

PANDORA'S PROMISE

a film by Robert Stone

PANDORA'S PROMISE will be a feature-length documentary about the history and future of nuclear power and how mankind's most feared and controversial technological discovery may ultimately hold the key to its very survival. Built mainly around the personal narratives of several former anti-nuclear activists who have undergone a metamorphosis in their thinking about nuclear power, the film will be brought to life through a wealth of incredible archival footage and original filming across the globe. Operating as history, cultural meditation and contemporary exploration, PANDORA'S PROMISE aims to inspire a serious and realistic debate over what is without question the most important issue of our time: how we continue to power modern civilization without destroying it.

On February 23rd of 2009, four of Britain's leading environmental activists, including the former Executive Director of Greenpeace UK, Stephan Tindale, and the noted environmental author Mark Lynas, announced to the world that they were now fully supportive of nuclear power. The news sent shockwaves through the mainstream environmental and anti-nuclear movements. Their apostasy was met with anger and disappointment by many of their former colleagues. Lifelong friendships were ended. Professional relationships severed. Yet there was also a nodding recognition among many, myself included, who have quietly harbored the conviction that nuclear power is probably the most realistic solution we have for tackling the climate crisis. It is a sad fact that so many on the Left, particularly in the political sphere, are afraid to speak their mind publicly on this subject for fear of being attacked and shunned, so strong is the prevailing orthodoxy of anti-nuclear dogma among progressives throughout much of the Western world.

But these four individuals are just the latest to join a growing chorus. James Lovelock, the creator of the famous Gaia hypothesis and godfather of the modern environmental movement, has been pro-nuke for many years. James Hansen, the world's most respected climatologist, is now strongly in favor of nuclear power; as is Stewart Brand of Whole Earth Catalog fame; as well as many younger environmental leaders like Michael Shellenberger and Ted Nordhaus. Many of these former anti-nuclear activists are just now coming out of the closet. What's most extraordinary in this intellectual turnabout is the degree to which so many of them have acknowledged that their previous anti-nuclear stance was derived in large part from an almost theological adherence to a particular set of outdated, and often completely false, 'scientific' assumptions. Much of this is rooted in a general mistrust of scientific (and particularly nuclear) authorities that grew out of the Cold War. It is not without some irony that a similar skepticism and mistrust is also motivating many of those who claim that manmade climate change is a hoax. While polar opposites politically, these two rigid ideologies have dominated much of the public debate over energy policy in almost every developed country, with the notable exception of France, resulting in decades of failure to bring about a much needed energy revolution.

Contrarians by nature, the French bucked the anti-nuclear trend in the 1970's and now produce over 80% of their electricity from nuclear power. They have the cleanest air and among the lowest per capita CO2 emissions in the industrialized world, and the cheapest electric rates in Western Europe! Since the 1970's, most of the rest of the world has failed to join France in its extraordinarily successful effort at weaning itself from fossil fuels. Coal, the dirtiest and most deadly fuel of all, remains the fastest growing energy source on the planet.

As this film will demonstrate clearly, the widely held belief promoted by renewable energy enthusiasts that wind power and solar energy might replace coal anytime soon is a dream wholly unsupported by the facts. Barring a series of miraculous and unexpected technological breakthroughs, solar and wind (important as they will be for localized and peak energy production) are unlikely ever to account for more than a fraction of the world's exploding demand for energy.

This might not be so very consequential were it not for the overwhelming evidence suggesting that the world is hurtling ever more rapidly towards a potentially catastrophic climate crisis as a consequence of our dependence on fossil fuels for energy. If we are to find a way out of our current self-destructive course, the most capable and scalable of the technologies we have for replacing fossil fuels is nuclear power. This is the new 'inconvenient truth' we must face.

How did it come to pass that the international environmental movement, which has fought so hard for the health of the planet, may have unwittingly abetted the ultimate environmental catastrophe by way of its thirty-year crusade to halt the use of nuclear power? What has caused so many well-informed people to believe that nuclear power is unnecessary, even with the threat of catastrophic climate change? And what new information has recently emerged that has caused so many formerly dedicated opponents of nuclear power to switch sides so completely and with such fervor? These are among the questions lie at the heart of this documentary.

In the wake of the wholesale public rejection of nuclear power that took place after Three Mile Island in 1979 and climaxed with the disaster at Chernobyl in 1986, scientists in several countries around the world began to see if an entirely new kind of reactor could be developed. Much of this work was based on research dating back to the days of the Manhattan Project that had never been thoroughly brought to fruition. Among these was a huge but little known project commissioned by the US Department of Energy in 1983 to design a reactor that would be highly resistant to weapons proliferation, would be fueled by the current abundant stockpile of nuclear waste, would be incapable of suffering a meltdown, and would be more economical to produce than today's highly complex Light Water Reactors. The project succeeded beyond everyone's wildest expectations. By the early 1990's it was just a few years shy of building a working commercial-grade power plant. Then out of the blue, President Clinton, in a move that can only be explained as a shortsighted effort to appease the anti-nuclear political base of the Democratic Party, announced at his 1993 State of the Union address the cancellation of all advanced nuclear energy research projects in the United States. The test reactor was shut down and was just recently dismantled. The scientists were let go and told not to speak publicly about their work. The Integral Fast Reactor (IFR), as it was called, is now widely recognized among nuclear scientists around the world as the best reactor design ever conceived. And this is but one of a number of advanced alternatives to today's aging fleet of nuclear reactors, many of which (like Fukushima) date back to the 1960's.

News about how close we could be to producing these new 4th generation reactors has been a game-changer for many people. Today, no less than two former national directors of Greenpeace (the most well-financed and influential anti-nuclear organization in the world), plus one of its original founders, have turned passionately pro-nuke. Their conversion is further evidence of a gathering storm that is just starting to make itself heard. The fact that we actually have the ability to solve the world's energy problems, while at the same time consuming the world's stockpile nuclear waste and weapons-grade plutonium as a source of

fuel, is currently well understood by only a relatively small circle of energy experts, nuclear scientists and a growing number of well-informed environmentalists and business leaders, including Bill Gates and Richard Branson. What's been missing until now is for someone to shout this from the rooftops. This film aims to do just that.

The recent reactor meltdowns at Fukushima have ignited a worldwide debate about energy and the future of nuclear power. The so-called nuclear renaissance is now in serious doubt. And yet the conditions that led to this remarkable reevaluation of nuclear power by those who once vigorously opposed it remain unchanged. Their commitment to seeing this technology advanced and put to good use in solving one of the greatest challenges of our time is as strong as ever.

Jim Hansen has described the 21st century as a bottleneck. We either make it through or we don't, with the remote potential of sending the planet into a runaway greenhouse condition not unlike that found on our desolate planetary neighbor, Venus (whose hellish climate was Hansen's first area of expertise). To be certain that we avoid this, we must arrest our emissions of CO₂ completely within the next few decades and bring the climate back into balance. If we act now and succeed, the prospects for our grandchildren could be very bright, with a gradually recovering natural environment and abundant clean energy for all mankind. To get there, we need not undergo a convulsive social revolution or radically alter the basics of human behavior, as some would have us believe, nor wait desperately for a miracle technology to emerge. The solutions to our energy and climate problems have been staring us in the face all along. We've just been too politically polarized, too imprisoned by our fears, and too misinformed to be able to see it. This film aims at nothing less than to change the terms of the debate; to point the way forward in a way that is realistic, commensurate with the magnitude of our perilous predicament, and well within our grasp.

CAST:

- **Stewart Brand:** noted futurist and creator of *The Whole Earth Catalog*.
- **James Hansen:** the world's most respected and influential climatologist.
- **Gwyneth Cravens:** former editor of *The New Yorker* and author of *Power to Save the World*.
- **Richard Rhodes:** Pulitzer Prize winning author of *The Making of the Atomic Bomb*.
- **Charles Till:** Nuclear physicist and director of the Integral Fast Reactor project.
- **Mark Lynas:** acclaimed environmentalist and award-winning author of *Six Degrees* and *The God Species*.
- **Stephen Tindale:** former Executive Director of Greenpeace/UK (2000-2005).
- **Anne Lauvergeon:** former CEO of AREVA (2001-2011), the French nuclear and renewable energy giant.
- **Nathan Myhrvold:** former lead technologist for Microsoft and creator of the Traveling Wave Reactor backed by Bill Gates
- **Michael Shellenberger:** noted environmental provocateur and author (*The Death of Environmentalism*) and director of The Breakthrough Institute.
- **Leonard Koch:** pioneering nuclear engineer in the field of fast reactors and the last surviving member of Enrico Fermi's team that built the first power reactor.
- **James Lovelock:** creator of the Gaia Theory and one of the leading luminaries of the international environmental movement.