



Climate modeller and Canadian politician Andrew Weaver.

POLICY

Getting political

Is running for office the next step for researchers in the fight against climate inaction?

BY PETER FAIRLEY

It's moving day at the Legislative Assembly of British Columbia on a sunny summer morning in Victoria, Canada, and climate scientist-turned politician Andrew Weaver is battling to retain an expansive leather sofa for his new basement office. Just a few weeks earlier, in May 2017, thousands of people in and around Victoria cast their votes for the British Columbia Green Party, which Weaver leads, growing the caucus from his one lonely seat to three. The wider of the office's sofas, he explains, will be crucial during long nights of debate and voting. "This is the one you can sleep on. And we need that."

Three seats in an 87-seat legislature might sound modest, but it's enough to make Weaver — a professor at the University of Victoria — into a political kingmaker. The incumbent Liberal Party and the opposition New Democratic Party (NDP) each garnered fewer than half of the seats, giving Weaver's Green Party the balance of power. Weaver exercised his new-found influence in the weeks after the election to remove Christy Clark, the Liberal premier of British Columbia, who had

championed fossil fuels and neglected climate policy. He negotiated climate-friendly terms with the NDP to install John Horgan as the party's first premier in 16 years.

Weaver is an internationally recognized pioneer of models that represent Earth's physical systems at a modest resolution, facilitating the simulation of climate over tens of thousands of years. His ascent from academic to political power broker is a far cry from the attacks on climate scientists that are under way in the United States. But there are US researchers who dare to dream that they too can tilt the political balance. In fact, dozens have declared the intent to run for local, state or national office, promising to reverse the dismissal of climate change and other anti-science positions espoused by US President Donald Trump's administration and other Republican Party leaders.

Their activism hews to a trend: in recent years, climate scientists have grown increasingly outspoken. Their call for immediate action to avoid the worst effects of anthropogenic climate change was a key theme of the March for Science rallies held on Earth Day in April 2017 in more than 500 cities worldwide. "Scientists are

everywhere: in classrooms and churches, factories and farms. We're on sidewalks, in cafes, on the airwaves and in your Twitter feeds," declared Jacquelyn Gill, a palaeoecologist at the University of Maine in Orono, in *The Washington Post* on the eve of the marches, which she helped to organize. "The age of ivory tower science is over, and it must not return."

Benjamin Santer echoed Gill's view at a Capitol Hill gathering two months later. "If you're a climate scientist at this critical time you don't have Miranda rights," said Santer, an atmospheric scientist at the Lawrence Livermore National Laboratory in California. "You don't have the right to remain silent."

Some researchers, however, worry that electioneering risks crossing a hitherto sacred boundary between science and partisanship. Similar to a controlled burn that escapes its limits, getting political could burn the climate community if it deepens the divides that surround climate science.

HOLDING THE BALANCE

Weaver was already well-versed in climate politics when he decided to run for office in British Columbia five years ago. A lead author

on the second to the fifth assessment reports of the Intergovernmental Panel on Climate Change — an organization that shared the 2007 Nobel Peace Prize with Al Gore — he was part of the advisory team that, in 2008, helped Liberal premier Gordon Campbell to craft a climate action plan. The policy package stymied the building of coal-fired power plants by requiring their emissions to be fully captured and sequestered. It also introduced North America's first carbon tax, which would rise to Can\$30 (US\$25) per tonne of carbon dioxide equivalent over the next four years as Europe's market-based carbon price slid to less than half that value.

Then Weaver watched as leadership on climate both at home and abroad faltered. In British Columbia, the NDP campaigned to axe the carbon tax in 2009. Shortly after came what Weaver calls the “terribly depressing” Copenhagen agreement, in which the international community failed to commit to reining in greenhouse-gas emissions. And then, in 2011, the Liberal Party replaced its then leader Campbell with Clark, who favoured the development of fossil-fuel industry. Clark froze the carbon tax and staked British Columbia's future on building a liquefied natural gas industry that would obliterate the province's emissions-reduction targets for 2020.

Enough was enough. In 2012, Weaver concluded his university course on climate and society, as he had done for years, by lecturing his students on intergenerational equity and their “duty and responsibility” to either vote or “consider running” for office themselves. But this time he went a step further. “I took a look in the mirror,” says Weaver. “I couldn't just write another paper on climate science talking about this problem that we have all the solutions for. I have kids. I had to step up.”

Weaver took temporary leave from his endowed professorship, joined a Green Party that was yet to have a member elected to the British Columbia legislature, and then took on a Liberal government minister in a suburban electoral district of Victoria where the Green Party previously garnered just under 9% of the vote. Although observers gave him little chance of winning, Weaver told local paper the *Times Colonist* that he was hopeful: “Of course I'm optimistic. I'm a climate scientist and I haven't slashed my wrists yet.”

On election day in May 2013, Weaver won with 40% of the vote. James Lawson, a political scientist at the University of Victoria, credits Weaver's electoral breakthrough to highly educated professionals. Whereas voters elsewhere are rejecting the ‘elites’ — “particularly those that look like the teacher that insulted them in high school,” says Lawson — the electorate in Victoria tends to be friendlier to the sort of

argument proffered by academics. “They're disturbed by what's happening on the climate front and are really annoyed that politicians are no longer listening to people who actually know what they're talking about,” says Lawson.

GREENING THE AGENDA

Over the next four years, Weaver pushed back against Clark's vision for fossil-fuel-driven economic growth. Although Clark paid little heed, Weaver's stance put pressure on the opposition NDP to step up. “Weaver forced the NDP to return to the environmental side of their traditional coalition,” says Lawson. The party reversed its earlier stance against carbon taxes, for example, and opposed a controversial pipeline from oil sands in the neighbouring province of Alberta that is projected to boost tanker traffic in Vancouver and Victoria sevenfold, increasing the risk of oil spills.

Now, however, Weaver is policing government policy from a position of power. The agreement he forged after the May 2017 election to put the NDP in power set British Columbia back on course towards climate action. As Gregor Robertson, mayor of Vancouver, puts it: “The dynamic duo of John Horgan and Andrew Weaver has changed the game for British Columbia. We have an opportunity to become climate leaders and economic leaders in a low-carbon future.” Weaver's background, he says, “adds major credibility.”

The carbon tax will start to rise again in 2018, at \$5 per tonne per year until 2021. That is half of the boost advocated by the Green Party in the run-up to May's election. But the tax's scope will expand to cover two sources that account for more than one-third of British Columbia's carbon emissions: carbon dioxide released during the burning of forestry leftovers and methane leaked by the oil and gas industry.

On expanding the infrastructure for fossil fuels, the deal commits the NDP government to “immediately employ every tool available” to block the controversial Alberta pipeline expansion. Energy giant Kinder Morgan expected to start building it in September 2017, alongside an existing oil pipeline, but Weaver says one word captures the project's status: dead. In August 2017, the NDP government joined lawsuits filed by two Canadian cities, several of Canada's First Nations and various environmental groups that are challenging the previous Liberal government's approval of the project.

The fight pits British Columbia against Canadian Prime Minister Justin Trudeau and the government of Alberta, which views the pipeline as a much-needed shot in the arm for an oil-sands industry that has been pummelled in recent years by low oil prices. It is a political confrontation that many commentators think Horgan would have preferred to avoid by letting the pipeline pass — were it not for his deal with Weaver.

The leverage to turn the political tide against continued fossil-fuel development has,

according to *Calgary Herald* columnist Don Braid in a June 2017 piece, made Weaver into “almost a stock villain” in Alberta. “It's damned annoying,” he writes. “One [legislator], commanding only three votes in total, could stall the pipeline for more months or years, and maybe right out of existence.”

Weaver has also been demonized in British Columbia for allegedly splitting the progressive vote and therefore undermining the NDP. All this for a job that, Weaver says, entailed a huge cut in salary and cost him both his chair at the University of Victoria and his place at the forefront of climate modelling.

But for Weaver, it is more than worth it. Not just because he is fighting for his own values, but because of the human side of legislating that all elected representatives encounter — whether or not they have worn a lab coat. Weaver says that helping constituents has turned what began as a moral imperative into something immensely satisfying. “I didn't realize how rewarding it would be when you're there helping constituents access the system,” he explains.

CLIMATE CANDIDATES

In the United States, an increasing number of researchers say that they are ready to join the political fight, their resolve galvanized by President Trump's ambition to eviscerate US climate policy and slash federal funding for science — an agenda that has emboldened long-standing opponents of climate action in Congress. A growing number of scientists say that the situation calls for more than speaking out from the sidelines, and several dozen have already announced preparations to challenge the climate-change deniers on their home turf — in state capitols and in the halls of power in Washington DC.

Among those running for Congress is Joseph Kopser, a combat veteran and technology entrepreneur who holds a bachelor's degree in aerospace engineering, and a master's degree from the John F. Kennedy School of Government at Harvard University in Cambridge, Massachusetts. Kopser is challenging Texas congressman Lamar Smith, a Republican who chairs the US House of Representatives Committee on Science, Space, and Technology and who has used subpoenas to seek data and internal communications from climate researchers in what Michael Mann, a climatologist at Pennsylvania State University, calls a “McCarthy-like assault on science.”

Another candidate is Hans Keirstead, who pioneered stem-cell therapies for spinal-cord injuries at the University of California, Irvine. Keirstead, now chief executive officer at AIVITA Biomedical in Irvine, is targeting California congressman Dana Rohrabacher, a Republican who — similarly to President Trump, Smith and many others in their party — has called global warming “a total fraud.”

Contenders such as Kopser and Keirstead

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The Washington DC March for Science, held in April.

represent a much-needed rebalancing of US legislatures, according to Josh Morrow, who leads a non-profit organization called 314 Action (named after the mathematical constant π), which is dedicated to recruiting and training scientists to help them to get elected. Morrow notes that there is probably only one PhD-level scientist among the 535 members of the current House of Representatives and the Senate, compared with more than 200 lawyers.

Gill, the palaeoecologist who was involved in the planning of the March for Science, says she seriously considered running for office, motivated by the “shameful” lack of scientific literacy among the people deciding science policy at the highest level. “We should absolutely have a climate scientist in Congress on the House science committee,” she says.

But prospective scientist-politicians face a number of hurdles — not least, the effects of being thrust into the public eye. When Gill signed up for 314 Action’s training, she found herself caught up in a media frenzy after the *Boston Globe* erroneously reported that she had decided to run for Congress. As an outspoken activist for diversity in science and a co-host of climate podcast *Warm Regards*, with environmental journalist Andrew Revkin and meteorologist Eric Holthaus, Gill is no stranger to public forums. Nevertheless, she felt that the announcement, coming before she had even made a decision on whether to run, robbed her of her agency. “I didn’t have a lot of space to think, because there was so much interest,” says Gill. The experience led her to decide against standing. She wanted to make sure that she could continue to mentor students, as well as preserve her freedom to speak plainly. “I’m pretty mouthy!” she declares, unapologetically.

The price of politics also proved too high for another early 314 Action recruit: Patrick Madden, a computer scientist at Binghamton University in New York who, in May 2017, announced his intention to run for New York’s

22nd Congressional District. Initially vowing to fight for scientists who “have the oil companies coming at them guns blazing”, he aborted his campaign in July, citing concerns about fund raising, the entrance of a more-established candidate, and an unnerving request for his emails that was filed with his employer by a conservative political-action committee.

PICKING SIDES

Some in the climate community are concerned that science itself could be sullied as more researchers jump into the political ring. Jonathan Foley, a researcher on ecosystem science and sustainability who leads the California Academy of Sciences in San Francisco, says it would be “extremely dangerous” if science is seen to be taking sides in the hyperpartisan politics that is gripping the United States.

Although there is broad agreement that science should not be partisan, only one of this year’s batch of scientist candidates — University of California, Berkeley, evolutionary biologist and Public Library of Science co-founder Michael Eisen, who is gearing up to run for the Senate — has signalled his intention to do so as an independent. The rest are throwing in their lot with the Democratic Party.

314 Action, which says it advocates for evidence-based policy, is only supporting Democratic candidates for Congress. And one of them, Chrissy Houlihan, who trained at the Massachusetts Institute of Technology and Stanford University, is challenging an incumbent who is among a minority of House Republicans who are calling for action on anthropogenic climate change: Pennsylvania congressman Ryan Costello. He belongs to the bipartisan Climate Solutions Caucus and has decried President Trump’s withdrawal from the 2015 Paris climate agreement.

To some, this apparent partisanship is a reaction to the Republican Party’s embrace of anti-science policies. “Our donors aren’t going to want to support someone who supports Paul Ryan’s budget that cuts research grants for the

National Institutes of Health,” says Morrow.

Gill also blames the Republicans: “There is an outright attack on climate science, on public science, on our scientific institutions and on education. While those attacks are partisan, then we necessarily have to be partisan.” Gill says she is a registered Democrat because she supports science: “I vote with the party that aligns with my values.”

But Foley sees partisanship as a potential slippery slope to even greater polarization of the public opinion of science. He notes that perceptions of academia in the United States have changed dramatically in recent years, citing a July 2017 poll that found 58% of respondents who identify as Republican view universities as a “negative” for the country. That’s up from 45% last year, and in stark contrast to the 72% of self-described Democrats who view academia as a “positive”.

Foley wants to see more standing up for science and less politicking. “Science should be free from censorship and political interference. It should be supported. And it should speak truth to power,” he says. “But it shouldn’t take a side. Although that might seem difficult — or even naive — today in the United States, I think it’s crucial for science.”

Weaver, for his part, is unapologetic about entering a partisan game. The Green Party has benefited from such divisions in the political landscape of British Columbia, which have given his agenda of promoting evidence-based decision-making a level of prominence that belies his party’s small size.

With politicians absorbing misinformation from blogs and other non-credible sources, says Weaver, scientists have no choice but to play the political game. “We can’t just have a march here for science and a march there for science — we need scientists to step up and start running. We need to actually have them at the table.” ■

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