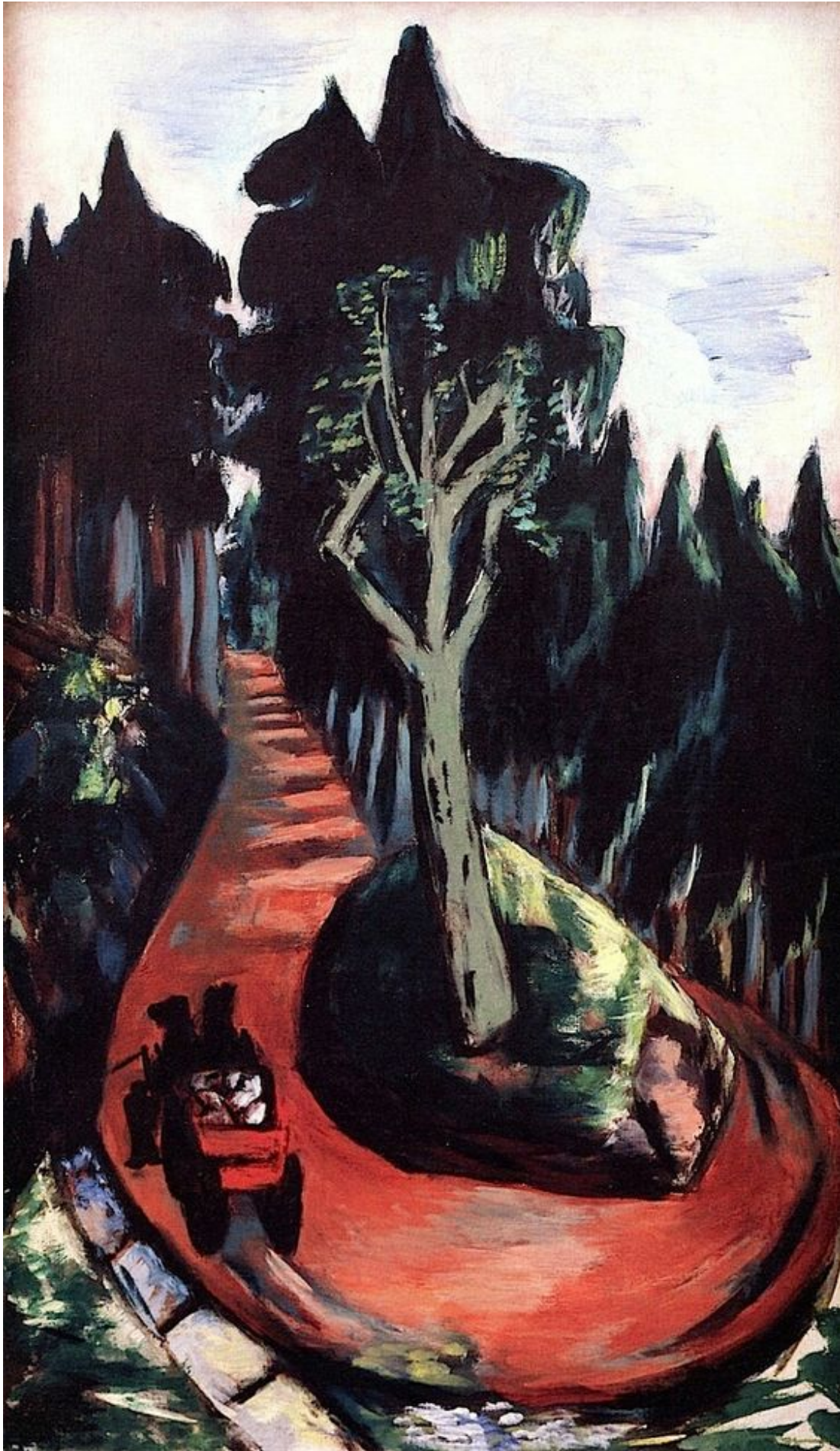


The New Climate Campaign to Save the Planet and Destroy Society

by [Adam Selene](#) (February 2021)



Forest Path in the Black Forest, Max Beckmann, 1936

The Mind & Life Institute launched on January 9 its new series of short films "Climate Emergency: Feedback Loops." We are expected to "learn why natural warming loops have scientists alarmed—and why we have less time than we think." Richard Gere's gentle narration, with simple terminology and explanations, and the films' high-production values, with subtitles in 20 languages, make them highly likely to be shown in school science classes. We can expect to hear a lot more about 'climate feedback loops' and the linked terms 'tipping points' and 'chain reactions.'

The launch event was an online conversation with the Dalai Lama and Greta Thunberg whose "star power," in the words of moderator Diana Chapman-Walsh, drew the audience, with more than 50,000 views so far.[\[1\]](#) The Dalai Lama tells us that "we must act, according to the situation" and warns that looking to God or Buddha is "not sufficient." He reminds us of the Buddha's teaching that "you, human beings, you are your own master" so that "we have to think seriously about how to resolve, how to reduce these problems" we have created. Thunberg is not the strident activist we've seen in her earlier public appearances. This time, she's a courteous Swedish teenager talking to us from her bedroom. But it is Diana Chapman-Walsh, president emeritus of Wellesley College and a former board member of the Mind & Life Institute, who delivers the key content:

... our new film series ... explains why all of us should educate ourselves and be alarmed ... global heating from our fossil fuel emissions and destruction of our forests are accelerating natural processes that threaten to spin out of control ... we can be part of the solution ... if we work together, urgently, intelligently, we can hope, over time, to renew nature's own best technologies for storing excess

carbon where it belongs: in the ground.

Her call to action is:

Many young leaders are rising up everywhere to demand the world's leaders do act now to address this emergency. And they are also insisting that these leaders do so in the context of a serious focus on social and economic justice, climate and environmental justice. And so I think for us it is now to join them, all of us, to act not just once but over and over, to enlist others to join us until each one of us forms a multitude. If we do this well, if we stay with it, then we can imagine the possibility of a social feedback loop that builds, and builds, and builds to a global response of sufficient speed and scale to meet this looming threat.

She urges us to watch, share and talk about the films, hold leaders to account, find the roles we can play, our passion, and to “start living now, all of us, for a future that we can love.” There is an explicitly political purpose to these films about the science of climate feedback loops.

The five short films in the series are an overview introduction followed by episodes explaining four climate feedback loops involving forests, permafrost, the atmosphere, and Earth's albedo or reflectivity.[\[2\]](#) A feedback loop, the introduction explains, is like a microphone too close to a speaker. The sound from the speaker is picked up by the mic and reamplified through the speaker producing a squeal painful to the ear. Likewise, fossil fuel emissions trap heat, warm the atmosphere, and this sets off natural processes, such as thawing the permafrost, which emit more greenhouse gases and result in further warming in a self-perpetuating feedback loop.

The films follow a common format. Narrator Richard Gere takes us through the science of the feedback loop

supported by often stunning imagery, well-designed graphics and animations. The film on forests, for example, begins with photographer Beth Moon's spectacular black-and-white images of the world's oldest trees, and she tells us that "Never in my lifetime did I think I'd be recording their deaths." Scientists are shown explaining the feedback loops in their own words, talking about their research experiences and the importance of urgent action, because "we cannot let it be too late." Most of them are from the Woods Hole Research Center (now, the Woodwell Climate Research Center) in Massachusetts. The films' imagery is mostly scenes of nature, often majestic, such as forests and glaciers, but sometimes tragic, such as forests consumed by fire. Apart from the scientists, people are only shown coping with disasters from extreme weather like hurricanes. Human emissions of greenhouse gases are illustrated by coal-fired power stations, industrial logging activities, and freeways teeming with traffic. The machines hide the people from view. It's not us, they imply, it's industry and mega machines. The soundtrack is mostly spacey minor chord piano, rather reminiscent of Erik Satie, but also at times reminded me of the gently lilting piano backing to John Lennon's 1971 song "Imagine." The mood is of sombre profundity. We are asked to make a binary choice that, as John Ralston Saul pointed out in *The Unconscious Civilization*, is really no choice at all. Do we continue with business as usual, pass the point of no return, leading to an uninhabitable Earth, or do we have the vision and will to slow, halt, and reverse the feedback loop and heal the planet?



Each film ends with Richard Gere's narration summarising the feedback loop as the screen shows a graphic with fossil fuel emissions at the centre of a spiral containing the key elements of the feedback loop. The spiral grows and reddens. This is the climate emergency narrative. We then switch to the narrative of possibility. Fossil fuel use disappears, the spiral shrinks and turns green and Gere tells us to "stop adding fossil fuels to the atmosphere which are warming the planet" and triggering the feedback loop. "If we cut emissions, stop deforestation, and regreen the Earth, we can slow, halt, or even reverse the feedback loop, lower temperatures ... and heal our planet." The graphic fades and we are shown scenes of school strike for climate marches, with tight shots of the placards, and often with a voice over or a cut to a scientist urging action, such as voting for politicians who take this issue seriously.

The films are simple yet sophisticated. The phrases 'gases that warm the atmosphere' and 'heat-trapping gases' are

preferred to the term 'greenhouse gases.' They are more direct, less technical, and avoid associating the word 'green' with the cause of the problem. The question of whether these gases do warm the atmosphere becomes unthinkable. There is a good deal of this kind of meticulous use of language and imagery to produce a sophisticated synthesis of science, spin, and calls for political action. The films also acknowledge that our understanding of the feedback loops is not perfect, and nor are the computer models. A scientist tells us that we don't really know how much warming is safe, 2 °C, 1.5 °C, we don't really know. But that less warming is better is not in doubt. The mantra "stop adding fossil fuels to the atmosphere" is delivered repeatedly and with the certainty of a commandment.

Despite the attention to detail, there are some glitches that drew a wry smile. At the end of the forest film, veteran ecologist George Woodwell tells us to stop using the forests and let them "do their job of taking carbon out of the air" in a scene with two wooden armchairs looking out to a beautiful, forested coastline. The permafrost film shows scientists drilling for permafrost samples using petrol-powered equipment.

There are more serious gaps in the logic. We are told that the feedback loops set off irreversible chain reactions that spin out of control. We are also told that they can be reversed—by stopping fossil fuel use, ending deforestation, and 'regreening' the planet. We are told that, but for human activities, the Earth's climate has natural limits or would slowly return to normal. We are also told that the Earth has seen huge climate changes that have nothing to do with human activities, changes for which no explanation is offered, from a snowball earth to times when the Arctic was ice free some 2.5 million years ago. We are told such a warmer world would be uninhabitable. Yet, even though homo sapiens as a species is not that old, our great ape primate cousins evolved well

before then. They, along with all other modern animals and trees, have survived through times when the planet was virtually ice free and through ice ages.

Some of the science claims are questionable. The feedback loop involving forests is based in part on warming producing dryer conditions, making forests more vulnerable to fires, pests, and diseases. Yet the film on the atmosphere points out that a warmer world will have more evaporation from the oceans and this leads into its warning of bigger, more frequent hurricanes and floods. The Intergovernmental Panel on Climate Change (IPCC) says that projections for precipitation are uncertain, but it expects more precipitation in mid and high latitudes in the Northern Hemisphere, home to the temperate and boreal forests. The films also say that the wetter places will get wetter and the dryer places dryer—that is, everywhere will get more extreme. The IPCC says:

Observed global changes in the water cycle, including precipitation, are more uncertain than observed changes in temperature. [\[3\]](#)

The IPCC has low confidence about observed trends in precipitation in monsoon regions and low confidence about observed trends in droughts.

The forest carbon story doesn't add up. We are told most of the carbon stored in forests is in the tropical and boreal forests, that these are on the verge of tipping from net carbon sinks to being net carbon sources, and that the permafrost contains many times as much carbon as all the world's forests. Yet the calls for action are focussed on the temperate forests of North America and Europe, which we must stop using for commercial purposes so they can "do their job" of taking carbon out of the air.

This is one instance of the films' more general quandary about nature and humanity's part in it. The imagery

evokes a spiritual reverence for Gaia, but the script is littered with mechanistic metaphors. In addition to feedback loops, nature is said to have its own technologies and forests are said to have a job. If they do, being a whole ecosystem, they have more than one. Among her other accomplishments, Diana Chapman-Walsh is co-founder of the Council on the Uncertain Human Future. The Council says

The time for imagining ourselves as the pinnacle of all creation ... the ones who are in control of the natural world, the ones who are separate from and in competition with everything else ... that set of ideas is gone. [\[4\]](#)

Yet the films treat human beings as separate from nature and in competition with it or destructive of it. What's more, a major theme of the films is that we are indeed in control of the natural world. We are told we are causing the warming triggering the feedback loops and we are also told we can reverse them and cool the planet. We just need to stop using fossil fuels, stop deforestation and 'regreen' the planet.

The biggest flaw in these films is the miraculous assertion that solutions are available if only we had the will. Richard Gere tells us in the introductory film:

We have the technology, the knowledge, to solve the problem, to stop and reverse the feedback loops. But we need leaders who understand the urgency of getting it done and an energised public to advocate for change.

This is repeated towards the end of the last film:

In every sector of the economy we have the technology and knowledge to move towards sources of energy that do not produce heat-trapping gases. What we need is the will.

But we don't. There are some hopeful prospects. Most are still in the research laboratories. Some are in

development and a few have made it to trials or small-scale pilot plants. The generation of electricity from renewables has come a long way. But wind and solar still only generate a modest fraction of global electricity (about 8 per cent) and provide an even smaller fraction of global energy use. It is worth keeping in mind the enormous scale of the fossil fuel use—many billions of tonnes every year—that the films demand we urgently stop.

There is simply no practical alternative to large diesel engines for long-haul, heavy transport, whether by sea, rail, or road. The old technology was coal-fired steam engines. Large diesel engines also power construction, mining and agricultural machinery. The old technology was muscle-power from people and animals, sometimes augmented by windmills and waterwheels, and then steam engines. Nor is there a practical, scalable alternative to kerosene-fuelled jet engines for high-capacity commercial airplanes.

Let's pass lightly over what happens to timber and paper if we stop commercial use of forests. Presumably, plantation sources are the answer. But consider the materials that engineering polymath Vaclav Smil calls the four pillars of modern societies: cement, steel, plastics, and ammonia. Ammonia because it is mainly used to make fertiliser, an essential input to growing the world's food. All are made in huge quantities and through relatively modern, high-energy processes considered wonders in their time. The making of Portland cement dates from 1824. Although emissions from this process can and are being reduced by the use of fly-ash, for example, there is no practical, emissions-free alternative. Modern steel making starts with the Bessemer process from the 1850s using coking coal, followed by the open-hearth process that has taken over in the twentieth century. Plastics and synthetic fibres are twentieth century materials that have become ubiquitous and are made from oil and natural gas. Ammonia is made using the Haber-Bosch process first

demonstrated at scale in 1913. The process uses steam reformation of fossil fuels to produce hydrogen, which is reacted at high pressure over a catalyst with nitrogen from the air. Haber and Bosch won Nobel prizes in 1918 and 1931 for perfecting it.

There are claims that hydrogen can underpin the making of steel, ammonia, jet fuels, and perhaps even plastics. The 'green' hydrogen is to be made from water using electrolysis powered by renewable sources. The processes are yet to be demonstrated at scale. The materials would become significantly more expensive even with 'green' hydrogen at a fraction of today's price. More seriously, the required scale of electricity generation from renewables could shock even the most ardent fan of covering the landscape with wind farms, solar farms, and electricity storage and transmission infrastructures. This is why Californian environmentalist Michael Shellenberger accuses those who advocate for a renewables-only energy system of "destroying the environment to save it." He says, "Only nuclear, not solar and wind ... can affordably create the hydrogen gas and electricity that will provide services ... currently provided by fossil fuels."[\[5\]](#)

With so much to do you might think the young people who are the target audience for the films would be pressed to take up practical careers. As engineers, scientists, technologists and tradesmen to develop and deploy new energy technologies, to redesign industrial processes and materials and invent new ones, to re-engineer transport systems, retrofit buildings, and to construct hurricane and flood defences. As foresters and farmers, plant breeders, landscape scientists and rangers to manage forests and wetlands, and to develop and implement new ways of farming that store carbon as well as produce food. As firefighters and first responders to cope with climate emergencies. But you would be wrong. These youngsters are not encouraged to go on to build things and make things. The film series asks young people to take up

climate activism. They are urged to make noise, to have their voices heard, to vote. They are being educated to raise awareness, to lecture and hector, to agitate. In other words, these youngsters are told to have childish tantrums until someone else solves the problem. It is exactly the opposite of the Dalai Lama's message of responsibility. These youngsters need to be told to get serious, to understand the technological and material foundations of their lives, and to grow up to become the responsible, capable adults who can take up the difficult challenges involved in creating and delivering this low-emissions future.

What is a contemporary politician or other leader to do when pressed by all this agitation and faced with the reality that the demands cannot be satisfied? Many are taking the route of saying they will do something, halve emissions by 2030, get to net zero emissions by 2050. But not many are on a pathway to achieving it. For example, Canada committed under the Paris Agreement to reduce its emissions by 30 per cent from 2005 levels by 2030. So far, it has achieved about 3 per cent. Yet Prime Minister Justin Trudeau has committed Canada to net zero emissions by 2050. Joe Biden wants the huge US electricity system to be carbon free by 2035. Very few politicians are telling it like it is. But Canadian Vaclav Smil does:

Proper recognition of energetic, engineering and economic realities means that the decarbonization of global energy supply will be much more difficult and it will take much longer than is often assumed by uncritical proponents of "green" solutions.

The complete decarbonization of the global energy supply will be an extremely challenging undertaking of an unprecedented scale and complexity that will not be accomplished—even in the case of sustained, dedicated and extraordinarily costly commitment—in a matter of a few decades. [\[6\]](#)

The films call for a sustained campaign to demand politicians and other leaders repudiate our societies and take urgent action that would destroy them. Societies built on the fossil fuel use that has liberated so many from hard physical labour, poverty, and hunger. Societies like America that are the freest, most innovative, and most prosperous in human history. If they collapse, we will not live in a “future that we can love” as part of a low-emission society on a ‘regreened’ planet that is just a little warmer. It will be a life that is, in Hobbes’ formulation, nasty, brutish, and short.

[1] The Dalai Lama in Conversation with Greta Thunberg and Leading Scientists <https://www.youtube.com/watch?v=HrdW2gPRW3k>

[2] Climate Emergency: Feedback Loops. <https://feedbackloopsclimate.com/>

[3] IPCC, Special Report: Global Warming of 1.5 °C, Chapter 3, Impacts of 1.5 °C global warming on natural and human systems. <https://www.ipcc.ch/sr15/chapter/chapter-3/>

[4] Council on the Uncertain Human Future, about page. <https://councilontheuncertainhumanfuture.org/about/>

[5] Michael Shellenberger, *Apocalypse Never: Why Climate Alarmism Hurts Us All*, Harper, 2020. <https://www.amazon.com/Apocalypse-Never-Environmental-Alarmism>

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[Hurts/dp/0063001691/ref=sr_1_1?crid=29TEGY07UXW0S&dchild=1&keywords=apocalypse+never&qid=1610950956&srefix=apoca%2Caps%2C892&sr=8-1](https://www.hurts.com/dp/0063001691/ref=sr_1_1?crid=29TEGY07UXW0S&dchild=1&keywords=apocalypse+never&qid=1610950956&srefix=apoca%2Caps%2C892&sr=8-1)

[6] Smil, V. 2019. What we need to know about the pace of decarbonization. Substantia 3(2) Suppl.1:13-28. <http://vaclavsmil.com/wp-content/uploads/2020/01/Substantia.pdf>

[Table of Contents](#)

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