

# Sustainability Matters

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Business achieving a tomorrow for tomorrow's children

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## Time for NZ to Act on 'Forever Chemicals'

"There's another public health emergency and it revolves around 'forever chemicals' found in many things commonly used in everyday life and linked to serious health concerns, writes Lokesh Padhye of the University of Auckland.

"For the past few weeks, everyone's attention was on COP26, and rightly so, as we are dealing with a climate emergency where collective global efforts are critical to confront the crisis.

"However, there is another contemporary environmental and public health issue which requires global coordination and immediate action, and that is environmental pollution due to chemical contamination. ....

"PFAS stands for 'Per- and Polyfluoroalkyl Substances'. I can hear the big yawn but bear with me; we will stick with PFAS from now on. There have been more than 4,000 of these chemicals manufactured since the 1930s for use in various industries because of their ability to resist heat and repel grease, water, and oil. Industrial love for these chemicals is partly due to the bond between carbon and fluorine, which is one of the strongest in nature, making the compounds last a very long time and giving them some of the desired properties. In fact, many of these compounds persist in the environment for decades after their release and are difficult to break down, which explains their 'forever chemicals' moniker. ....

"These manmade chemicals are omnipresent in our modern lives, including, but not limited to, non-stick pans, water-repellent fabrics, dental floss, fast food wrappers, microwave popcorn bags, stain-resistant fabric coatings, cleaning products, cosmetics, paints, and many household items, including carpets and furniture. So, it is evident all of us have been exposed to PFAS in one way or another. In fact, one of the leading analytical chemists from a major commercial laboratory in the US told me in his 14 years of experience testing human blood, he has 'never witnessed a non-detect' for PFAS. That is scary.

"However, the scariest part is PFAS is also detected in other human body fluids, including amniotic fluid and breast milk. In fact, a recent survey in the US found PFAS in all human breast milk samples tested and sometimes at a level up to 2,000 times higher than the levels advocated for safe drinking water.

"PFAS exposure wouldn't have been an issue if not for their adverse impact on nearly every major organ of the human body. There exists substantial evidence in the literature linking PFAS exposure to adverse impacts on the liver, kidneys, thyroid, cholesterol levels, fertility and birth weights of newborns. At higher exposure, PFAS are also linked with a higher risk of testicular and kidney cancers.

"Recent studies also suggest exposure to PFAS might suppress the immune systems of young children, potentially making vaccines, such as those for Covid-19, less effective. ....

**More:** [www.newsroom.co.nz/ideasroom/time-for-nz-to-act-on-forever-chemicals](http://www.newsroom.co.nz/ideasroom/time-for-nz-to-act-on-forever-chemicals) plus <https://nzic.org.nz/news-20220324> for *PFAS in Aotearoa – an open discussion*

**Source:** *SBC Weekly Pānui*, 25<sup>th</sup> August 2022.

## Holy Sh\*t, Overshoot! Don't Dither; Do

"July 28 was EARTH OVERSHOOT DAY. On 29<sup>th</sup> July we went into ecological deficit. Humans have used the entire annual budget of resources which can replenished by nature. We entered overshoot ~ 40 years ago. When I saw the overshoot (and collapse) graph back then, I said 'Holy Sh\*t'. I've never been the same since, and have wondered why so few also had their hair on fire. [Graph]

"Before your eyes glaze over and you scroll on, I have some juicy context for you.

"This article exposes how capitalism benefits from reproduction. More people. More consumers. Mother nature be damned.

"What to do? Read on....

**More:** [www.postcarbon.org/holy-sht-overshoot-dont-dither-do](http://www.postcarbon.org/holy-sht-overshoot-dont-dither-do) plus [www.newsweek.com/its-earth-overshoot-day-future-generations-are-calling-opinion-1728512](http://www.newsweek.com/its-earth-overshoot-day-future-generations-are-calling-opinion-1728512)

**Source:** Post Carbon Institute, 26<sup>th</sup> August 2022.

## Australian Research Reveals Value of its Circular Economy Now \$62 billion

"Gumtree, Australia's leading online community marketplace, has today released its annual Trading in the Circular Economy Report. The report reveals Aussies could earn their share of the \$62 billion second hand economy, to help offset the rising cost of living.

"This year's research has uncovered there are approximately 21 sellable pre-loved, unwanted or unused items in every home, with an average household value of \$6,964, a jump of 32% from the 2021 estimate of \$5,300. In some instances, it is not uncommon for Aussies to have up to 30 or more items they could sell, with the most commonly sold items including clothing, shoes and accessories (42%), games and toys (28%), home décor and furniture (25%), electronic goods (24%), and books (24%).

"There is also a growing trend toward upcycling items to increase their appeal and value, with 80% of Aussies actively trying to reduce their impact on landfill by reusing, repairing and upcycling items and 27% of Australians saying they try to upcycle an item to extend its life, or increase its value.

"For the second year, Planet Ark has joined Gumtree in the launch of the report. This year, findings reveal 76% of Australians are trading for sustainable reasons, six-in-ten (64%) Australians are looking to embrace the circular economy as a means to do better by the environment, and 85% have saved items from ending up in landfill over the last year by selling them through the circular economy.

"That equates to approximately 15 items each, or a total of over 130 million items being saved from landfill over the last year. Aussies are also much more environmentally aware than they were ten years ago, with 82% changing the way they consume goods to be more environmentally conscious.

.....

**More:** [www.ecovoice.com.au/going-full-circle-new-research-from-gumtree-reveals-the-value-of-the-circular-economy-now-stands-at-62-billion/](http://www.ecovoice.com.au/going-full-circle-new-research-from-gumtree-reveals-the-value-of-the-circular-economy-now-stands-at-62-billion/)

**Source:** *eco-Voice*, 25<sup>th</sup> August 2022.

## ***The Circular Revolution: Turning the Wheels of Our Financial Systems Towards a Sustainable Future***

"A simple truth: time for action

"We are at a critical juncture in history. A place and time where we look extinction in the eye and see our own reflection staring back. Regardless of how confronting the view, as human beings we possess an innate ability to avert our gaze and tell ourselves everything will be OK.

"The simple truth is we live on a planet with finite resources. Yet our consumption of these resources is growing exponentially. Without widespread change which impacts every life, and every part of living it, it will not be OK. As noted in Aotearoa New Zealand's first ever Emissions Reduction Plan: Approximately 45% of global emissions come from making products. Of these emissions, up to 80% are created in the design stage.'

"We have a choice to make: invest in our planet or forfeit our lives and the lives of generations to come.

"But when the task of saving the planet is so immense, how do we begin, and what action can each of us take?

"This report is a collaboration between the passionate sustainability professionals within Grant Thornton New Zealand and the Sustainable Business Network (SBN). It is the culmination of interviews with experts, practitioners, businesses and government across the circular economic spectrum. It comes with a clear and unashamed purpose: to shake our audience awake, and in doing so, compel everyone to act.

"The responsibility lies with all of us. We have just enough time left to do it, but only if we start right now. ...

**When/Where: 4.30pm, Thursday 1<sup>st</sup> Sept. Auckland**  
[Wgtn was 23<sup>rd</sup> August and Chch 25<sup>th</sup> August.]

**More:** <https://sustainable.org.nz/learn/news-insights/nz-s-financial-system-a-major-barrier-to-a-low-carbon-circular-economy/> 43 pages, 1.53Mb

**Source:** SBN, 18<sup>th</sup> August 2022. 


### ***Leaps in Learning***

"Steve Henry from Otago Polytechnic (soon to be Te Pukenga) has been exploring what sustainable and regenerative tertiary education looks like as a response to disruption for many years. In this podcast he reflects on new models of delivery in work-based learning, which remove the need for a campus and customise programmes for the context of the learner, who is positioned as the expert.

"How can I have leaps in my learning? by Leaps in Learning.

"Steve introduces how learning from reflection can lead to increasing breakthrough.....

**More:** <https://anchor.fm/steve-henry3/episodes/How-can-I-have-leaps-in-my-learning-e1mkl7l> 32:49 minutes


**Source:** Steve Henry, 18<sup>th</sup> August 2022. 

### ***Are Greener Homes Our Future? Not While Building Standards are Stuck in the Past***

"This month's Commerce Commission report into building supplies was meant to help improve the quality of our housing stock. So why did it barely even mention green materials, wonders New Zealand Green Building Council head Andrew Eagles. ....

"We're planning on how to deal with massive interruptions to society brought about by climate change while failing to do enough to stop our own impacts on the climate. ...

**More:** <https://thespinoff.co.nz/business/22-08-2022/are-greener-homes-our-future-not-while-building-standards-are-stuck-in-the-past>

**Source:** SBC Weekly Pānui, 25<sup>th</sup> August 2022. 

## ***Global Ocean Protection Treaty Fails to Pass***

"A fifth effort to pass a global agreement to protect the world's oceans and marine life has failed [27<sup>th</sup> August].

"Talks to pass the UN High Seas Treaty had been ongoing for two weeks in New York, but governments could not agree on the terms.

"Despite international waters representing nearly two-thirds of the world's oceans, only 1.2% is protected.

"Environmental campaigners have called it a 'missed opportunity'.

"The last international agreement on ocean protection was signed 40 years ago in 1982 – the UN Convention on the Law of the Sea.

"That agreement established an area called the high seas – international waters where all countries have a right to fish, ship and do research.

"Marine life living outside of the 1.2% of protected areas are at risk of exploitation from the increasing threats of climate change, overfishing and shipping traffic. ....

"It is not yet clear when countries will come back together to continue negotiations – but a deadline has been set for the end of the year.

"They have a jam-packed calendar of international meetings on other matters between now and January – including the annual climate conference COP27 and the UN General Assembly meeting. ...

**More:** [www.bbc.com/news/science-environment-62680423](http://www.bbc.com/news/science-environment-62680423)

**Source:** Greenpeace, 29<sup>th</sup> August 2022. 

## ***California Bans Sales of New Gas Powered Vehicles by 2035 in Milestone Step***

"California has approved a ban on the sale of new gasoline-powered vehicles by 2035 as the state takes dramatic steps to reduce emissions and combat the climate emergency.

"In a vote on Thursday [25<sup>th</sup> August], state regulators moved forward with a plan to phase out the sale of gas cars over the next 13 years in America's largest auto market.

"The move is being hailed as a major victory which could point the way forward for others. It gives the most populous US state some of the world's most stringent regulations for transitioning to electric vehicles. ...

"The policy allows Californians to keep driving gas-powered vehicles and buying used ones after 2035, but no new models would be sold in the state. It applies to all new cars, trucks and SUVs. ...

"A 2020 study found the US would have had to move to electric vehicle only sales in 2020 if it were to have an all-electric fleet by 2050.

"There's an enormous amount of inertia in the system to overcome", Abdullah Alarfaj, a graduate student at Carnegie Mellon University and lead author of the study, said to the *New York Times*. ...

**More:** [www.theguardian.com/us-news/2022/aug/24/california-ban-sales-gas-powered-cars-2035](http://www.theguardian.com/us-news/2022/aug/24/california-ban-sales-gas-powered-cars-2035)

**Source:** OD Action News, 26<sup>th</sup> August 2022. 

## ***Singapore a Major Contributor to Air and Water Pollution via Marine Fuel Sales***

"The Port of Singapore is the world's busiest in terms of shipping tonnage, as well as the largest bunkering port globally, accounting for roughly 20% of all marine fuel sales.

**More:** [www.eco-business.com/news/singapore-a-major-contributor-to-air-and-water-pollution-via-marine-fuel-sales-study/](http://www.eco-business.com/news/singapore-a-major-contributor-to-air-and-water-pollution-via-marine-fuel-sales-study/)

**Source:** eco-Business.com, 10<sup>th</sup> August 2022. 


## Christchurch to Host Country's Largest Display of Battery Electric Vehicles

"Christchurch City Council has organised the *Take Charge Christchurch Expo* to showcase the latest and greatest in battery electric vehicles and to give people a chance to see first-hand the vehicle technology that is available right now to make the switch from fossil-fuelled vehicles.

"Cars, vans, off-roaders, motorcycles and mopeds will be among around 50 battery electric vehicles on show at the expo, making it the biggest display of new battery electric vehicles in the country. The vehicles will cover a range of price points.

**When/Where:** Sat. and Sun. 17<sup>th</sup>/18<sup>th</sup> Sept, Christchurch.

**More:** [www.newsline.ccc.govt.nz/news/story/countrys-largest-display-of-electric-vehicles-coming-to-christchurch](http://www.newsline.ccc.govt.nz/news/story/countrys-largest-display-of-electric-vehicles-coming-to-christchurch)

**Source:** *NewsLine*, 26<sup>th</sup> August 2022. 

## Inventor Wants to Slow Climate Change with Modern Steam Engine

"Sam Mackwell wants to 'get diesel out of food production'.

"Some New Zealand farmers are burning 200,000 to 300,000 litres of the dirty fuel a year, he says, and every drop contributes to the warming planet.

"Mackwell insists he has a better alternative – a steam engine. Burning wood chip.

"His steam tractor 'matches the weight, speed and performance of the equivalent diesel tractor'. Most farmers have more than enough trees to power a steam tractor all day, every day. And they'd save all that diesel cost. To him, it adds up.

"Mackwell claims to have improved the steam engine. His model burns fuel at about 900C – compared to about 400C in conventional steam engines. This means all the fuel is consumed. There's no smoke and no sparks. It's zero-carbon, he says. ....

**More:** [www.stuff.co.nz/environment/climate-news/129519506/inventor-wants-to-slow-climate-change-with-modern-steam-engine](http://www.stuff.co.nz/environment/climate-news/129519506/inventor-wants-to-slow-climate-change-with-modern-steam-engine)

**Source:** *Forever Project*, 26<sup>th</sup> August 2022. 

## Are Your Funds Caring for People and the Earth?

"*The Economist* in a July edition had a cover story on ESG (environmental, social, and governance) which concluded ideally the term should be scrapped. Yet this ethical framework is based on the UN Principles of Responsible Investment used by several Kiwisaver funds and Crown Financial Institutions to claim that they are responsible.

"Robert Howell describes the conceptual confusion behind the current state of affairs of investment and the role of values, laws, standards, codes, cultural customs, and policies in defining the moral domain. His presentation includes the four steps an ethical fund should follow and gives case studies.

"This includes the analysis of Kiwisaver and the NZ Superannuation Fund's investments which led to a complaint by Wise Response to the State Services Commissioner about breaches to his Code of Conduct by the FMA and the NZ Superannuation Fund.

**When/Where:** Tues 6<sup>th</sup> September, 6:30-8:00pm. Zoom

**More:** [www.fabians.org.nz/index.php?option=com\\_civicrm&task=civicrm/event/list](http://www.fabians.org.nz/index.php?option=com_civicrm&task=civicrm/event/list) plus <http://wiseresponse.org.nz/2022/07/28/financial-regulators-frightening-failure-to-define-ethical-investments/>

**Source:** Robert Howell, 24<sup>th</sup> August 2022. 

## In Indonesian Mining Region, the EV Boom Takes a Heavy Toll

"Filmmakers Stephanie Tangkilisan and Muhammad Fadli explore a seamy side of the global electric vehicle boom, which is driving demand for nickel and the growth of often heavily polluting nickel mines. '*From Dreams to Dust*', the first-place Winner of the 2022 Yale Environment 360 Film Contest, shows how nickel mining has ravaged a seaside village in Indonesia, causing life-threatening landslides, polluting water supplies, and contaminating coastal waters. The film follows a mine worker named Lapola, a former fisherman who explains how landslides have forced the closure of the village's school and how red-brown mud has fouled its once-white sand beaches. 'When I see the [fishing] boats, I don't miss the past', Lapola says. 'I don't think and dream about it anymore because it doesn't exist.'

**More:** <https://e360.yale.edu/features/2022-film-contest-winner-indonesia-nickel-mining> 9:46 minutes

**Source:** *Yale Environment 360*, 26<sup>th</sup> August 2022. 

## An Epic History of Oil from Ancient Times to the First World War

"In 1908 drillers working for Weetman Pearson hit a gusher. Pearson, a British industrialist, had done a deal with the anti-American government of Mexico for a 50-year oil concession which covered much of the state of Veracruz. From a depth of 1,830 feet (558 metres), the Dos Bocas well exploded into a broiling fountain of oil that rose 1,000 feet into the air. ....

"As Keith Fisher shows in *A Pipeline Runs Through It*, a sprawling, painstakingly researched history of oil from the Palaeolithic era to the first world war, black gold has been as much a curse as a blessing for the people on whose land it has been found. Oil has always been a dirty business, both literally and metaphorically.

"Mr Fisher begins with a slightly plodding survey of the uses found in bygone eras [of the Byzantines, Greeks, Native American nations and others] paved the way for the development, just over 50 years later, of the 'oil region' of Pennsylvania and New York states. It was there large-scale industrialised oil production first occurred....

"This book has its faults. .... But it is nevertheless a compelling read, crammed with eyewitness accounts, and an immensely valuable guide to a great and terrible industry.

**More:** [www.economist.com/culture/2022/08/25/an-epic-history-of-oil-from-ancient-times-to-the-first-world-war](http://www.economist.com/culture/2022/08/25/an-epic-history-of-oil-from-ancient-times-to-the-first-world-war) plus <https://literaryreview.co.uk/drills-spills> and [www.goodreads.com/book/show/59539707-a-pipeline-runs-through-it](http://www.goodreads.com/book/show/59539707-a-pipeline-runs-through-it), also <https://orionmagazine.org/article/a-pipeline-runs-through-it/>

**Source:** *The Economist*, 27<sup>th</sup> August 2022. 


## 'No Exit': Signs are Pointing to 'a Civilisation in Terminal Decline'

Warning his is not a good news opinion piece.

"CAHOKIA MOUNDS, Illinois: I am standing atop a 100-foot-high temple mound, the largest known earthwork in the Americas built by prehistoric peoples. The temperatures, in the high 80s, along with the oppressive humidity, have emptied the park of all but a handful of visitors. My shirt is matted with sweat. ....

**More:** [www.alternet.org/2022/08/a-civilization-in-terminal-decline/](http://www.alternet.org/2022/08/a-civilization-in-terminal-decline/) plus [www.abebooks.com/Collapse-Complex-Societies-1ed-New-Studies/31258366592/bd?](http://www.abebooks.com/Collapse-Complex-Societies-1ed-New-Studies/31258366592/bd?) And [www.goodreads.com/book/show/477.Collapse\\_of\\_Complex\\_Societies](http://www.goodreads.com/book/show/477.Collapse_of_Complex_Societies)

**Source:** Stig Ehnborn, 18<sup>th</sup> August 2022.

**Editor:** Among other matters consider warnings issued by various groups about misuse of high quality soils at Pukekohe and Lincoln. 

## Pest Riddance Building Social Capital

"The target to rid New Zealand of possums, stoats and rats and be 'Predator Free' by 2050 may not be as technically ambitious as you might think.

"With advances in technology and investment from both the public and private sectors, over 100 uninhabited islands have already had predators removed. ....

"Hundreds of community conservation groups have sprung up across New Zealand in response to the call to action in achieving a predator-free NZ. Most of these groups are self-organised volunteers, where people help in many ways. ....

"Some people check and set traps in their backyards, their neighbours' properties or local nature reserves. Others host trap demonstrations, put together rosters and newsletters, or hand out free traps at local markets. There are many ways to play your part. ....

"For many volunteers, participating in pest control groups is about more than trapping. Conservation groups offer benefits besides those for nature. Volunteering benefits their mental and physical health, and provides opportunities for new friendships and skill development. ....

"At the community level, neighbourhoods which have conservation groups are reaping the benefits. Our research found people in conservation groups have more interactions with their neighbours, feel safer and are more likely to trust others (when compared with people not in conservation groups).

"These positive benefits which come from the connections that develop between people are known as social capital. Social capital is something we should all be trying to increase as it produces strong communities that are more resilient to disasters. ....

"Our research shows community initiatives are critical for Predator Free, and by building social capital, community initiatives are more likely to succeed in the long run.

"Predator Free NZ is not just an environmental programme; it is an opportunity to tackle social issues by improving individual well-being and building stronger communities.

"Social capital will be key to our success. Social capital also helped people get through the Covid pandemic.

**More:** [www.nzherald.co.nz/nz/rosie-gerolemou-zero-predator-target-easier-and-more-beneficial-than-we-thought/A6U7KFLVPKVGWE2N6GYDAN3ZCM/](http://www.nzherald.co.nz/nz/rosie-gerolemou-zero-predator-target-easier-and-more-beneficial-than-we-thought/A6U7KFLVPKVGWE2N6GYDAN3ZCM/) [Paywall]

**Source:** *NZ Herald*, page A15, 23<sup>rd</sup> August 2022. 


## Boutique Brewery Says 'Hello' to Low-Carbon Beer

"To get a glimpse into the future of craft beer in a low-emissions Aotearoa, look no further than a small brewery in Matakana, making big changes to the way our hoppy staple is produced.

"Mike Sutherland, with 12 years under his belt in the competitive New Zealand craft beer industry, has a few ideas around what the future of the industry could look like, and how to get there. In addition to waste reduction and water conservation practices, Sawmill Brewery has optimised its processes to improve energy efficiency and reduce its demand for fossil fuels.

"Although their biggest changes are still to come, Mike acknowledges small steps have paved the way and has shared his journey to help other businesses get motivated, gain some momentum, and get creative along the way.

**More:** [www.eeca.govt.nz/insights/case-studies-and-articles/sawmill-brewery-says-hello-to-low-carbon-beer](http://www.eeca.govt.nz/insights/case-studies-and-articles/sawmill-brewery-says-hello-to-low-carbon-beer)

**Source:** EECA, 30<sup>th</sup> August 2022. 


## Net Zero: Obstacles and Catalysts for Business Climate Action

"In a new report, *Net Zero: Obstacles and Catalysts for Business Climate Action*, ERM and EDF+Business examined the obstacles companies face when pursuing their climate goals and the catalysts which might help to overcome them.

"Numerous internal and external obstacles were identified as standing in the way of companies achieving their climate pledges.

**More:** [www.sustainability.com/thinking/net-zero-obstacles-and-catalysts-for-business-climate-action/](http://www.sustainability.com/thinking/net-zero-obstacles-and-catalysts-for-business-climate-action/) 27pages, 1.44Mb

**Source:** Sustainability, 10<sup>th</sup> August 2022

**Editor:** Although North American-centric, learnings may be applicable elsewhere. 

## Scientific Evidence to Support 'Seven Generations' Future Thinking

"Our toxic chemical exposures may harm our great-grandchildren.

"Native American tribes hold dear the concept of seven generations planning, that the impact of decisions should be considered out seven generations into the future, about 150 years. The idea is that our decisions today should consider the potential benefits or harm which would be felt by seven future generations. While such future-thinking has obvious ethical and moral value, it seems that it may also have scientific validity.

"A recent\*\* article by Washington State University biologist, Dr. Michael Skinner and his scientific team provides evidence from rat studies that male infertility can result from an exposure to the pesticide vinclozolin. What's the catch? The pesticide exposure was not to the infertile rat, but to its great grandmother, three generations earlier!

"But, this wasn't Skinner's first article on the subject. Around 2005 he tripped over this astounding observation almost by accident, when the pups of pregnant rats exposed to vinclozolin were accidentally bred out several generations. That's when Skinner and his colleagues learned all of the pups for the next four generations – that is, even the great-grandchildren of the exposed rats – had abnormally low sperm counts!

"Michael Skinner and his colleagues repeated the experiments many times, and tested other chemicals – including those found in plastics (Bisphenol-A or BPA, DEHP, and other phthalates), pesticides (vinclozolin, methoxychlor, permethrin, and tributyltin), industrial chemicals (dioxin, jet fuel mixes) and nicotine – which lead to other diseases of the prostate, kidney, ovaries, brain and behavioural deficits, reproductive tract abnormalities, and immune system abnormalities. Over and over they found the diseases in animals which were four and even five generations away from the original mothers which had been chemically-exposed during pregnancy. ....

"There is a scientific explanation for these 'transgenerational' effects. The explanation is 'epigenetics' – things which affect the function of DNA – the genetic code – but without altering the DNA itself. ....

\*\* The article was published 2013.

**More:** [www.nrdc.org/experts/jennifer-sass/scientific-evidence-support-seven-generations-future-thinking-our-toxic-plus-smithsonianmag.com/innovation/the-toxins-that-affected-your-great-grandparents-could-be-in-your-genes-180947644/](http://www.nrdc.org/experts/jennifer-sass/scientific-evidence-support-seven-generations-future-thinking-our-toxic-plus-smithsonianmag.com/innovation/the-toxins-that-affected-your-great-grandparents-could-be-in-your-genes-180947644/) Importantly also see [www.smithsonianmag.com/smart-news/scientists-find-a-new-technique-for-breaking-down-forever-chemicals-180980623/](http://www.smithsonianmag.com/smart-news/scientists-find-a-new-technique-for-breaking-down-forever-chemicals-180980623/) *Scientists Find a New Technique for Breaking Down 'Forever Chemicals'* of 23<sup>rd</sup> Aug. 2022.

**Source:** Editor, 31<sup>st</sup> August 2022. 