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Docket Number:	15-IEPR-01
Project Title:	General/Scope
TN #:	210132
Document Title:	Gene Nelson, Ph.D. Comments: Another Group Advocates for the Continued Safe Operation of Diablo Canyon
Description:	N/A
Filer:	System
Organization:	Gene Nelson, Ph.D.
Submitter Role:	Public
Submission Date:	2/3/2016 1:43:49 AM
Docketed Date:	2/3/2016

Comment Received From: Gene Nelson, Ph.D.
Submitted On: 2/3/2016
Docket Number: 15-IEPR-01

Another Group Advocates for the Continued Safe Operation of Diablo Canyon

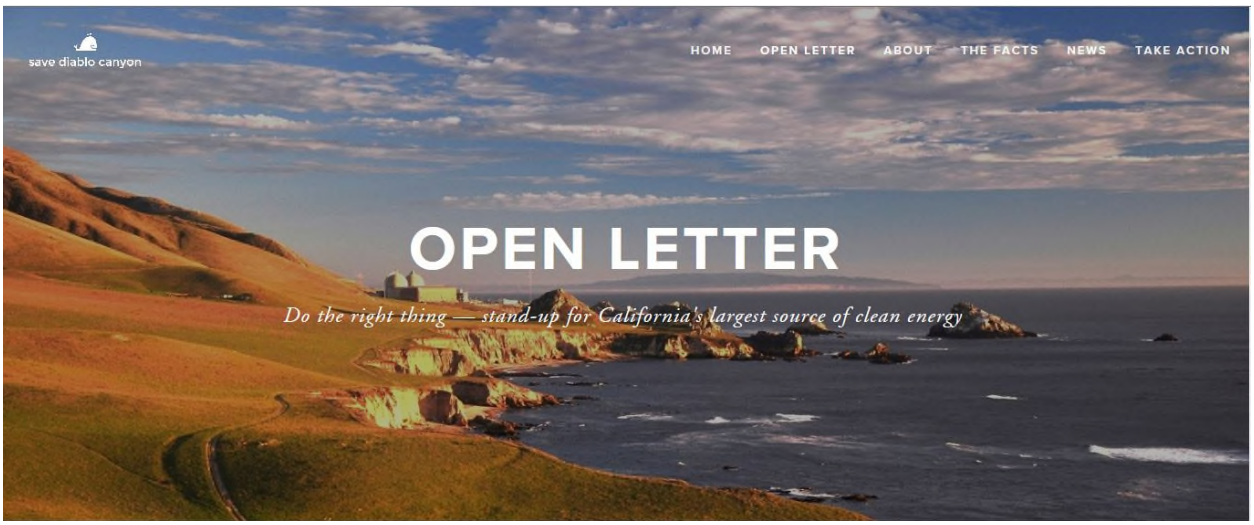
Another group advocates for the continued safe operation of Diablo Canyon Power Plant (DCPP.) Please see the attached file.

It is not clear that the revised 2015 IEPR being proposed for adoption on 10 February 2016 makes a strong case for the continuing operation of DCPP.

There also seems to be an effort in the 2015 IEPR to minimize the significance of the Aliso Canyon Storage Facility natural gas leak that began on 23 October 2015 and persists as of 03 February 2016.

Thus, the version 0f the 2015 IEPR proposed for acceptance on 10 February 2016 still requires substantial revisions. For those reasons, its adoption should be postponed.

Additional submitted attachment is included below.



https://savediablocanyon.squarespace.com/open-letter

On January 29, 2016, an international group of scientists, conservationists and philanthropists urged California's leaders and Pacific Gas & Electric to do all in their power to Save Diablo Canyon Power Plant so it can provide clean electricity for decades to come.

Signers include former Whole Earth Catalogue Founder, Stewart Brand; NASA climate scientist James Hansen; Santa Clara University conservation biologist Michelle Marvier; 1976 Nobel Prize winner Burton Richter; President Emeritus of the Missouri Botanical Center; Pulitzer-Prize winning historian Richard Rhodes; University of Wisconsin Nelson Center for the Environment Director, Paul Robbins.

January 29, 2016

The Honorable Governor Jerry Brown

The Honorable Lt. Gov. Gavin Newsom, Chairperson, California Lands Commission

Mr. Michael Picker, Chairperson, California Public Utilities Commission

Mr. Robert Weisenmiller, Chairperson, California Energy Commission

Ms. Mary Nichols, Chairperson, California Air Resources Board

Ms. Effie Turnbull-Sanders, Chairperson, California Coastal Commission

Mr. Anthony Early, CEO Pacific Gas & Electric

Dear Governor Brown, Lt. Gov. Newsom, Chairperson Picker, Chairperson Weisenmiller, Chairperson Turnbull-Sanders, Chairperson Nichols, and Mr. Early,

We are writing as scientists, conservationists, and philanthropists to urge you to do everything in your powers to ensure that California's last nuclear power plant, Diablo Canyon Power Plant, is relicensed.

In particular, we urge you to work together to expedite state regulatory approvals and eliminate redundant regulatory processes so that PG&E can request a renewal of Diablo Canyon's operating license from the federal Nuclear Regulatory Commission. We urge you not to allow unrelated conflicts, politics, ideology or irrational fears to get in the way.

Diablo Canyon provided 22 percent of all the clean energy electricity generated in California in 2014. If closed, it will likely be replaced by natural gas and California's carbon emissions will increase the equivalent of adding nearly two million cars to the road.

Closing Diablo Canyon would make it far harder to meet the state's climate goals. Already, the percentage of electricity California generates from clean energy declined from 53 percent in 2011 to 38 percent in 2014. Without Diablo, California's clean electricity generation would decline to 26 percent while electricity from natural gas would rise to 70 percent.

Declining electricity from clean energy sources, including hydro-electric dams, underscores the importance of nuclear, the only source of zero carbon power that is reliable no matter the weather or climate. In 2014, Diablo Canyon — a single power plant — produced 24 percent more electricity than all of California's wind, and 33 percent more electricity than all of California's solar.

Diablo Canyon produces twice as much power as all of California's solar panels, and 40 times more than its largest solar farm.

Diablo Canyon has been repeatedly inspected, upgraded, certified, and re-certified as safe by the independent federal Nuclear Regulatory Commission (NRC) for three decades. Independent nuclear safety experts view Diablo Canyon as one of the best-run nuclear power plants in the world, and believe it is highly likely NRC would renew Diablo Canyon's license to operate from 2025 to 2045.

While it is within the purview of the California Public Utilities Commission (CPUC) to assess the safety of Diablo Canyon, the CPUC has neither the technical expertise nor the political independence of the NRC. We encourage CPUC to limit its oversight to the minimum that fulfills its legitimate obligations in this area.

There is no reason why Diablo Canyon should require another environmental impact report (EIR), as Lt. Gov. Gavin Newsom, who acts as chairman of the State Lands Commission, says he will request. California EIRs are warranted when new developments are under consideration or when an existing development wishes to make significant operational or design changes. Neither of those conditions has been met.

To protect the integrity of the EIR process, and not allow EIRs to be used in a selective or arbitrary way, we encourage the Lands Commission to reject the request for an EIR.

State environmental regulations of Diablo Canyon's once-through-cooling should pose no obstacle to re-licensing as there are various low-cost mitigation options available to PG&E. Staff and consultants for the California State Water Resources Control Board (SWRCB) and PG&E have already identified options, such as the creation of an artificial reef and land conservation, as ways PG&E can mitigate its impact at a cost that would allow the plant to remain profitable.

Keeping Diablo Canyon open will result in greater protection for California's spectacular natural environment, while closing it would reduce it. Today, the rocky intertidal area around Diablo Canyon is one of the most pristine in San Luis Obispo County owing to its protection from public use. The coastal exclusion zone around Diablo Canyon has thus served to protect 12 miles of valuable marine habitat and wildlife.

If Diablo goes away, so too will the possibility of land conservation purchased by PG&E for mitigation. And because Diablo Canyon's land footprint is so small, it will very likely be replaced by electricity from power plants, whether fossil or renewable, whose footprint is much larger.

For its part, we encourage PG&E to publicly commit to seek the re-licensing of Diablo Canyon, and to agree to reasonable regulations, regulatory questioning and process, and to commit to invest in reasonable mitigation measures.

Diablo Canyon helps PG&E meet its commitment to providing clean, inexpensive and reliable electricity to Californians, as well as its fiduciary duty to its shareholders. Diablo Canyon is a reliable and profitable source of clean energy. While natural gas prices are at historic lows, they are unlikely to stay low. And moving from nuclear to natural gas would undermine PG&E's commitment to clean energy.

We thank you all for your commitment to clean energy, conservation, and climate action, and hope you will see how protecting Diablo Canyon is in the best interests of California's environment, economy and people, as well as our shared global climate.

We hope you will do all in your power to work with each other to expedite the regulatory and renewal process.

Sincerely,

Climate and Conservation Scientists

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Barry Brook, Professor and Chair of Environmental Sustainability, University of Tasmania

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Chris Dickman, conservation scientist, University of Sydney

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Kerry Emanuel, Professor of Atmospheric Science, Massachusetts Institute of Technology

James Hansen, Climate Science, Awareness, and Solutions Program, Columbia University, Earth Institute, Columbia University

Chris Johnson, Professor of Wildlife Conservation, University of Tasmania

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Lian Pin Koh, Chair of Applied Ecology and Conservation, Director, *Unmanned Research Aircraft Facility (www.uraf.org)* Australian Research Council Future Fellow II, *Environment Institute*, University of Adelaide

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William F. Laurance, PhD, FAA, FAAAS, FRSQ; Distinguished Research Professor & Australian Laureate; Prince Bernhard Chair in International Nature Conservation; Director of the Centre for Tropical Environmental and Sustainability Science

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Michelle Marvier, Professor, Environmental Studies and Sciences, Santa Clara University

Joe Mascaro, Program Manager for Impact Initiatives, Planet Labs

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Reed Noss, Provost's Distinguished Research Professor, Department of Biology, University of Central Florida

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Burton Richter, Nobel Prize Winner, Physics, 1976

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Cagan H. Sekercioglu, professor of conservation ecology, Department of Biology, University of Utah; former senior scientist at the Stanford University Center for Conservation Biology at the University of Utah.

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Stephen E. Williams, Centre for Tropical Biodiversity & Climate Change, College of Marine & Environmental Sciences, James Cook University, Australia

Conservationists and Philanthropists

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Stewart Brand, founder, Whole Earth Catalogue

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John Crary, Crary Family Foundation

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David Douglas, Partner, Applied Invention

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Valerie Gardner, Founder, Tiny Blue Dot; Chair, Atherton Environmental Programs Committee

William Gloeve, Californians for Green Nuclear Power

Kirsty Gogan, Executive Director, Energy for Humanity

Garrett Gruener, Managing Director, Gruener Ventures

Steve Hayward, Professor, Pepperdine University Graduate School of Public Policy

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Lindsay Meisel

Norris McDonald, President, Center for Environment, Commerce & Energy

Elizabeth Muller, Elizabeth Muller, Founder and Executive Director, Berkeley Earth

Carl Page, President, Anthropocene Institute

Stephen Pinker, Harvard University, *Better Angels of Our Nature*

Rachel Pritzker, Pritzker Innovation Fund

Roland Pritzker, Pritzker Innovation Fund

Steve Rayner, James Martin Professor of Science & Civilization, Director, Institute for Science, Innovation & Society, Professorial Fellow, Keble College, University of Oxford

Ray Rothrock, Venture Capitalist, Partner Emeritus, Venrock

Richard Rhodes, Pulitzer-Prize winning author of *The Making of the Atomic Bomb*

Peter Schwartz, author, *Art of the Long View*

Robert Stone, co-founder, Energy for Humanity

Michael Shellenberger, co-author, *Break Through*

Sam Thernstrom, Executive Director, Energy Innovation Reform Project

Stephen Tindale, Executive Director, Alvin Weinberg Foundation

Barrett Walker, Trustee, Alex C. Walker Foundation

CC:

Pacific Gas and Electric Board of Directors

Lewis Chew, Executive Vice President and Chief Financial Officer of Dolby Laboratories, Inc.

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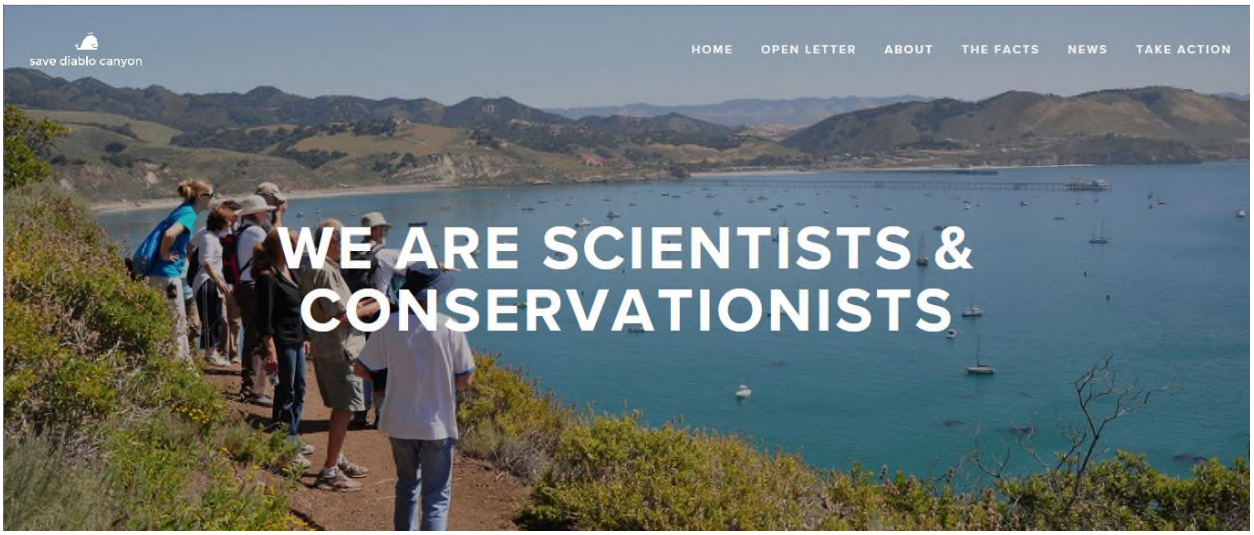

https://savediablocanyon.squarespace.com/who-we-are/

We are a group of independent scientists and conservationists in California and from around the world who are concerned that PG&E — under pressure from political officials — will close California's largest source of clean electricity: Diablo Canyon nuclear power plant.

We believe Californians are faced with an extraordinary opportunity to protect clean energy and win new coastal land conservation resulting from a settlement between the State and PG&E related to Diablo's once-through-cooling system.

Our work is made possible by the volunteer labor and support of concerned citizens, including Rachel Pritzker and Roland Pritzker. This is an independent effort that does not and will not accept funding from any individual or entity with a financial interest in Diablo Canyon.

We need your help. Please add your name to the growing list of scientists and conservationists urging Governor Brown, PG&E, and California officials to protect clean air and California's coastline. And please consider volunteering or making a donation.

Save Diablo Canyon Governing Board

Jan 27, 2016 Michael Shellenberger

Michael Shellenberger, author, Break Through, Ecomodernist Manifesto

Michael Shellenberger is coauthor of *An Ecomodernist Manifesto*, co-founder of, and Senior Fellow at, the Breakthrough Institute. In 2007, he received the Green Book Award and *Time* magazine's "Hero of the Environment." His recent TEDx talk is "How Humans Save Nature." Shellenberger's research is regularly cited and published in the *New York Times*, *Slate*, *USA Today*, *Washington Post*, and has appeared on *The Colbert Report* and *CNN's*

Crossfire. His 2007 book with Ted Nordhaus, *Break Through*, was called "prescient" by *Time* and "the best thing to happen to environmentalism since Rachel Carson's *Silent Spring*" by *Wired*. His first environmental campaign was in the late 1990s when he helped the Headwaters Forest Coalition protect the last significant groves of old-growth redwoods still in private hands.

Rachel Pritzker, Pritzker Innovation Fund

Rachel Pritzker is President and Founder of the Pritzker Innovation Fund. Rachel is on the boards of the Breakthrough Institute, Third Way, Center for Global Development, and Nuclear Innovation Alliance. Rachel is member of The Philanthropy Workshop and serves on the board of the Palm Center, a research institute that produces scholarship designed to enhance the quality of public dialogue about critical and controversial policy issues, such as gender and sexuality in the military. Rachel previously served as a founding board member of Media Matters for America and a founding board member of the Democracy Alliance, a partnership of business and philanthropic leaders committed to a stronger democracy by supporting progressive organizations.

Burton Richter, Nobel Prize Winner, Physics, 1976

Burton Richter is the Paul Pigott Professor in the Physical Sciences, Stanford University and Director Emeritus at the Stanford Linear Accelerator Center. Richter received the Nobel Prize in Physics (1976) and the E. O. Lawrence Medal of the Department of Energy (1976). His research has centered on experimental particle physics with high-energy electrons and electron-positron colliding beams. He began as a post doc at Stanford University in 1956, became a professor in 1967, and was Director of the Stanford Linear Accelerator Center from 1984 through 1999. He is a member of the National Academy of Sciences and the American Philosophical Society; a Fellow of the American Academy of Arts and Sciences, of the American Association for the Advancement of Science, and of The American Physical Society (President, 1994).

James Hansen, former NASA climate scientist

Dr. James Hansen, formerly Director of the NASA Goddard Institute for Space Studies, is Adjunct Professor at Columbia University's Earth Institute, where he directs a program in Climate Science, Awareness and Solutions.. Dr. Hansen is best known for his testimony on climate change in the 1980s that helped raise awareness of global warming. He is a member of the U.S. National Academy of Sciences and has received numerous awards including the Sophie and Blue Planet Prizes. Dr. Hansen is recognized for speaking truth to power and for outlining actions needed to protect the future of young people and all species on the planet.

Peter H. Raven, President Emeritus, Missouri Botanical Garden. Winner of the National Medal of Science, 2001

Peter H. Raven is one of the world's leading botanists and advocates of conservation and biodiversity. For four decades, he headed the Missouri Botanical Garden, an institution he nurtured into a world-class center for botanical research and education, and horticultural display. A Time magazine, "Hero of the Planet," Raven is the recipient of the International Prize for Biology from the government of Japan and the U.S. National Medal of Science, the country's highest award for scientific accomplishment. He has held Guggenheim and John D. and Catherine T. MacArthur Foundation fellowships. Raven served for 12 years as home secretary of the National Academy of Sciences and is a member of the academies of science in Argentina, Brazil, China, Denmark, India, Italy, Mexico, Russia, Sweden, the U.K., and several other countries.

Norris McDonald, Center for Environment & Energy

Norris McDonald is founder and president of the African American Environmentalist Association, an organization dedicated to protecting the environment, enhancing human, animal and plant ecologies, and increasing African American participation in the environmental movement, and the Center for Environment, Commerce & Energy. McDonald worked at the Environmental Policy Institute from 1979 - 1986 (now Friends of the Earth). The AAEA has also sponsored creek walks, tours of inner city toxic waste sites, power plants, drinking-water plants, sewage treatment plants, and conservation farms, all with the idea of bringing together mostly white environmentalists with black inner city residents. McDonald won the Environment Magazine Award in 1991, the Conservation award from the National Wildlife Federation in 1997, and the Green Room Energy and Environmental Leadership Award in 2012. In December 2012 he was named one of Ebony magazine's Power 100.

Kirsty Gogan, Executive Director, Energy for Humanity

Kirsty Gogan, Co-Founder, Executive Director, Energy for Humanity, an energy and environmental organization working to meet the goal of universal access to clean and cheap energy. Kirsty is former senior advisor to UK Government, on industry, academic networks and non-profit organizations. She created the Low Carbon Alliance between the nuclear and renewables industries, representing more than 1,000 businesses and welcomed by Greenpeace. Leading the Government's public consultation into the UK's new build program she addressed public concerns about nuclear power and engaged anti-nuclear campaigners in a constructive dialogue process with Government that continues to this day. Kirsty created the first UK chapter of the global Women in Nuclear network, is a visiting researcher at Manchester University, and an independent advisor to Government.

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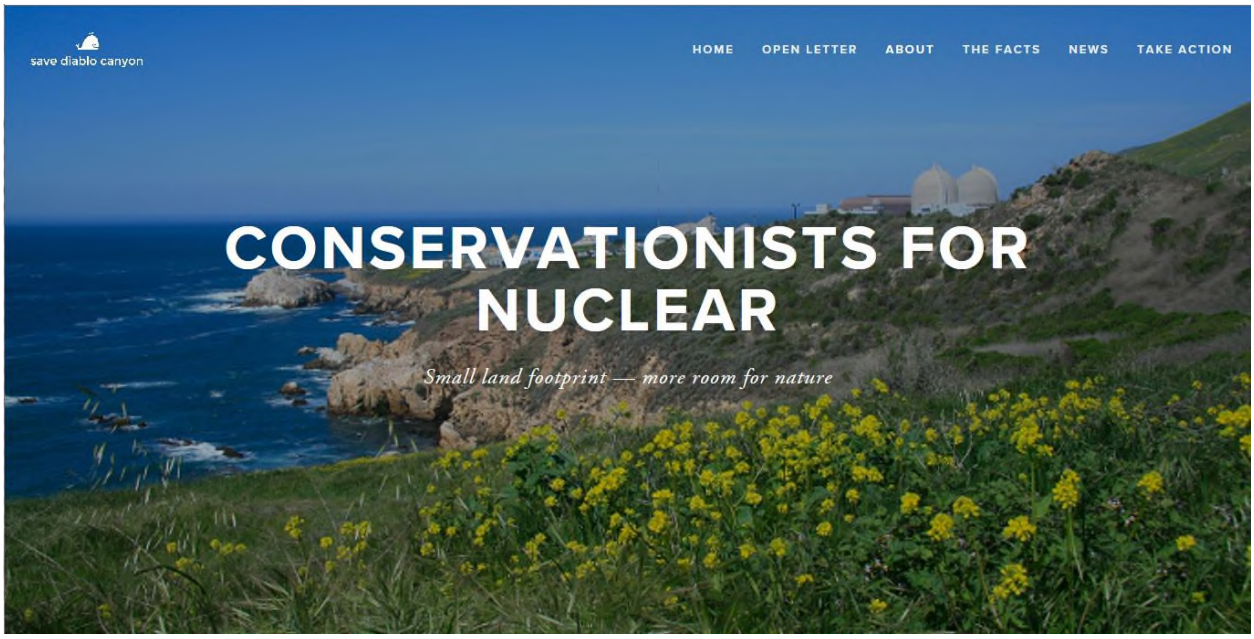

http://www.savediablocanyon.org/conservationists-for-nuclear/

On December 15, 2014, 75 of the world's leading conservation scientists issued an open letter to environmental groups, urging them to reverse their opposition to nuclear energy.

For many conservation scientists, nuclear energy is a no-brainer: it is not only zero-pollution, its small land-use footprint means that it leaves more room for nature. By contrast, renewables require far larger amounts.

An Open Letter to Environmentalists on Nuclear Energy

As conservation scientists concerned with global depletion of biodiversity and the degradation of the human life-support system this entails, we, the co-signed, support the broad conclusions drawn in the article ***Key role for nuclear energy in global biodiversity conservation*** published in *Conservation Biology* (Brook & Bradshaw 2014).

Brook and Bradshaw argue that the full gamut of electricity-generation sources—including nuclear power—must be deployed to replace the burning of fossil fuels, if we are to have any chance of mitigating severe climate change. They provide strong evidence for the need to accept a substantial role for advanced nuclear power systems with complete fuel recycling—as part of a range of sustainable energy technologies that also includes appropriate use of renewables, energy storage and energy efficiency. This multi-pronged strategy for sustainable energy could also be more cost-effective and spare more land for biodiversity, as well as reduce non-carbon pollution (aerosols, heavy metals).

Given the historical antagonism towards nuclear energy amongst the environmental community, we accept that this stands as a controversial position. However, much as leading climate scientists have recently advocated the development of safe, next-generation nuclear energy systems to combat global climate change (Caldeira et al. 2013), we entreat the conservation and environmental community to weigh up the pros and cons of different energy sources using objective evidence and pragmatic trade-offs, rather than simply relying on idealistic perceptions of what is 'green'.

Although renewable energy sources like wind and solar will likely make increasing contributions to future energy production, these technology options face real-world problems of scalability, cost, material and land use, meaning that it is too risky to rely on them as the *only* alternatives to fossil fuels. Nuclear power—being by far the most compact and energy-dense of sources—could also make a major, and perhaps leading, contribution. As scientists, we declare that an evidence-based approach to future energy production is an essential component of securing biodiversity's future and cannot be ignored. It is time that conservationists make their voices heard in this policy arena.

Signatories (in alphabetical order)

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Note: Affiliations of signatories are for identification purposes, and do not imply that their organizations have necessarily endorsed this letter.

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Brook, B. W., and C. J. A. Bradshaw. 2014. Key role for nuclear energy in global biodiversity conservation. Conservation Biology**doi:10.1111/cobi.12433**.

Caldeira, K., K., Emmanuel, J. Hansen, and T. Wigley. 2013. An Open Letter to those influencing environmental policy but opposed to nuclear power. CNN.http://edition.cnn.com/2013/11/03/world/nuclear-energy-climate-change-scientists-letter (Accessed 14 March 2014).An Open Letter to Environmentalists on Nuclear Energy

http://www.savediablocanyon.org/climate-scientists-for-nuclear/

Former NASA scientist James Hansen. National Center for Atmospheric Research's Tom Wigley. Massachusetts Institute of Technology's Kerry Emanuel. And Stanford University's Ken Caldeira.

These leading climate scientists have spent the last three years building support among heads of state, environmentalists, and the public to embrace the expanded use of nuclear energy for climate change.

At United Nations climate talks in Paris in December 2015, the climate scientists re-issued their call and pressed their case upon world leaders.

Here is their original letter:

> To those influencing environmental policy but opposed to nuclear power:
>
> As climate and energy scientists concerned with global climate change, we are writing to urge you to advocate the development and deployment of safer nuclear energy systems. We appreciate your organization's concern about global warming, and your advocacy of renewable energy. But continued opposition to nuclear power threatens humanity's ability to avoid dangerous climate change.
>
> We call on your organization to support the development and deployment of safer nuclear power systems as a practical means of addressing the climate change problem. Global demand for energy is growing rapidly and must continue to grow to provide the needs of developing economies. At the same time, the need to sharply reduce greenhouse gas emissions is becoming ever clearer. We can only increase energy supply while simultaneously reducing greenhouse gas emissions if new power plants turn away from using the atmosphere as a waste dump.

Read more about the letter and the controversy surrounding it

> Renewables like wind and solar and biomass will certainly play roles in a future energy economy, but those energy sources cannot scale up fast enough to deliver cheap and reliable power at the scale the global economy requires. While it may be theoretically possible to stabilize the climate without nuclear power, in the real world there is no credible path to climate stabilization that does not include a substantial role for nuclear power
>
> We understand that today's nuclear plants are far from perfect. Fortunately, passive safety systems and other advances can make new plants much safer. And modern nuclear technology can reduce proliferation risks and solve the waste disposal problem by burning current waste and using fuel more efficiently. Innovation and economies of scale can make new power plants even cheaper than existing plants. Regardless of these advantages, nuclear needs to be encouraged based on its societal benefits.
>
> Quantitative analyses show that the risks associated with the expanded use of nuclear energy are orders of magnitude smaller than the risks associated with fossil fuels. No energy system is without downsides. We ask only that energy system decisions be based on facts, and not on emotions and biases that do not apply to 21st century nuclear technology.
>
> While there will be no single technological silver bullet, the time has come for those who take the threat of global warming seriously to embrace the development and deployment of safer nuclear power systems as one among several technologies that will be essential to any credible effort to develop an energy system that does not rely on using the atmosphere as a waste dump.
>
> With the planet warming and carbon dioxide emissions rising faster than ever, we cannot afford to turn away from any technology that has the potential to displace a large fraction of our carbon emissions. Much has changed since the 1970s. The time has come for a fresh approach to nuclear power in the 21st century.
>
> We ask you and your organization to demonstrate its real concern about risks from climate damage by calling for the development and deployment of advanced nuclear energy.
>
> Sincerely,
>
> Dr. Ken Caldeira, Senior Scientist, Department of Global Ecology, Carnegie Institution
>
> Dr. Kerry Emanuel, Atmospheric Scientist, Massachusetts Institute of Technology
>
> Dr. James Hansen, Climate Scientist, Columbia University Earth Institute
>
> Dr. Tom Wigley, Climate Scientist, University of Adelaide and the National Center for Atmospheric Research

What is Diablo Canyon? http://www.savediablocanyon.org/new-page-1/

Diablo Canyon is a nuclear power plant in central California that since 1985 has provided pollution-free power for three million Californians while protecting one of the most pristine coastal environments for nature. Under pressure from politicians, some of whom have been anti-nuclear since the 1970s, Pacific Gas & Electric may decide to prematurely close Diablo Canyon, rather than seek to relicense it, so it could produce power until 2045.

If Diablo is closed, carbon emissions will rise the equivalent of putting two million cars on the road.

What will happen if Diablo Canyon is closed?

If Diablo is closed:

- It will be replaced mostly by natural gas, according to PG&E.
- Carbon pollution will increase the equivalent of adding 2 million cars to the road.
- Californians will pay more in electricity when natural gas prices rise in the future.
- One billion dollars in ratepayer money that currently fuels California's economy will mostly be sent to natural gas producers out of state.
- California will become even more (from 61 to 70 percent) dependent on a single source of electricity.
- A major conservation opportunity to save roughly 2,000 of prime California coastland for nature will be lost.

Can't Diablo just be replaced by solar and wind?

No. Diablo Canyon — a single power plant — produces twice as much electricity as all of California's solar panels, 41 times more than its largest solar plant, 33 percent more electricity than all of California's solar, and 24 percent more electricity than all of its wind, all of which took decades to build up. Closing Diablo is the equivalent of taking down all of California's solar panels and two thirds of its wind.

How will keeping Diablo open protect more of California's coastline?

Land conservation may be one of the main ways that PG&E and the State of California agree to mitigate the impact of Diablo Canyon's cooling system. Diablo draws a large number of fish eggs and larvae into the plant. While there is no evidence that Diablo Canyon is impacting adult fish population or marine life, the State of California Regional Water Board for the Central Coast decided over a decade ago to require mitigation as a precaution. The most likely mitigation outcome — according to staff at the Board, their consultant, and PG&E's consultant — is that PG&E will have to spend tens of millions of dollars buying coastal land, as much as 2,000 acres along the coast, north of Diablo, for conservation. That will be a win-win-win for the climate, the coasts, and the people of California.

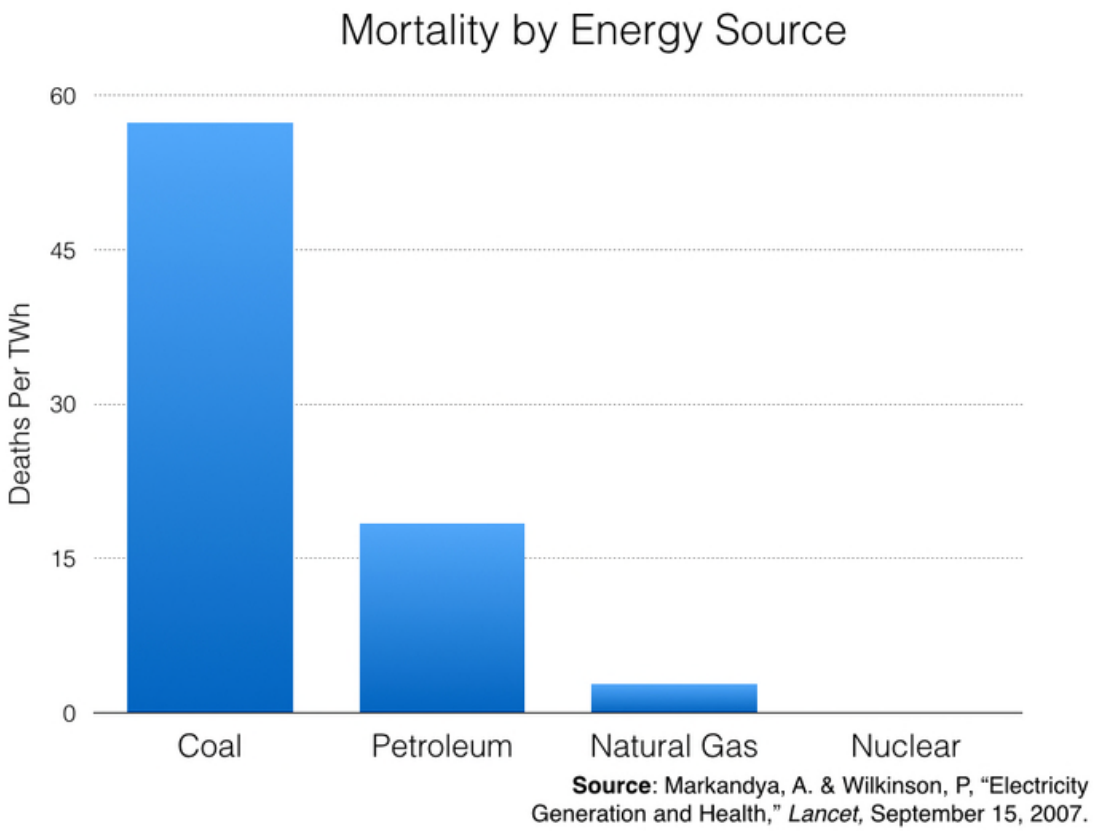
Diablo produces twice as much electricity as all of California's solar panels, 41 times as much power as its largest solar farm, Ivanpah, and 24 percent more power than all of its wind.

Is it true PG&E will be required to install cooling towers?

No, that is a very unlikely outcome. California Regional Water Board's staff, its consultant, and PG&E's consultant all will likely recommend in 2017 against cooling towers. Towers would be both expensive and environmentally destructive. Both parties will likely agree to mitigation steps including land conservation and/or the creation of an artificial reef.

But is it safe?

Nuclear is one of the safest forms of making energy — safer than natural gas, petroleum, coal and wood — and Diablo is considered one of the safest nuclear plants in the world. It has been repeatedly investigated, up-graded and certified safe by the independent federal Nuclear Regulatory Commission. "The safety of the Diablo Canyon Nuclear Power Plant is not in question," NRC's Director of Regulation affirmed again in 2014.



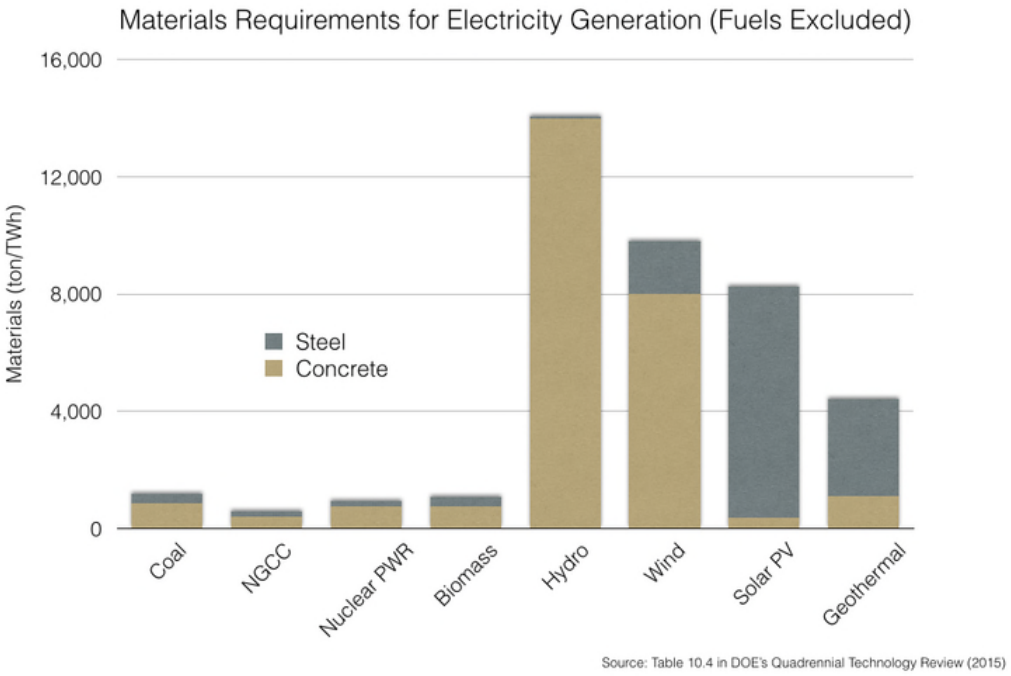
What about Fukushima and Chernobyl?

Over 95 percent of the deaths from energy production are from pollution. A tiny number are from accidents, whether coal mine collapses, natural gas explosions, or nuclear meltdowns. As such, zero-carbon energy sources in general, from hydro to solar to wind to nuclear, result in very few deaths. According to the World Health Organization and independent scientists, the vast majority of the harm caused by the two worst accidents, Chernobyl and Fukushima, was caused by public fear and panic, not radiation exposure.

"The safety of Diablo Canyon is not in question."

What about the waste?

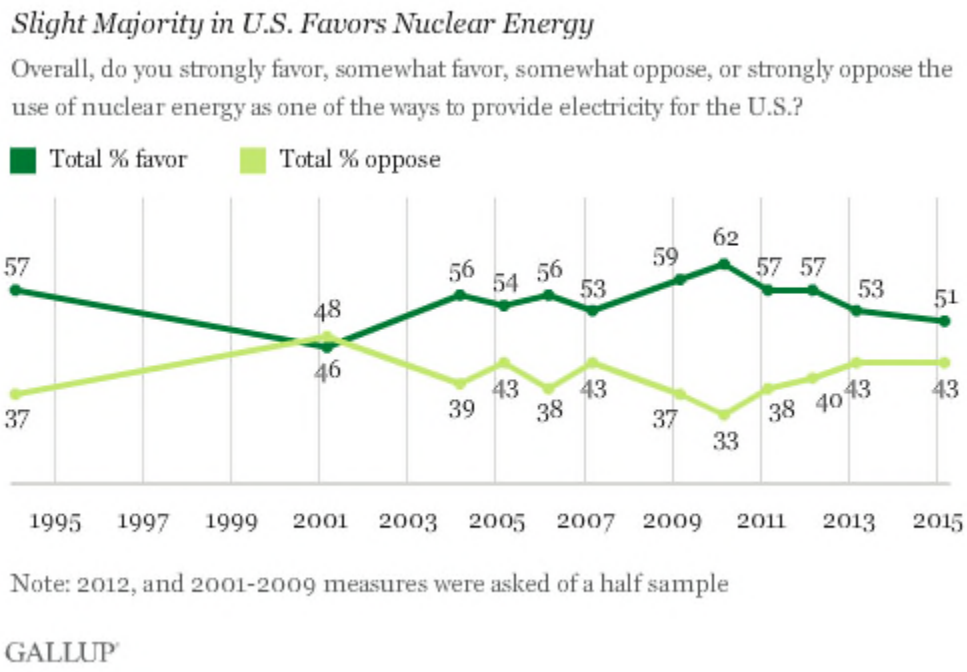
One of the great advantages of nuclear is that it produces very small amounts of highly manageable waste. Fossil fuels spew large quantities of uncontrolled waste as air and water pollution, while renewables require massive quantities of concrete, steel and, in the case of solar panels, heavy toxic metals. Nuclear waste is currently stored on-site, and is closely monitored. It is not a significant risk to anyone or anything. After bi-partisan legislation (currently in Congress) passes, it is likely that the waste will be stored in an existing underground waste repository, such as the military nuclear waste repository in New Mexico.



Why then are people so afraid of nuclear energy?

Most people aren't that afraid. Today, 51 percent of Americans support nuclear energy, while 43 oppose. The percentage of Americans in favor of nuclear has waxed and waned between 63 and 48 percent over the past 20 years.

There are a variety of theories about why some people are so afraid of nuclear. Some people have a grossly exaggerated view of the harm of radiation — especially if they don't like the idea of nuclear to begin with. Most people do not know — or do not want to know — that they are exposed to radiation every day, or that the most common form of cancer is skin cancer, whose main cause is sunlight. What's clear is that people fear what they don't like, don't understand, and don't want to understand.



Is the federal Nuclear Regulatory Commission (NRC) independent and competent?

Yes. NRC is independent, effective and is considered one of the best regulatory agencies in the world. NRC is governed by bi-partisan chair and commissioners selected by the President and Congress. NRC has "resident inspectors" on-location in every nuclear plant who report to NRC headquarters.

NRC staff are well-trained, high-status and well-paid; they often work at NRC the entire career. The agency has been rated one of the "best places to work" in the federal government. It is overseen by the US Inspector General that enforces strong laws and strong ethics rules.

What about whistle-blowers?

NRC staff and nuclear plant workers have whistle-blower protections that go above and beyond other industries and regulatory agencies. NRC has a unique process, known as Differing Professional Opinion, that allows NRC staff to raise issues without fear of retaliation, and insures that their concerns will be vetted at the appropriate level. This function is highly valued by Congress, NRC and independent observers.

Who supports nuclear energy?

President Barack Obama, Bill Gates, the United Nations Intergovernmental Panel on Climate Change and a large majority (65%) of scientists favor building more nuclear power plants for climate and the environment. Nuclear supporter have included: Ansel Adams, photographer and Sierra Club board member; Carol Browner, former EPA head under President Bill Clinton; liberal Minnesota Senator Al Franken; Microsoft co-founder Paul Allen; the economist Jeffrey Sachs; and Gaia hypothesis originator, James Lovelock

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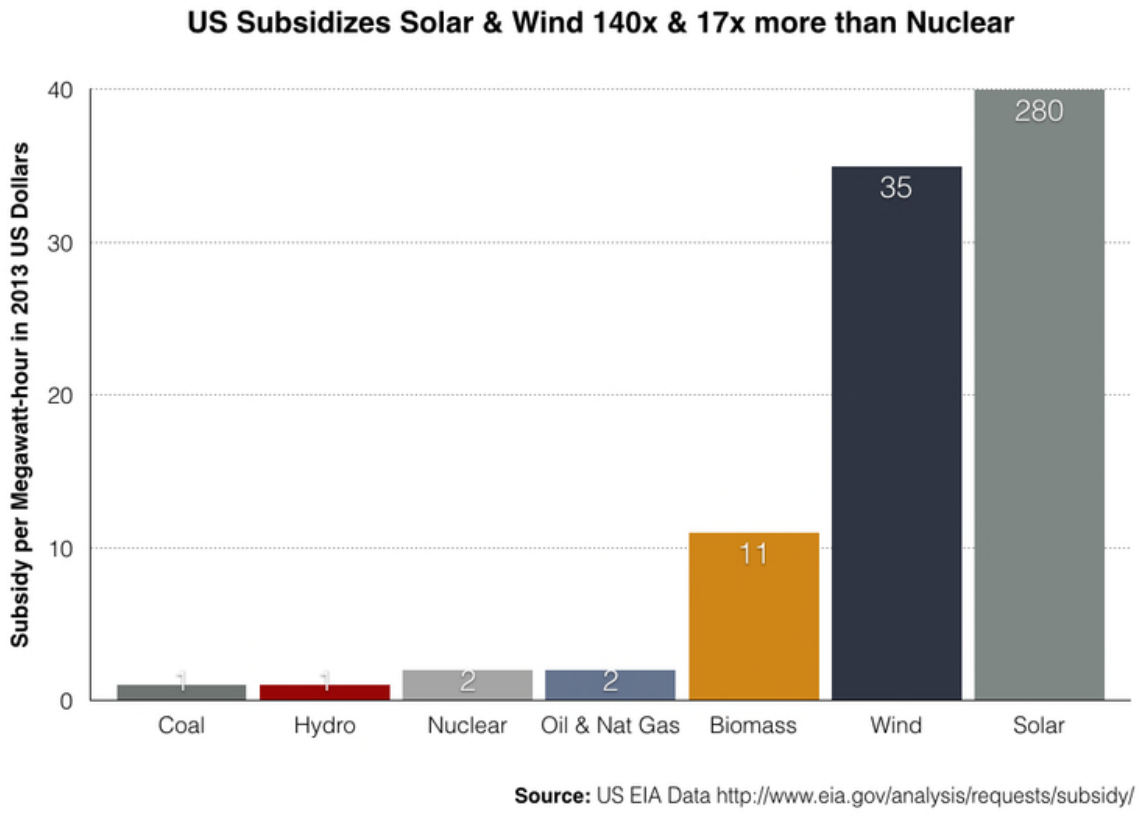
Diablo Canyon generates power for $0.05-.06/kWh, and PG&E's lowest retail rate is $0.16/kWh.

How much does it cost to run Diablo Canyon?

Pacific Gas & Electric (PG&E) says it costs $0.05-0.06/kilowatt-hour (KWh). PG&E sells electricity to its retail customers starting at $.16/KWh. That means Diablo makes PG&E approximately $2 billion per year, some of which goes into maintaining the grid, some of which goes to ratepayers and investors, and some of which goes into subsidizing the deployment of renewable energy, like solar and wind farms.

But doesn't nuclear get subsidies, including free insurance?

Nuclear is one of the least-subsidized forms of energy. Solar receives 140 times more subsidy and wind 17 times more than nuclear, according to the independent government Energy Information Administration. The utilities with nuclear plants pay insurance into a government fund. The cost of insurance, and the cost of decommissioning plants, are all included in that $0.05-0.06/KWh number.



If Diablo is so profitable, why would PG&E close it down?

Nuclear energy provokes an irrational reaction in many people, including some government officials who have been trying to shut it down since the 1970s. PG&E makes a lot of money on Diablo, but is under pressure from many of the government officials named in the open letter from conservationists and scientist. There is the risk that PG&E's CEO, Board of Directors and management will throw in the towel rather than do the right thing.

PG&E could throw in the towel rather than do the right thing.

But isn't solar and wind the best thing for the environment?

Solar and wind can play a role, but because they require so much land, scaling them up would significantly affect California's natural environment. It would take 41 solar farms the size of the new Ivanpah solar farm in the Mojave desert — or twice as many solar panels as California has installed — to generate the same amount of power annually as Diablo Canyon.

What do we do with the nuclear waste?

Currently the small amounts of waste generated from nuclear plants is stored on-site. In the future, after Congress passes bipartisan nuclear waste legislation, it will likely be transported and stored underground in New Mexico or another state that wants it as a source of income.

But what if nuclear waste leaks?

Nuclear waste is one of the easiest forms of waste to manage because there is so little of it. It can be monitored to make sure there are no leaks, as nuclear waste from the US military is monitored in New Mexico.

It would take 41 Ivanpah solar farms to generate the same amount of power annually as Diablo Canyon.

Why do environmental groups oppose nuclear energy given that it is pollution-free and takes up so little land?

In the late sixties, a splinter group of Sierra Club members opposed Diablo Canyon fearing that the success of such a cheap source of energy would result in more people coming to live in California. This group, which included David Brower, Ed Wayburn, and Martin Litton, had become followers of the now-discredited English economist, Rev. Thomas Malthus. However, their anti-growth argument was unpopular, and so they focused instead on tapping into irrational fears of radiation.

Why does it seem like celebrities and wealthy people are especially afraid of nuclear energy?

The basic picture offered by 40 years of research is that as societies grow wealthier, we all become more individualistic, distrustful of scientific authorities, and romantic about how the world could and should be. Some of us fall prey to conspiracy theories, like the idea that vaccines cause autism. Wealthy people generally and celebrities particularly are detached from the productive sectors of the economy — how food, meat, electricity, and modern infrastructure — are made. That so many Hollywood celebrities fear nuclear may simply be a consequence of wealth, or it may be related to working in a creative industry focused on constructing highly dramatic fantasies.

Is it true environmentalists are changing their mind about nuclear?

Yes, every year brings more environmentalists and environmental thinkers who have changed their minds, including White House Science Advisor John Holdren; Whole Earth Catalogue Founder, Stewart Brand; Virgin's Richard Branson; former Greenpeace UK Executive Director, Stephen Tindale; left-wing columnist George Monbiot and many others.

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