-bearing sands, it withdrew from the Kyoto Protocol. The U.S. government was able to withdraw from the Paris Agreement without consequences. The Kyoto and Paris agreements are failed attempts because they virtually invite free-riding.

What can we do?

We need to find a new approach that rewards governments for their efforts and makes non-compliance with agreements expensive.

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You proposed an idea some time ago that you called a climate club.

I was inspired to do that by the EU. It would be a system in which only those countries that charge a minimum price of, say, \$ 50 per ton for domestic CO₂ emissions, would be free to trade.

And the others?

All those that don't participate either don't have access or must pay tariffs. Membership in the club brings countries so much that they want to stay in, even if they have to shoulder high costs at certain stages. Access to, or exclusion from, such a market could be a fairly strong incentive to join the system.

However, the World Trade Organization (WTO) has problems with possible tariffs.

There are also other unresolved issues. But honestly, I don't know why this is all moving so slowly.

The economist's instinct says that the dangerous climate gases should be avoided where it is cheapest. But I have great doubts about the feasibility of the system.

Climate activists argue that forgoing economic growth would be a better strategy in the fight against global warming. You've always opposed this. Why?

Climate change is caused by economic activities that are going in the wrong direction. The destruction of valuable assets – such as intact rainforests, for example – is too cheap. When price signals are dramatically wrong, as they currently are for fossil fuel use, the results can be disastrous. By making

negative consequences more expensive now, you steer economic activity in the direction that generates greater benefits for people.

But until that happens, shouldn't humanity do without more?

Do you seriously want to tell people that we are shutting down the highways, the trains, the hospitals, the schools? Should they do without when it comes to clothing, food, and the roof over their heads? I can't imagine that could win a vote anywhere in the world.

In Switzerland, we are currently debating how much we want to reduce CO₂ emissions domestically and how much climate protection we want to achieve by buying foreign climate certificates. Critics call the purchase of foreign certificates a trade in indulgences. Advocates say that thanks to these certificates, much more climate protection can be achieved in developing countries than in Switzerland – with the same amount of money. How do you see that?

The economist's instinct says that dangerous greenhouse gases should be avoided where it is cheapest. But I have great doubts about the feasibility of the system.

Why?

It is extremely difficult to verify whether these climate certificates really deliver the promised benefits. In other words, whether the money actually paid climate protection efforts that would not otherwise have happened. There are only a few certificates where one can really be sure that this criterion of so-called additionality is met.

Source

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You can find a recording of Nordhaus' speech and other material on the topic on the Center's website: www.ubscenter.uzh.ch

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About the speaker

William Nordhaus has been researching the consequences of mankind's rising CO₂ emissions for decades. His work received major public attention when he was awarded the Nobel Prize in Economics in 2018, together with U.S. economist Paul Romer. Nordhaus has been a professor at the renowned Yale University since 1973. In the mid-1990s, he developed a model that quantifies the mutual influence between the economy and the climate. It is used to estimate the effects of political measures such as CO₂ prices or taxes.



Nobel laureate William Nordhaus
Sterling Professor of Economics and Professor of Forestry and Environmental Studies