**“Glen’s Parallax Perspectives”** is a series of TV programs that offer fresh ways for people to see issues such as foreign policy, social and economic justice, governmental functioning, and so forth. We provide voices and viewpoints that are rarely heard in mainstream media.

Mainstream media, politicians, and culture see the world in conventional ways. The Establishment is stuck in how they see the world. In order to solve problems, we need to see things differently. Glen Anderson created this TV series to help people see things differently so we can solve problems at all levels from the local to the global.

This series title refers to “Parallax Perspectives.” **Parallax** is the view you get by looking from different perspectives. For example, put one finger in front of your nose and another finger farther away. Close one eye. Then open that eye and close the other. Your fingers will seem to move. This is called a “parallax” view. This TV series invites you to look at issues from fresh perspectives.

Each program airs three times a week (currently every Monday at 1:30 pm, every Wednesday at 5:00 pm, and every Thursday at 9:00 pm) for the entire month on Thurston Community Television (TCTV), channel 22 for Thurston County’s cable TV subscribers. You can see TCTV’s current schedule at [**www.tctv.net**](http://www.tctv.net). This is part of Thurston County Media,[**www.tcmedia.org**](http://www.tcmedia.org).

You can also watch the program described below through [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) All episodes of “Glen’s Parallax Perspectives” are posted on the “TV Programs” part of that blog and also in one or more of the categories listed in the right side of the computer screen. Also, see much information about a variety of issues at my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org).

🡪 Please invite other people to watch this program through video at the “TV Programs” part of [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) and/or read this thorough summary there.

🡪 This summary of the interview’s contents also includes some additional information we did not have time to say during the hour.

🡪 See sources of information near the end of this document.

**Here is this month’s program:**

**April 2018**

**“Sell Off All Fossil Fuel Investments Now”**

by Glen Anderson, producer and host of the TV series “Glen’s Parallax Perspectives”

The April 2018 interview on “Glen’s Parallax Perspectives” explores an important aspect of the climate crisis that has been largely neglected.  If people pay attention to this aspect, we can protect the climate and also save ourselves from serious financial losses.

The climate crisis has forced the world to start significantly shifting away from coal and oil.  We must shift away from all fossil fuels (coal, oil and natural gas) much more rapidly in order to protect Planet Earth – and all of us – from catastrophic climate disruptions.

Sharply reducing our consumption of fossil fuels will financially hurt the fossil fuel companies.  Many coal companies have already gone bankrupt.  Oil and natural gas companies will soon follow.  Smart investors have been selling their fossil fuel investments not so much because they’re concerned about the climate crisis, but much more because fossil fuel stocks and bonds have become risky investments that will crash soon.

**This means serious risk for anyone who has invested in fossil fuel companies.**  Many individual investors, mutual funds, pension funds, non-profit organization endowment funds, and other investors in fossil fuel companies are at serious risk.

**The April 2018 episode of “Glen’s Parallax Perspectives” interviews two very knowledgeable guests who have been working on this:  Donna Albert and Bourtai Hargrove.**  They and other persons including Glen Anderson, who hosted the interview, have been urging the Washington State Investment Board to protect teachers, state employees, and local government employees from the financial danger that the climate crisis causes for our pensions.

* **Donna Albert** is a professional civil engineer. She has a Master’s degree in Civil Engineering and 25 years of experience working as an engineer for the State of Washington. This includes some years as an energy engineer.
* **Bourtai Hargrove** is an attorney who retired after working for the State of Washington. She has a long and varied background – both professionally and as a volunteer – working for many social justice issues. Bourtai has accomplished much as a local organizer who confronts the climate crisis.

**Climate Crisis: Overview of the basic scientific facts:**

To help viewers understand the context for this discussion, Bourtai summarized the basic facts of the climate crisis. She said we have been burning fossil fuels (coal, oil and natural gas). Burning these fossil fuels spews carbon dioxide (CO2) into the atmosphere, where it accumulates and causes a “greenhouse effect” that traps heat around the earth. This warms the planet and disrupts the climate in a number of ways.

At this point in our interview (and on the next page of this printed summary) we show a graph that Donna provided.

Donna explained the concept of a “carbon budget” – the hard reality that although much carbon dioxide (CO2) exists in the fossil fuels (coal, oil and natural gas) underground, we cannot extract and burn very much of it without exceeding the maximum of 2o Celsius increase in global warming that would cause very serious problems for Planet Earth.

She explained that instead of trying to understand the numbers of how many parts per million of CO2 in our atmosphere, how many degrees of warming, etc., and then trying to translate that back into how much fossil fuel we can burn, we can much more easily understand the concept of a “budget.” This graph is based on a scientific article that was published in about 2009. People understand a “budget” – how much we can spend before we go broke. So this “carbon budget” shows how much fossil fuel we can burn before we go beyond 2o of warming, the maximum earth can tolerate. The graph shows that our “carbon budget” allows us to emit a **total** of only 600 more gigatons (billions of tons) of carbon dioxide without seriously damaging Planet Earth.

She explained that the graph’s left side shows the numbers of gigatons (billions of tons) of CO2 emissions in a year, and the graph’s bottom shows the years from 1990 to 2050. In 1990 we were emitting less than 30 gigatons per year, but now we are emitting between 40 and 45 gigatons per year. We are rapidly “spending” our “carbon budget.”

The blue line shows that if we had peaked our emissions in 2016 we would have had to decrease our emissions at a vigorously declining rate for about 25 years until reaching zero emissions soon after 2040. However, we have been continuing to emit more CO2, so – because our “carbon budget” allows us to burn only so much fossil fuel – the yellow line shows that now we must decrease our emissions at an even more vigorous rate to reach zero no later than 2040.

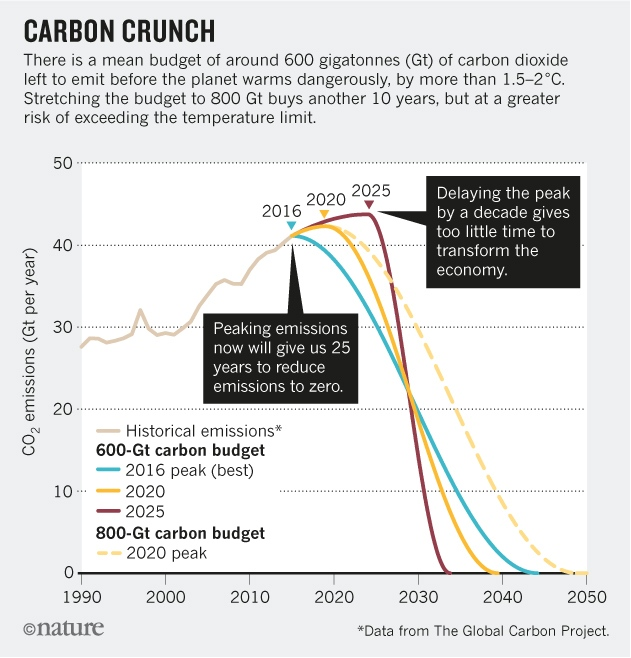
Worse yet, if we continue burning more fossil fuels until peaking in 2025, the red line in this “carbon budget” would force us to stop burning all fossil fuels by 2035. This would mean completely transforming our economy in only 10 years. The “carbon budget” allows us to emit only a finite amount of CO2 without exceeding the 2o Celsius warming limit that would seriously damage Planet Earth. The longer we delay before slashing our emissions, the more severe will be the disruptions to our economy and our society – and/or the more Planet Earth will suffer.

Donna explained that we do need time to transition our oil-based transportation system, our natural gas-burning facilities, and other aspects of economy away from fossil fuels. We can’t do it instantly, but we must do it very rapidly. She said the necessary transition would have been much easier if we had started in the year 2000.

Donna said this chart accompanied an article published in ***Nature*** (“Three Years to Safeguard Our Climate”) written by the woman who was the top person at the United Nations Convention on Climate Change, along with some co-authors. The article was published in 2017 and said we had only 3 years to significantly start this absolutely necessary transition. Now we’re only 2 years away from 2020, so it’s even more urgent that we start a vigorous transition now. If we start in 2020, **the whole world** would have to be **completely off** fossil fuels by 2040 in order to have a 2/3 chance of avoiding the 2o Celsius danger mark.

This is still possible, but the decline must be steeper now than if we had started a serious transition in 2016. If we wait until 2025, it’s nearly impossible.

We refer to this graph again a few more times during the interview.



**Bill McKibben wrote about his “Terrifying New Math” in 2012:**

On July 19, 2012, ***Rolling Stone*** magazine published an article by climate expert Bill McKibben. The article – “Global Warming’s Terrifying New Math” – explained that the earth’s atmosphere simply cannot tolerate the carbon dioxide pollution that would occur if all of the world’s fossil fuels were actually burned. He said that burning **even 20%** of the known fossil fuel reserves would be extremely catastrophic. **The hard truth is that at least 80% of the coal, oil and natural gas must be left in the ground** instead of being extracted, sold and burned.

You can read Bill McKibben’s **“Global Warming’s Terrifying New Math”** at [**www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719?print=true**](http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719?print=true)

This article alerted many people to the problem way back in 2012. People – including investors – are starting to understand the huge size of this problem. **When the world’s people and governments recognize the hard scientific realities they will be forced to sharply limit the extraction and burning of the under-ground reserves of coal, oil and natural gas.**

**When the world’s fossil fuel companies cannot sell 80% of their coal, oil and natural gas, about $20 TRILLION worth of their underground assets will suddenly have ZERO value.**

**When this happens, their stock prices will plummet and investors – including people with pensions and other investments – will suffer huge losses.**

**The graph we have been discussing (on the previous page of this document) shows how rapidly we must stop burning fossil fuels!**

But instead of reducing, we have been burning more. To keep it below 2 degrees C we’d have to keep 80% in the ground, he said in 2012. Now we’ve been burning more, so now we need to keep 100% in the ground.

Bourtai expressed appreciation for Donna’s explanation of the “carbon budget.” This shows how much can be burned. It will be extremely hard to keep global warming below the Paris climate goal of 1.5o Celsius, and Bourtai said we actually are likely to reach the catastrophic level of 2o above the pre-industrial level

She cited a scientific source that researches and announces a carbon budget every year. They announce it with a clock somewhat like the “Doomsday Clock” that warns us of global disaster from nuclear weapons.

Their current carbon budget says that we would have only a “medium” probability of averting global disaster if we limit CO2 emissions to no more than 720 gigatons between now and the end of the century. However, the world is emitting 40 gigatons per year. At this rate the world will reach the 720 gigaton maximum by the year 2036, just 18 years from now. Therefore – at the world’s current rate of emissions – in order to avoid actual climate catastrophe, the world would have to **absolutely stop** emitting CO2 just 18 years from now.

Bourtai emphasized that this is NOT “something in the far future.” She said that all of us who will be alive 18 years from now will indeed experience climate catastrophe, and our children and grandchildren will experience it after we’re gone.

Glen mentioned that people have been failing to recognize the seriousness, so we have continued polluting year by year in a linear way when we should have been making radical changes to make our pollution plummet year by year.

**Actual changes are happening much sooner and much worse than science had predicted:**

All three of us have been following the scientific news. Scientists have been predicting certain changes to occur at certain future times, and then they discover that the actual changes – the actual disruptions of climate – have been happening much sooner and much worse than the science had predicted. The arctic ice melts more quickly, the storms turn out to be worse, and so forth.

This is alarming, so this pattern of actual problems being worse than predicted should cause us to vigorously change public policies and reduce carbon emissions much more rapidly than people have been assuming would be necessary.

**The “Carbon Crunch” graph:**

When we look again at the graph, we can see the urgency of sharply reducing carbon pollution now. We have been waiting, but this has only made it necessary to reduce carbon pollution at a much faster than if we had started a number of years ago. The longer we wait before vigorously transitioning to significant energy efficiency and clean energy, the harder it will be to slash carbon pollution quickly enough to avoid global catastrophe.

Donna said we absolutely must act boldly very soon, or else we’ll pass the 2o Celsius danger limit. She pointed out that the strong actions that are needed go far beyond what individuals can do. “We can’t recycle and carpool our way out of this.” It’s not enough for households to change light bulbs or take other individual actions. She said we must transform our energy systems and our electricity systems. “We need to no longer burn fossil fuels. It’s a huge challenge.”

**We must rapidly transition to renewable energy (solar, wind, etc.) instead of fossil fuels:**

We showed and discussed another graph that Donna provided. This **“Transition to WWS”** (**Wind, Water and Solar**) graph shows the need to transition rapidly from fossil fuels (coal, oil and natural gas). We need to replace fossil fuels with much better efficiency and conservation – and also to transition to alternative “green” energy sources, such as **Wind, Water and Solar (WWS)**.

This graph – which is posted to the “Climate” part and the “TV Programs” part of my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) under the title of this episode of this TV series – shows the urgency in a different from than the other graph. We rely on fossil fuels very heavily. This graph shows how quickly the world needs to transition. We must sharply reduce fossil fuels by 2020 and especially by 2030, when we need to be burning almost no fossil fuels. The graph’s top right wedge (light gray) shows better efficiency of using **Wind, Water and Solar (WWS)** instead of generating electricity by burning fuels. The wedge below that (medium gray) shows better efficiency in end-use activities (appliances, home insulation, etc.).

Donna explained that burning fossil fuels (coal or natural gas) to generate electricity is terribly inefficient. It generates huge amounts of heat as a waste product, while it generates electricity. The same thing happens when we drive our cars. Our engines get very hot, and this heat is a waste product of internal combustion engines. We want energy to turn the cars’ wheels, but most of the energy is wasted in the form of heat. Different studies show different numbers, but she said that only about 25% of the energy actually gets to turning the wheels, whereas about 90% of the energy of electric cars goes to turning the wheels. We need much more efficiency for our transportation systems and for our electricity generating systems.

This graph shows what we need to do, not what we are doing now. You can see the challenge before us! The graph starts at 2000, and by 2040 or 2045 we must be **totally done** burning fossil fuels. Even the relatively modest Paris climate agreement says we must be totally off fossil fuels before 2050.

For much more information about the transition needed – including state-by-state breakdowns – visit the richly informative website of the Solutions Project: [**http://thesolutionsproject.org/why-clean-energy/**](http://thesolutionsproject.org/why-clean-energy/) The Solutions Project provides a vision for 100% renewable energy for the world, and for each state in the USA, including Washington. The graphics are simple, and easy to understand. The underlying peer-reviewed research, by Mark Jacobson of Stanford and others, is available to explore: [**http://thesolutionsproject.org/why-clean-energy/**](http://thesolutionsproject.org/why-clean-energy/) Donna explained how good this website is, and she encouraged people to visit it and explore the links for the world, the U.S., and their respective states, as well as other parts. It is supported by solid research. We provided the link again in the list of information resources at the end of this interview and also on my blog’s post about this TV interview.

This is a huge challenge, but it is possible. Studies have shown that it is possible to get off fossil fuels with currently existing technology.

Unfortunately, the federal government is running in the opposite directions (promoting waste, inefficiency, pollution, rolling back environmental and fuel efficiency standards, and so forth). Even in Washington State, where the general public and many governmental officials care about the climate, the Legislature has not been passing the climate legislation that we desperately need. Ordinary people must educate themselves and organize to put vigorous pressure on all levels of government to turn this around. We can accomplish much at the state and local levels, as we showed in a recent TV interview with the Thurston Climate Action Team, which you can watch and/or read about at this link: [**http://parallaxperspectives.org/tv-urge-local-governments-to-meet-climate-goals**](http://parallaxperspectives.org/tv-urge-local-governments-to-meet-climate-goals)

Internal combustion engines are too inefficient – too wasteful and too expensive – to persist. Electric vehicles have very few moving parts and far lower fuel costs. They will soon replace gasoline and diesel vehicles and disrupt our oil-based economy. When this change occurs it will occur quickly. Already electric vehicles are quickly replacing petroleum vehicles and disrupting our traditional oil-based economy. Over time, the combined capital and operating costs of electric vehicles will drop far below the variable operating costs of oil and diesel vehicles. Change will come quickly when that happens. **This powerful, insightful article takes only about 5 minutes to read**: [**https://perspicacity.xyz/2017/05/24/this-is-how-big-oil-will-die/**](https://perspicacity.xyz/2017/05/24/this-is-how-big-oil-will-die/) (If you’re typing it into your browser, a shorter link is [**www.tinyurl.com/yclt6ecp**](http://www.tinyurl.com/yclt6ecp). We provided this link again along with other information resources at the end of this interview and on the printed resource at my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org).

Many cities and nations are moving away from fossil fuel vehicles. Bourtai mentioned that several nations have already committed to ban the sale of new gasoline and diesel vehicles starting several years from now. She said Norway and the Netherlands will ban them starting in 2025, India and Germany in 2030, France in 2040, and China in a year not yet announced.

This article continues onto the following pages …

**The coal industry has crashed already. Oil companies will crash next.**

Bourtai said fossil fuel company stocks have been underperforming others for several years. Oil companies depend on selling gasoline and diesel oil, so their future “looks grim.”

Glen said the transition we have been discussing is not only necessary, but it has already been happening. This shift away from petroleum will disrupt our oil-based economy. **The “Carbon Bubble” has already burst for coal, and many coal companies have gone bankrupt. The bubble is also beginning to burst for oil, so people should sell their oil investments now before they crash.**  Wind and solar are rapidly increasing as sources for our electricity needs. They are replacing oil for buildings, industry, and transportation. The demand for oil must drop and is already dropping.

When an historical change must occur, it will occur. No amount of climate “denialism” can prevent history from flowing as it must.

During the rest of this hour we discussed the oil industry’s financial vulnerability and its coming crash. We explained the need to protect ourselves from financial losses that will occur as oil declines. We said that smart people are already selling off their oil investments, so we need pension funds and other investors that we care about to divest too. (See information about this “divestment” below and on the subsequent pages.)

**The oil industry is financially vulnerable. It could crash soon and rapidly. “Stranded assets” hurt oil companies.**

Earlier we mentioned the powerfully informative article Bill McKibben published about “Global Warming’s Terrifying New Math.” To avoid destroying Planet Earth’s livability, we must leave 80% of fossil fuels in the ground. This means the **coal, oil and natural gas companies must write off many trillions of dollars of assets as utterly worthless**. When this happens, their stock prices will plummet! Read McKibben’s article at [**www.tinyurl.com/ybk55suk**](http://www.tinyurl.com/ybk55suk)

**Economists and business people refer to this phenomenon as “stranded assets.” The growing campaign to urge individuals, governmental entities and other investors to sell off their fossil fuel investments is based on this hard reality of “stranded assets” in addition to the moral imperative to stop funding the destruction of Planet Earth.**

An article published on March 5, 2018, says New York State’s deputy comptroller “was one of the earliest public investment experts to suggest that fossil fuel stocks are in jeopardy of a quick nosedive that could harm pension fund members significantly. He argues that **fossil fuel stocks are over-valued due to oversupply and that capital spending in the sector has dropped indicating that oil companies themselves see a limited future. Indeed, fossil fuel stock values have declined over the past five years compared with the general stock indices, making them a bad investment.**” (emphasis added) See the article at this link: [**http://www.truth-out.org/buzzflash/commentary/how-new-york-city-won-divestment-from-fossil-fuels**](http://www.truth-out.org/buzzflash/commentary/how-new-york-city-won-divestment-from-fossil-fuels)

New York City was slow to recognize the problem. By the time it finally sold its coal stocks in 2015, those stocks had already lost 95% of their value. Oil and gas stocks could do the same, so the pension fund should divest before that happens to oil and gas stocks too. See the article at this link: [**http://www.nydailynews.com/opinion/pension-funds-sell-oil-gas-stock-article-1.3671147**](http://www.nydailynews.com/opinion/pension-funds-sell-oil-gas-stock-article-1.3671147)

Despite the propaganda that oil and coal companies tell the public, oil and coal companies really do recognize this crisis. Savvy financial analysts are recognizing that drilling and extracting oil are costing oil companies very much more money, but they are getting less oil from these increasingly expensive efforts.

Several years ago a knowledgeable analyst wrote: “All new oil is going to be less plentiful and more expensive. It is going to take increasing amounts of money both to find and bring to the surface. The once mighty oil companies that strode across the global landscape like giants are going to increasingly shrink in stature and power.”

Oil is becoming even more capital-intensive. About 4 years ago Chevron’s CEO called the oil industry “a growing capital black hole.”

Several years ago many estimates of shale oil reserves were sharply written off. The Energy Information Agency stated that California’s Monterrey Shale has only 4% of previous estimates. They wrote off 96% of what had been previously claimed. This is consistent with evidence that was occurring more than a decade ago when people who were concerned about Peak Oil found that Saudi Arabia and some other oil producers were fictitiously exaggerating the amounts of their underground reserves.

**Fossil fuel companies used to be considered safe, high quality “blue chip” investments, but now they are doomed to crashing – and crashing sooner rather than later.**

**Entities elsewhere (Norway, New York, etc.) are divesting:**

Bourtai said that in February 2018, New York City (the financial capital of the world) announced that it plans to sell off (“divest”) $5 BILLION of its pension funds’ investments in fossil fuels. New York City’s Comptroller Scott Stringer said “the financial future of the city’s employees is inextricably linked to the sustainability of the planet.” Bourtai said this is “a no-brainer.” Glen agreed and emphasized the importance of the Comptroller’s recognizing the sustainability – which is also the morality – of the problem in addition to recognizing the hard financial reality.

Bourtai added that New York State also plans to divest from its pension funds BILLIONS of dollars of fossil fuel investments. [**https://www.governor.ny.gov/news/governor-cuomo-unveils-9th-proposal-2018-state-state-calling-nys-common-fund-cease-all-new**](https://www.governor.ny.gov/news/governor-cuomo-unveils-9th-proposal-2018-state-state-calling-nys-common-fund-cease-all-new)

Norway plans to divest fossil fuels from its $1 TRILLION sovereign wealth fund.

The World Bank announced that starting in 2019 it will no longer finance the extraction of oil or natural gas.

Bourtai said these kinds of announcements show that oil has joined coal in being an investment that is “too risky to keep.”

Glen agreed that the rapid increase in such news shows that divestment from fossil fuels is “an idea whose time has come.” He said this growing realization has occurred also within the oil industry and within the financial world.

Many entities in various locations are already divesting from fossil fuels. A good source of information is [**www.gofossilfree.or**g](http://www.gofossilfree.org), which reported that **$5.6 trillion has been withdrawn from investments in fossil fuels worldwide in just 5 years.**

The tide of divestment keeps rising. This article gives three reasons why this is such important news: [**http://priceofoil.org/2017/12/14/the-world-bank-just-drove-another-nail-in-the-coffin-of-oil-and-gas/?t=8&akid=10295%2E239724%2EXeRJrL**](http://priceofoil.org/2017/12/14/the-world-bank-just-drove-another-nail-in-the-coffin-of-oil-and-gas/?t=8&akid=10295%2E239724%2EXeRJrL)

**Oil companies face serious legal liabilities too, so this too makes them riskier investments:**

Bourtai pointed out additional risks for oil companies, and she called some of them “criminal companies.” She said, “They are destroying our livable climate.” They are facing civil liabilities in the U.S., Europe and perhaps elsewhere. Some cities and counties are suing them. “New York City is suing the five largest oil companies – BP, Conoco, Chevron, Exxon Mobil and Royal Dutch Shell – for damages New York City has already suffered because of climate change.” New York City is also suing “for the millions more it will spend more to protect its coast and underground infrastructure from storm surges and sea level rise.”

She said scientific advances can identify specifically “the climate harms and the companies responsible for them.” Now “scientists can trace the contribution of individual companies to specific climate impacts and disasters.” Company documents and other evidence show that t**he big oil companies have known for six decades** that they were damaging the climate, but they persisted anyway. Their scientists told them that, so they used their own scientists’ knowledge of long-term climate impacts to protect their own assets. For example, they knew about sea level rise, so they raised the height of their own offshore drilling platforms.

However, throughout the 1990s and 2000s instead of warning the public, which they had a duty to do, the big oil companies devised massive public relations propaganda campaigns of climate denial to confuse and deceive the public and the government.

In California, eight cities and counties are suing oil companies for climate-related damage. We anticipate lawsuits elsewhere in the U.S. and Europe. Bourtai said European courts might be more receptive to those suits than courts in the U.S., especially because Trump is filling the federal courts with climate-denying judges. Paris and London have expressed interest in suing oil companies. Once the oil companies start losing those lawsuits, that trend of holding them accountable will continue.

She said court cases should require oil companies to fund the plans to compensate for damage they have caused and to remove CO 2 from the atmosphere. Think about the example of tobacco companies losing lawsuits and being forced to pay for anti-smoking campaigns.

Glen agreed. Such long-standing negligence has been deliberate on the part of oil companies. When the oil companies actually knew the truth but spent decades deceiving us and preventing us from protecting ourselves by taking responsible actions, we must see that as really a gigantic fraud.

**Natural gas is not a “bridge.” Natural gas (especially from fracking) is bad for the climate. It’s financially risky too.**

Some people say we can use natural gas as a “bridge” fuel between oil and renewables. That won’t work for several reasons.

Donna explained that although natural gas emits less carbon dioxide than coal or oil when it is burned, natural gas puts a huge amount of methane into the atmosphere, and methane is much, much worse for the climate than carbon dioxide. Extracting natural gas from the ground – especially when it is extracted by fracking – causes much methane to be released.

She said that although methane is much worse, it disappears faster than carbon dioxide. Bourtai said methane lasts about twelve years in the atmosphere, but carbon dioxide lasts centuries.

Donna said that trying to compare these two gases is immaterial because burning natural gas does produce carbon dioxide anyway. We cannot keep putting carbon dioxide into the atmosphere, as we discussed earlier during this interview. She said the “carbon budget” does not allow for burning it.

Natural gas also entails the financial risks we’ve been describing.

We must transition away from natural gas, besides transitioning away from coal and oil.

**Selling off our fossil fuel stocks (“divestment”) is moral as well as practical:**

When we were preparing for this TV interview, both Bourtai and Donna expressed concern about their grandchildren. Bourtai said our generation’s “grandchildren will live in climate hell.” We must work hard to reduce climate emissions. The problem is intergenerational. Bourtai said young people are correct in blaming us for disrupting their future in this way.

Glen expressed support for the lawsuits being brought by young people against the state and federal governments for not having done enough to protect their futures from climate disruption.

Donna said, “My pension is funding the destruction of my grandchildren’s future.”

We all know the familiar advice to “put your money where your mouth is.” We need to manage our finances consistently with the values we express. This implies taking our money away from activities that violate our values.

Strategically, we should also take additional actions to cut off money supplies from activities that are bad morally or ethically. Divestment is obviously moral and ethical – just like the divestment campaign that pressured giant business corporations to stop supporting South Africa’s apartheid.

Divesting from fossil fuels is necessary for moral reasons in addition to the practical reasons we are discussing during this interview.

**Individuals, mutual funds, pension funds, endowment funds, etc., need to divest:**

The financial dangers we have been discussing pertain to every individual and every entity that is holding investments in any fossil fuel company. This includes individuals and also mutual funds, insurance companies, and other entities. Also at risk are the endowment funds owned by our universities, non-profit organizations, religious bodies, and so forth – and the pension funds owned by all levels of government and by labor unions and private pension fund companies. **Nearly every person is at risk in one way or at risk in several ways!**

During this interview we have discussed the compelling reasons why everybody should sell their fossil fuel investments now. We have already mentioned the powerful information in Bill McKibben’s ***Rolling Stone*** article about “The Terrifying New Math.” We have discussed two compelling graphs that show we must urgently stop burning fossil fuels. We have discussed the concept of “stranded assets” and the extreme financial dangers for all fossil fuel businesses.

We must recognize the train wreck coming our way, and divest promptly from the increasingly risky investments related to fossil fuels! Sell off before the bubble bursts!

An economic bubble always seems positive and safe while the bubble is expanding. But when the bubble bursts, the crash occurs rapidly. **And the fossil fuel bubble will hurt all of us when it bursts. So all of us must work to divest all kinds of funds from fossil fuels.**

**Washington State Investment Board (WSIB) manages many people’s pensions:**

Donna is currently a long-time employee of the State of Washington. Bourtai and I retired from careers in state government. The three of us – and many other people – have been urging the state agency that manages our pensions to divest from fossil fuels for the reasons we have been explaining during this interview.

Bourtai said what the Washington State Investment Board (WSIB) does. WSIB manages 17 retirement plans, including teachers, judges, firefighters, police, municipal employees, and others. WSIB also manages 18 other funds, including the very large fund that deals with industrial insurance for the Department of Labor & Industries and the GET college tuition program. Altogether, WSIB manages $128.8 billion of assets.

**Our efforts to convince the WSIB to divest from fossil fuels:**

We conducted this TV interview in March 2018. For four years – since April 2014 – the three of us and other members of our informal Divestment Working Group have been informing ourselves and organizing to persuade the Washington State Investment Board to sell their risky investments in fossil fuel companies. We have spoken to the Board’s public meetings six times since April 2014.

We have pointed out the seriousness and the urgency of the climate crisis, and we have emphasized that the fossil fuel economy is actually much shakier than most people think, so fossil fuel investments are much riskier than people think.

Consistently since April 2014 we have been urging the WSIB to promptly sell their fossil fuel investments. They have listened politely and then ignored us. We are disappointed with their lack of progress.

Bourtai said that we obtained records through a public records request and gave WSIB the records showing they had lost $650 million during an 18-month period, so we asked the WSIB to direct their staff to keep them up to date about fossil fuel investments and losses.

However, we don’t know whether WSIB has done that.

**The fiduciary responsibility of the Washington State Investment Board:**

For four years we have been informing the WSIB about the reality of the climate crisis.

* We have been explaining to the WSIB why they have a **moral responsibility** to stop investing in the companies that caused the climate crisis and are making it even worse.
* We have been alerting the WSIB to the worsening **financial dangers** that the fossil fuel industry is facing because at some point the world will prevent them from extracting and selling trillions of dollars of coal, oil and natural gas that must remain underground in order to avoid extreme damage to Planet Earth.
* We have been reminding the WSIB of their “**fiduciary duties**” – legal responsibilities – to protect our pensions from harm.

WSIB is an official governmental board that has legal responsibilities – “**fiduciary duties**” – for managing the money for which the state is legally responsible. They need to be accountable, but members of our Divestment Working Group sense that the WSIB has been failing to protect our pensions from serious losses.

Bourtai pointed out that they need to not only protect the funds of current beneficiaries but also to protect the funds of future beneficiaries. She said, “The Board has a duty when it’s making its present decisions on investments to think about those beneficiaries who will not retire for 10, 20, 30 or 40 years, and that means that fossil fuels will be gone.”

Glen reminded the viewers that the graph we’ve seen a few times during this interview shows the steep decline in fossil fuel use that is required to occur in the next few years. **That “carbon budget” will be gone, so the WSIB must sell off its fossil fuel investments right away**, or else the pensions of state employees, local government employees, teachers, firefighters, and others will suffer.

If WSIB does not promptly sell off its fossil fuel investments, it will be screwing many younger persons in addition to those of us who have been urging WSIB to divest.

**More people should urge WSIB and other entities to divest from fossil fuels:**

A number of us have been writing to the Washington State Investment Board and speaking during the public’s opportunity to speak near the start of their meetings. We have been encouraging the WSIB to take responsibility throughout the past four years, but – although they have listened politely – they have not taken the actions that are necessary.

Many, many persons in addition to members of our Divestment Working Group are affected by the WSIB. Clearly, we need a great many more people to inform themselves, mobilize, and express the public’s concerns. We need more individuals and more entities, including climate advocacy groups, labor unions, current and retired public employees, organizations of retired persons, and other people who are affected by the WSIB. Bourtai added that other members of the general public could help too, “because everyone is going to be affected by climate change.”

Our most recent meeting with the WSIB was on Thursday February 15, 2018. We’ll speak to WSIB again on Thursday morning April 19, 2018, during the public comment period near the beginning of their meeting. We want to organize a demonstration in front of their building (perhaps at 8:00 a.m.) before their meeting starts at 9:30. Also, people can write to the Board. See their phone number, e-mail address, and other information at this link: [**www.sib.wa.gov/information/cu.asp**](http://www.sib.wa.gov/information/cu.asp)

Taxpayers need to pay attention. States that have managed pension funds badly end up needing taxpayers to bail them out. Every person is “on the hook” for this problem!

Donna said a “Divest Washington State” Facebook page exists. A simple web search will find it. The direct link is [**https://www.facebook.com/Divest-Washington-State-480065412108294/**](https://www.facebook.com/Divest-Washington-State-480065412108294/)See information there about the meeting on Thursday morning April 19, 2018.

When we met with the Board on February 15, 2018, Donna presented a letter and resolution she had written and our Divestment Working Group approved and signed. She read highlights during the interview. The letter summarized a few major divestment actions that have occurred elsewhere and gave several reasons why the WSIB should divest now. Donna also summarized the resolution we gave the WSIB along with our letter. I posted both the letter and the resolution on the parts of my blog that contains the document you are reading now. See the “Climate” part or the “TV Programs” part of [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) to see those, along with both graphs and the link for watching the TV interview.

Washington State Governor Jay Inslee urgently wants our state to abide by the Paris climate agreement’s goal of staying under 2o Celsius. We affirmed that, but Bourtai pointed out that the WSIB has not taken the necessary actions. She has read many of the Board’s minutes of their meetings, but their discussions have not mentioned the climate at all. They listen politely and then ignore us. This is why we need more people and more efforts to urge the Board to take responsible actions. Our letter and resolution urge meaningful actions.

Bourtai said that the Board does not seem to recognize the emergency that we are in, even though we’ve been raising the issue for four years. Glen said this is common among many official bodies. Washington’s State Legislature has not taken the necessary actions either, even though many officials say the right things. We encourage more people to work with us, including current and retired public employees, labor unions, and other good folks.

**See many sources of information here:**

Plenty of information sources support the points we raised during this interview about divesting from fossil fuels. A few sources are listed below.

The summary you are reading now is posted at two parts of my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org). I invite you to share this summary and the TV interview with your friends and any e-mail lists you might be on that might be interested. Please invite people to visit the “TV Programs” part **or** the “Climate” part and click the link to this TV program – **“Sell off All Fossil Fuel Investments Now.”** A link there will allow you to watch this interview. Another link there will let you read the thorough summary of what we said. Other links will take you to the two graphs we showed and to the letter and resolution we gave to the Washington State Investment Board.

More information about the climate crisis is on the “Climate” part of my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) and the “Climate” part of the Olympia Fellowship of Reconciliation’s website, [**www.olympiafor.org**](http://www.olympiafor.org). The “Climate” part of my blog includes the TV interviews I have produced about the climate crisis for the Olympia Fellowship of Reconciliation. You can see those programs also at the “TV Programs” part of[**www.olympiafor.org**](http://www.olympiafor.org)

I encourage you to read Bill McKibben’s powerful article titled “Global Warming’s Terrifying New Math,” at [**www.tinyurl.com/ybk55suk**](http://www.tinyurl.com/ybk55suk)

The second graph we showed during the interview came from to The Solutions Project website, which provides a vision for 100% renewable energy for the world, and for each state in the USA, including Washington.  The graphics are simple and easy to understand.  The underlying peer-reviewed research, by Mark Jacobson of Stanford and others, is available to explore: [**http://thesolutionsproject.org/why-clean-energy**/](http://thesolutionsproject.org/why-clean-energy/) (WWS stands for Wind, Water and Solar.)  These plans exclude biofuels and nuclear, as well as all fossil fuels.

Over time, the combined capital and operating costs of electric vehicles will drop far below the variable operating costs of oil and diesel vehicles. Change will come quickly when that happens. **This powerful, insightful article takes only about 5 minutes to read**: [**https://perspicacity.xyz/2017/05/24/this-is-how-big-oil-will-die/**](https://perspicacity.xyz/2017/05/24/this-is-how-big-oil-will-die/) (If you’re typing it into your browser, a shorter link is [**www.tinyurl.com/yclt6ecp**](http://www.tinyurl.com/yclt6ecp). We provided this link again along with other information resources at the end of this interview and on the printed resource at my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org).

During the interview I mentioned the Thurston Climate Action Team, [**www.thurstonclimateaction.or**g](http://www.thurstonclimateaction.org). This great local non-profit organization works in Thurston County WA to get our local governments to take strong, effective actions for the climate. I featured them in the Olympia Fellowship of Reconciliation’s November 2017 TV program. You can watch the program and read a thorough summary at the November 2017 part of this link: [**www.olympiafor.org/tv\_programs.htm**](http://www.olympiafor.org/tv_programs.htm)

We mentioned information about New York State and its deputy comptroller. He was one of the earliest public investment experts to suggest that fossil fuel stocks are in jeopardy of a quick nosedive that could harm pension fund members significantly. He argued ([**http://www.nydailynews.com/opinion/pension-funds-sell-oil-gas-stock-article-1.3671147**](http://www.nydailynews.com/opinion/pension-funds-sell-oil-gas-stock-article-1.3671147)) that fossil fuel stocks are over-valued due to oversupply and that capital spending in the sector has dropped indicating that oil companies themselves see a limited future. Indeed, fossil fuel stock values have declined over the past five years compared with the general stock indices, making them a bad investment. Another article published on March 5, 2018 provides more information, strategy, and encouragement for people elsewhere. We could use their information in our local area too. See the article at this link: [**http://www.truth-out.org/buzzflash/commentary/how-new-york-city-won-divestment-from-fossil-fuels**](http://www.truth-out.org/buzzflash/commentary/how-new-york-city-won-divestment-from-fossil-fuels)

This article [**http://www.nydailynews.com/opinion/pension-funds-sell-oil-gas-stock-article-1.3671147**](http://www.nydailynews.com/opinion/pension-funds-sell-oil-gas-stock-article-1.3671147) says that Norway’s $1 trillion pension fund considers oil and gas stocks too risky to continue holding them, so Norway’s pension fund is divesting. This article urges New York City’s five pension funds ($186 billion total assets) to divest too, because oil and gas stocks have become bad investments to hold. It says that New York City was slow to recognize the problem.  By the time it finally sold its coal stocks in 2015, those stocks had already lost 95% of their value.  Oil and gas stocks could do the same, so the pension fund should divest before that happens to oil and gas stocks too.

In December 2017 another article said that the tide of divestment keeps rising. The article gives three reasons why this is such important news. Read it at [**http://priceofoil.org/2017/12/14/the-world-bank-just-drove-another-nail-in-the-coffin-of-oil-and-gas/?t=8&akid=10295%2E239724%2EXeRJrL**](http://priceofoil.org/2017/12/14/the-world-bank-just-drove-another-nail-in-the-coffin-of-oil-and-gas/?t=8&akid=10295%2E239724%2EXeRJrL)

Our interview challenged the nation that natural gas is a “bridge” fuel. Natural gas turbines are not a remedy. See this article: [**https://www.greenbiz.com/article/end-natural-gas-near**](https://www.greenbiz.com/article/end-natural-gas-near) It includes this excerpt:

The big signal that got some coverage in the pink pages (FT) and energy-wonk trade press in November was the [**closure of Siemens and GE’s gas turbine-making capacities**](https://www.ft.com/content/fc1467b8-c601-11e7-b2bb-322b2cb39656). Just to recap for those that missed it, first Siemens, the giant European champion of the electric power revolution, laid off 7,000 workers. It reported that it had a capacity to make 400 100MW gas turbines annually but only had received orders for 110 in 2017. Ouch. Retrain!

And then GE: Two weeks later, it [**laid off 20,000 worker**s](http://fortune.com/2017/12/07/ge-layoff-power-business/) in its gas-related business, including turbine-making teams around the world. Remember, just about five years ago Siemens and GE battled for the gas business of Alstom, the French descendent of the same companies GE came out of in the early 20th century. GE paid $10 billion for it and [**declared a coup**](https://www.thestreet.com/story/13385910/1/why-ge-s-10-billion-alstom-purchase-is-its-best-deal-in-a-century.html).

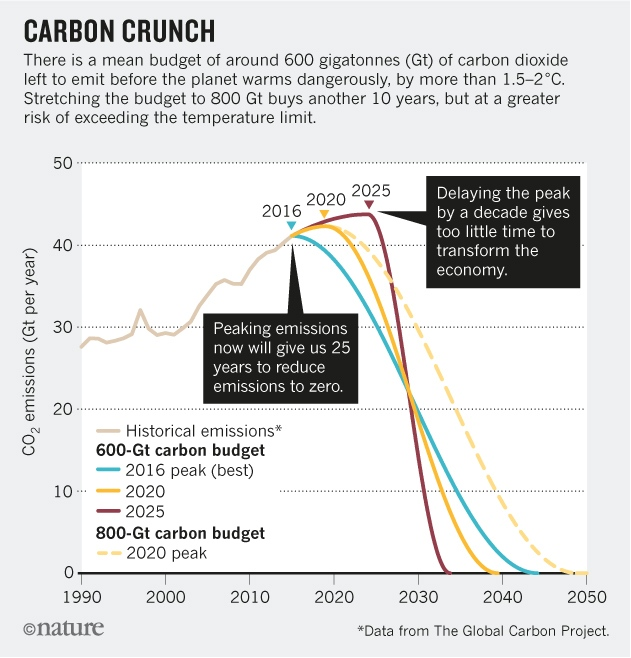
But now, they’re writing it off. Their strategic choices under Jeff Immelt are being questioned by the market: while the Dow is up about 30 percent over the past 12 months, GE’s stock is down about 45 percent. (Indeed, GE [**won the "honor"**](http://www.foxbusiness.com/markets/2017/12/29/general-electric-dows-worst-performing-stock-2017.html) of being the Dow Jones Industrials worst-performing stock of 2017.)

All three of us are part of the local Divestment Working Group. You can contact us through Bourtai Hargrove at [**bourtai31@gmail.com**](mailto:bourtai31@gmail.com) or phone me at (360) 491-9093. When we met with the Board on February 15, 2018, Donna presented a letter and resolution she had written and our Divestment Working Group approved and signed. She read highlights during the interview. The letter summarized a few major divestment actions that have occurred elsewhere and gave several reasons why the WSIB should divest now. Donna also summarized the resolution we gave the WSIB along with the letter. **I posted both the letter and the resolution on the parts of my blog that contains the document you are reading now.** **See the “Climate” part or the “TV Programs” part of** [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org) **to see those, along with both graphs and the link for watching the TV interview.**

People can phone, e-mail, and write to the Washington State Investment Board. See their phone number, e-mail address, and other information at this link: [**www.sib.wa.gov/information/cu.asp**](http://www.sib.wa.gov/information/cu.asp)

In 2014 I compiled a list titled, “**Information Resources about Divesting from Fossil Fuels.”**  This list is still useful, even though many more information resources have become available too. The bottom half of that page lists some “red flags” that alert us to the urgent need to divest. I posted this document to my blog, [**www.parallaxperspectives.org**](http://www.parallaxperspectives.org), along with this information about this TV interview.

Here is the graph we saw several times during the TV interview:



**Closing encouragement**

Glen Anderson thanked Donna Albert and Bourtai Hargrove for serving as guests for this interview, and he thanked the viewers for having watched.

In addition to what the public has already known about the climate crisis’s danger to our environmental and social well-being, this interview explained how the climate crisis also endangers our financial well-being.

For many years people assumed that it was safe to invest in coal, oil and natural gas companies. Not anymore! The fossil fuel industry is not sustainable, so it has become extremely risky.

Individuals and various kinds of financial funds – including pension systems – need to sell off their investments in coal, oil and natural gas.

We must recognize the train wreck coming our way, and divest promptly from the increasingly risky investments related to fossil fuels! Sell off now before the bubble bursts!

We ourselves – and your kids and grandkids – are at serious risk from the climate crisis.

Please help us protect our financial well-being, in addition to protecting Planet Earth.

We invite you to contact our local Divestment Working Group through [**bourtai31@gmail.com**](mailto:bourtai31@gmail.com).

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We're all one human family, and we all share one planet.

We can create a better world, but we all have to work at it.

The world needs your help!