**HOT TOPICS**

**CA Engine Ban**
California is banning the sale of small, gas-powered engines, such as those powering lawn equipment, chainsaws, and weed trimmers, potentially affecting 50,000 landscaping microbusinesses.  
*Page 3*

**Big EV Challenge**
Among the challenges facing laws mandating electric vehicles is a pending shortage of nickel, a key component of the batteries used to power them.  
*Page 19*

**Biden Reverses NEPA Reforms**
The Biden administration is rescinding reforms to National Environmental Policy Act rules intended to expedite critical infrastructure projects.  
*Page 5*

**CO Shorts Transportation**
Colorado’s Department of Transportation proposes shifting a third of the state’s transportation funding to biking and walking paths and public transportation.  
*Page 9*

**MI Governor Fights Pipeline**
Gov. Gretchen Whitmer has created an international incident by trying to close a key oil and gas pipeline running between Wisconsin and Ontario.  
*Page 13*

---

**International Conference Speakers Address Woeful State of Climate Science**

Heartland Institute President James Taylor welcomes the audience to the 14th International Conference on Climate Change.

**President Biden Reverses Trump-Era Revisions to Large National Monuments**

*By Kevin Stone*

President Joe Biden has restored two national monuments to the boundaries set by President Barack Obama less than a month before leaving office.

Obama established the Bears Ears National Monument and enlarged the area of the Grand Staircase-Escalante National Monument created by President Bill Clinton, using authority granted to the president by the 1906 Antiquities Act. President Donald Trump reduced the size of the two

---

**President Biden Reverses Trump-Era Revisions to Large National Monuments**

*By Kenneth Artz*

At the 14th International Conference on Climate Change (ICCC-14) in Las Vegas, Nevada, held October 15-17, researchers in climate science, energy economics, and public policy presented their findings on climate change and the likely effects of policies proposed to prevent it.

The ICCC series is sponsored by The Heartland Institute, which publishes *Environment & Climate News*.

Three keynote speakers—David Legates, Ph.D.; Patrick Michaels, Ph.D.; and William Happer, Ph.D.—...
Are you tired of being lectured, mocked and lied to by the mainstream media?

Join the more than 7 million readers who turn to The Washington Times.

Get 1 year of unlimited digital access to The Washington Times for just $69.95 and arm yourself with the facts.


Your subscription will also include our digital version of the daily paper delivered to your email, every weekday morning, with breaking news on the issues that affect the future of our nation.

The Washington Times

Reliable Reporting. The Right Opinion.

washingtontimes.com/heartland
California Bans Sale of Small Internal Combustion Engines

By Kevin Stone

California has enacted a law banning the sale of all non-road-use small gas-powered engines, including generators, lawn equipment, pressure washers, chainsaws, weed trimmers, and other small internal combustion (IC) devices.

The law directs the California Air Resources Board to adopt technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines, as defined by the state board, by July 1, 2022, to take effect by 2024.

The law singles out lawn and garden equipment, small power tools, and generators. Large, diesel-powered generators for emergency services, such as hospitals and fire and police departments use, for which there are no alternatives, are apparently exempted from the law.

Tough on Small Businesses

It is estimated the law will affect as many as 50,000 lawn care and landscaping microbusinesses, in addition to the millions of individual businesses and homeowners who use such equipment. Battery-powered yard care tools typically cost $100 to $250 more than comparable gasoline and diesel fueled equipment.

Proponents of the law claim users of electric power equipment will save money over time because the electricity used to charge the batteries or power the equipment is cheaper than the cost of fossil fuels for comparable uses.

Most electric lawn equipment lacks sufficient power reserves even in the highest capacity batteries to cover more than an average-sized yard. This means lawn care professionals, who generally have no means of recharging batteries in the field, will have to purchase, maintain, and carry numerous extra batteries to complete a day’s set of jobs.

Keeping dozens of charged spare batteries on hand at a cost of around $75 per battery will add thousands of dollars to equipment costs. Smaller lawn care businesses may be unable to bear the added costs.

‘Another Anti-Growth Policy’

The bill’s author, California state Assemblyman Marc Berman (D-Menlo Park), says the law will prevent negative health and environmental consequences of the use of IC engines, in comments to the press.

The law imposes high costs and has few benefits for average people, says Wayne Winegarden, Ph.D., a senior fellow in business and economics for the Pacific Research Institute.

“This is another anti-growth policy from Sacramento whose impacts will be felt by small businesses the most, particularly minority businesses,” said Winegarden. “Since it is being slowly phased in, these impacts will take a while to manifest themselves, but even if the ban achieved its intended goals, which it will not, the impact on global greenhouse gas emissions would be infinitesimal.”

Undermining Emergency Preparedness

In addition to lawn care equipment, the law also applies to generators. In a state where earthquakes, wildfires, and other natural disasters are frequent and the power grid has become increasingly unreliable, the IC ban may impede emergency preparedness.

Whereas fuel for internal combustion generators is easily stored for long periods of time, especially if fuel stabilizers are added, batteries can be somewhat less reliable. Sufficiently large battery arrays to provide power for extended outages are prohibitively expensive for most households.

Lower-capacity batteries are unlikely to provide sufficient power for extended outages in most homes, and batteries tend to degrade over time, particularly if the charge is not regularly cycled. This means little or no power may be available to households or businesses in emergency situations.

Increased Electricity Demand

The new law will place additional demands on California’s already heavily burdened power grid, which over the past decade has experienced periodic rolling blackouts and brownouts each summer.

Adding ever-more demand to California’s power system is unsustainable, says Winegarden.

“The impact on the electrical infrastructure is one of the very troubling aspects of these policies,” said Winegarden. “California continues to force all energy supplies, cars, household appliances, and now landscaping equipment onto an electric grid that is already unstable and costly.

“The consequences will be additional stresses on the grid, worsening reliability and increasing unaffordability,” said Winegarden.

Kevin Stone (kevin.s.stone@gmail.com) writes from Arlington, Texas.
By Linnea Lueken

New York trial court dismissed a lawsuit brought by a coalition of conservation groups and rural communities against the newly created New York State Office of Renewable Energy Siting (ORES).

To reach the goal of 70 percent renewable energy use by 2030, New York created ORES to handle the oversight of applications for renewable energy projects. The plaintiffs challenged the powers the new agency was granted to disregard laws and regulations intended to protect the environment in expediting government permission for sites of industrial wind and solar projects.

The lawsuit asked for a stay of recent regulations issued by ORES for industrial renewable energy plant siting, arguing the creation of ORES undermined the authority of the existing State Siting Board to determine siting rules for power plants.

The Supreme Court of Albany County dismissed the complaint in October, concluding some of the plaintiffs’ arguments lacked merit and ORES technically hasn’t violated any laws because no specific project was cited in the complaint.

Home Rule Overruled
The plaintiffs argued ORES violates the New York State Constitution’s Home Rule provisions. Under home rule, local municipalities and counties have the authority to self-govern and set their own, local standards for environmental protection so long as they do not violate state laws.

State politicians dislike home rule because it allows local governments to fight projects the state favors, says John Droz, founder of the Alliance for Wise Energy Decisions.

New York being a home rule state means, according to the state constitution, the towns are supposed to have more authority over their own government,” Droz said. “However, state politicians don’t like this, because as the people and leaders of some towns become educated, they are resisting some of the political agendas of the state.

“The state is constantly trying to erode these rights, and they will use the climate issue to say that citizens don’t get a say because there are bigger fish to fry: ‘We’re talking about saving the world,’” Droz said.

Blanket Declaration
Instead of preparing an appropriate Environmental Impact Statement as required under New York conservation law, ORES issued a blanket statement that there would be no negative impacts on the environment whatsoever from proposed wind and solar projects, the petitioners say.

“As a result, ORES issued a Negative Declaration of Environmental Significance (‘Neg Dec’), i.e., a finding that its regulations would not have even one potential adverse impact on the environment, and refused to prepare an Environmental Impact Statement, in violation of SEQRA and the Environmental Conservation Law,” the petition stated.

In point of fact, industrial wind farms do much harm to the local environment, says Droz.

“Numerous studies have shown wind energy is actually a detriment to the climate and environment,” Droz said. “There is no appropriate siting for something that doesn’t work.”

Sweeping Authority
The plaintiffs also argued ORES was granted the power to allow renewable energy projects that affect the local environment, with no recourse for the affected parties.

“ORES possesses the power to authorize renewable energy companies to clear large tracts of forest, level hilltops, degrade or destroy sensitive habitat, harm wildlife, kill birds and bats, waive local laws, interfere with continental-scale bird migration, and eliminate vast acreage of farmland and agriculture,” the plaintiffs stated.

Although the court dismissed this claim, Droz says it is well-founded because industrial wind facilities do so much damage to the local environment and economy.

“The net impact of local wind developments may very well be an economic liability, especially in agricultural areas. Wind turbines kill bats in fairly significant numbers. Bats have extraordinary economic value in several ways, one of which is that they are prodigious insect eaters. Larger volumes of insects are going to reduce agricultural yield.”

JOHN DROZ
FOUNDER
ALLIANCE FOR WISE ENERGY DECISIONS

“Climate Change Weekly” is a free weekly newsletter providing the latest information on climate change from a climate-realist perspective.

Heartland.org/Subscribe

INTERNET INFO
Biden’s Rollback of Trump NEPA Reforms Will Delay Infrastructure Projects

**By Bonner R. Cohen**

President Joe Biden’s White House Council on Environmental Quality (CEQ) announced plans to rescind reforms made to National Environmental Policy Act (NEPA) regulations under former President Donald Trump.

The goal of the Trump reforms was to reduce delays to critical infrastructure projects due to litigation, by clarifying what environmental impacts must be considered in their environmental impact assessments. The reforms finalized in 2020 were the first significant revision to NEPA regulations since they were issued in 1978.

The Biden administration aims largely to restore the 1978 rules, in phases and with its own “clarifications,” states the CEQ’s notice of proposed rulemaking published October 7.

**Trump Tightened Govt. Deadlines**

The CEQ’s move came shortly before Congress passed a Biden-endorsed $1.2 trillion infrastructure bill. The ability of the infrastructure bill to deliver on transportation improvements and other infrastructure development will depend in large part on how much the CEQ’s reinstatement of pre-Trump NEPA policies delays the completion of construction projects.

Among other procedural changes, the 2020 Trump reforms set strict deadlines for government agencies to complete environmental reviews and for public comments to be filed, and it allowed federal officials to disregard a project’s indirect or cumulative impacts on climate change.

The Trump changes were bitterly fought by environmental groups who, over the decades, skillfully used protracted litigation under the 1970 NEPA law to tie up projects they opposed.

**‘Whole-of-Government Approach’**

The CEQ says the NEPA reversal and rewrite are part of a cross-agency approach the Biden administration is taking to address climate change.

“As part of the Biden Administration’s whole-of-government approach to tackling the climate crisis and confronting environmental injustice, CEQ is proposing to restore three core procedural provisions of the National Environmental Policy Act (NEPA) regulations to provide communities and decision makers with more complete information about proposed projects, their environmental and public health impacts, and their alternatives,” states the CEQ press release. “[The proposed rule would] restore the requirement that federal agencies evaluate all the relevant environmental impacts of the decisions they are making. ‘This proposal would make clear that agencies must consider the ‘direct,’ ‘indirect,’ and ‘cumulative’ impacts of a proposed decision, including by evaluating a full range of climate impacts and assessing the consequences of releasing additional pollution in communities that are already overburdened by polluted air or dirty water,” said CEQ.

“[It] Establish[es] CEQ’s NEPA regulations a floor as rather than a ceiling for the regulatory review standards that federal agencies should be meeting.’”

**‘Sand in the Gears’**

The CEQ stressed these revisions are merely “Phase 1” of its review. Over the next several months, the White House will develop “Phase 2” changes to NEPA regulations “to help ensure full and fair involvement in the environmental review process; meet the nation’s environmental, climate change, and environmental justice requirements; provide regulatory certainty to stakeholders; and promote better decision-making consistent with NEPA’s goals and requirements,” the CEQ says.

The Biden White House is granting federal agency officials substantial sway over the numerous proposed state and local projects that require federal permits or funding, says former North Dakota state representative Bette Grande, CEO of the Roughrider Policy Center and a state government affairs manager at The Heartland Institute, which publishes *Environment & Climate News*. Projects that don’t meet these vaguely defined terms will likely stand little chance of approval.

“The ‘whole-of-government’ approach to fighting the climate change boogeyman, including additional NEPA regulations, is throwing sand in the gears of an already struggling economy,” said Grande.

**Producers, Consumers Struggle**

The restoration of the 1978 rules will constrict the economy by delaying approval of infrastructure projects and increasing their cost, says Grande.

“Our nation is struggling with supply-chain and inflation concerns, and rolling back the Trump administration’s NEPA reform will cost consumers dearly,” said Grande.

“Rising gasoline prices led the Biden administration in August to ask OPEC to increase oil production, and in October Biden asked domestic oil producers for help,” said Grande. “Now they want to undo Trump’s NEPA reforms, a move that will impact energy production and increase prices. It makes you wonder whether the Biden administration’s left hand knows what its right hand is doing.”

**Double-Edged-Sword?**

Environmental groups have hailed the administration’s move, but more-stringent NEPA rules could come back to haunt Biden’s green agenda by delaying projects through litigation, says David Stevenson, director of the Center for Energy & Environmental Policy at the Delaware-based Caesar Rodney Institute.

“Be careful what you wish for,” said Stevenson. “The Caesar Rodney Institute has founded the American Coalition for Ocean Protection, composed of beach communities and free-market institutes, and the Ocean Environment Legal Defense Fund. The Biden administration’s NEPA reforms could contribute to efforts by our organizations and others concerned about federal coastal development to find violations of NEPA—and other laws like the 1973 Endangered Species Act or the 1972 Clean Water Act—to fight federal approval of offshore wind projects. The NEPA sword could easily cut both ways.”

David Stevenson
Director
CAESAR RODNEY INSTITUTE

**Former Eco-Terrorist Approved to Run Bureau of Land Management**

**By Kenneth Artz**

The U.S. Senate approved President Joe Biden’s nominee to lead the Bureau of Land Management (BLM) despite intense criticism during Senate hearings because of her involvement with the eco-terrorist group Earth First! and past involvement in tree spiking.

Biden’s policy failures have diverted the spotlight from attention to the radical people he has been appointing to his administration, says Merrill Matthews, Ph.D., a resident scholar at the Institute for Policy Innovation, of new BLM Director Tracy Stone-Manning.

“I’m surprised Biden didn’t pull Stone-Manning’s nomination, because her eco-terrorism past was an unneeded distraction for his floundering administration,” Matthews said. “My only thought is that Biden’s policies and actions have created so many major distractions that the Stone-Manning nomination seemed small in comparison.”

**Obama Official Concerned**

Spiking is a dangerous act of sabotage in which metal spikes are driven into trees to make them unsafe to log. Unnoticed tree spikes have seriously injured loggers when their saws struck the spikes and the saws exploded as a result.

Stone-Manning’s involvement in criminal tree-spiking in the Clearwater National Forest in Idaho in 1989 should have disqualified her from leading the BLM, said former Obama administration BLM Director Bob Abbey, in a statement.

“As a 30-year BLM career employee, I don’t take her actions lightly, nor should anyone else,” said Abbey. “If Stone-Manning participated in any aspect of planning, implementation, or cover-up in the spiking of trees, then she should not be confirmed.”

**Approved Despite Radical Past**

The U.S. Senate confirmed Stone-Manning on a party-line vote of 50 to 45 on September 30.

New Mexico’s senators, both Democrats, may face a public backlash for voting to approve Stone-Manning, says Larry Behrens, Western States director of Power The Future.

“Senators [Martin] Heinrich and [Ben Ray] Luján are hoping the wreckage of Joe Biden’s legislative agenda will distract New Mexicans from the confirmation of an eco-terrorist to a high-ranking government position,” Behrens said in a statement.

“All the while, green policies are sending energy prices soaring at home and putting Europe on the brink of a supply crisis heading into winter,” said Behrens. “Tracy Stone-Manning’s confirmation is the clearest sign yet that ‘Blue Collar Joe’ values extreme environmentalism above all else and certainly more than the well-being of our energy workers. New Mexicans are watching, and they won’t be fooled.”

**Nominees ‘Consistently Radical’**

Biden officials in various positions endanger the public’s access to federal lands, says Jay Lehr, Ph.D., a senior policy advisor with the International Climate Science Coalition.

“Stone-Manning is indeed an eco-terrorist, which falls in line with all of the Biden administration appointees to positions of power,” Lehr said. “These nominees are consistently radical and are supported by radical environmental activists who wish to kick the public off of federal lands, leaving them untrodden.

“People’s ability to use and enjoy public lands will be at risk until this administration is unseated,” Lehr said.

Kenneth Artz (KApublishing@gmx.com) writes from Dallas, Texas.
Clean-Energy Mandate Proving Difficult for Hawaii

By Duggan Flanagan

Hawaii’s effort to transition to “clean energy” is behind schedule because of citizen opposition, technical problems, and government bureaucracy.

The Hawaii Clean Energy Initiative (HCEI) has a goal of 70 percent carbon-dioxide-emission-free energy by 2030, and 100 percent by 2045.

The Hawaii State Energy Office describes the HCEI, which was launched in 2008, as a “framework of statutes and regulations supported by a diverse group of stakeholders.”

Gov. David Ige says Hawaii is “blessed with abundant renewable energy resources—solar, wind, ocean, geothermal—that can be the foundation for a robust alternate energy industry” that is “as significant for Hawaii’s economy as tourism.”

The Aloha State has no oil, natural gas, or coal reserves. As of 2019, petroleum-fueled power plants supplied 63 percent of the state’s electricity generation, and coal fuels 12 percent. Renewable energy sources—mainly biomass, geothermal, hydropower, solar, and wind—supply a combined 21 percent of the state’s electric power. Of these, solar has posted the largest increase in recent years with the growth in use of rooftop panel systems.

Wind Projects Deemed Risky

Citizen opposition to the siting of large solar and wind industrial facilities near densely populated areas, which has led to the cancellation of several projects, has been widely reported.

In mid-2020, for example, Eurus Energy America announced the cancellation of its proposed 46.8-megawatt (MW) Palehua wind project on Oahu.

“The risk factors associated with developing wind projects in Hawaii were deemed too great for us to proceed,” the company said in a statement announcing the decision.

Pressure on state and local governments has also resulted in the Hawaii Legislature and the Honolulu City Council considering restrictions on the siting of wind projects.

Biomass or Bio-Mess?

Independent power producer AES Hawaii, under pressure to stop using imported coal, has proposed converting its coal-fueled power plant to use tree-burning biomass at the facility. Under the controversial proposal, which technically could move Hawaii 27 percent closer to achieving its 2030 goal, AES would import biomass.

Research indicates burning biomass (plant matter packaged into pellets) produces as much as or more greenhouse gases and toxic air emissions per kilowatt-hour (kwh) of electricity generated as burning coal does.

In addition, AES must obtain a power purchase agreement that could win approval from the PUC—and survive lawsuits. Also, any harbor infrastructure modifications would likely trigger an environmental review and a host of federal and state permits and consultations.

In addition, a switch from coal to biomass would probably require HEI to secure a new power purchase agreement with renegotiated prices for electricity and obtain PUC approval.

‘Virtue-Signaling with No Virtues’

Hawaii’s troubles with its renewable energy mandates exemplify the “fatal conceit” of central planning that has been responsible for enormous amounts of damage to people over time, says Dan Kish, a distinguished senior fellow at the Institute for Energy Research.

“The huge investments to achieve the planners’ lofty yet meaningless goals will guarantee skyrocketing prices for energy,” Kish said. “Wood is certainly not carbon-free, and almost no energy source is. Even dams and nuclear power plants require huge life-cycle carbon emissions because of the large amount of input materials, all of which are energy-intensive.

“This is virtue-signaling with no virtues,” Kish said. “It is the kind of meaningless gesture at the core of the Biden administration’s war on affordable energy, which is driving costs higher and higher with no return in environmental performance.”

Higher Costs, Lower Reliability

Hawaii’s zero emissions energy plan ignores the fact it will increase costs while undermining the reliability of the power supply, says John Droz, founder of the Alliance for Wise Energy Decisions.

“The criteria for what is a wise energy decision ultimately rests on how it does in meeting the two primary criteria for the [electric] grid: low cost and high reliability,” Droz said. “All indications are that a switch from coal to biomass is significantly more expensive per kWh of generation. Their counterargument is coal is a CO2 ‘polluter,’ but biomass also produces substantial CO2.

“Solar, too, has numerous environmental and economic liabilities that are being ignored by the virtue signalers,” Droz said. “In addition, it is not dispatchable because it is woefully intermittent.”

Duggan Flanagan (dflanakin@gmail.com) writes from Austin, Texas.
President Biden Reverses Trump-Era Revisions to Large National Monuments

monuments by millions of acres in 2017 in response to state and local officials’ concerns about negative effects on jobs and public use of the land.

Utah state officials have threatened legal action to reverse the Biden administration’s monument expansion, which put more than two million acres of public lands back in monument status. Biden’s action could eventually lead to a review of the Antiquities Act by the U.S. Supreme Court.

Officials Decry Land Seizure

Biden’s restoration of the boundaries set by Obama is unjustified and antag-onistic, said Utah’s entire congressional delegation in a joint statement signed by Senators Mike Lee and Mitt Romney and Representatives John Cur-tis, Blake Moore, Clarence “Burgess” Owens, and Chris Stewart.

“Rather than take the opportunity to build unity in a divided region and bring resources and lasting protections to sacred antiquities by seeking a mutually beneficial and permanent legislative solution, President Biden fanned the flames of controversy and ignored input from the communities closest to these monuments,” the delegation’s statement said.

“We will continue to support efforts to ensure that our monuments’ bound-aries and management reflect the unique stakeholder interest and uses in the area, but today’s ‘winner take all’ mentality moved us further away from that goal,” the statement said.

Legal Action Possible

Utah Solicitor General Melissa Holy-oak told the Salt Lake City Fox News station the state views Biden’s expansion of the Bears Ears monument in particular as a “gross abuse” of executive authority.

“We think this is definitely an abuse of power of the Antiquities Act,” Holyoak said. “Under the Antiquities Act, it has to be limited to the smallest area compatible with the proper care and management of those structures.”

A decision in a recent case regarding another Obama-era Antiquities Act monument declaration suggests legal action challenging Biden’s huge monument expansion could be successful.

‘Vast and Amorphous’ Monuments

In a case challenging the declaration establishing the Northeast Canyons and Seamounts National Monument, which imposed federal fishing restrictions across a huge area of ocean, U.S. Supreme Court Chief Justice John Roberts noted the Antiquities Act has been transformed over time into a power without any discernible limit to set aside “vast and amorphous expanses of terrain.”

While the Executive enjoys far greater flexibility in setting aside a monument under the Antiquities Act, that flexibility, as mentioned, carries with it a unique constraint: Any land reserved under the Act must be limited to the smallest area compatible with the care and management of the objects to be protected,” Roberts wrote.

“Somewhere along the line, however, this restriction has ceased to pose any meaningful restraint,” Roberts wrote.

Exceeding Antiquities Restrictions

The Bears Ears and Grand Staircase-Escalante national monument declarations were a land grab, says Ken Ivory, a former Utah state representative and current adjunct professor teaching American Federalism at Utah Valley University.

“There are certainly historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest within the monument areas, but they don’t take up millions of acres,” said Ivory.

No ‘Equal Voice’

Biden’s actions, and those of Obama and other presidents before them, represent gross abuses of the Antiquities Act that impede population growth in these states, says Ivory.

“However, with 90 percent of the people of Utah living on 1 percent of the land within the state’s borders in large part because the federal government retains control of roughly 65 percent of all lands in the state, Utah does not have the opportunity to have an equal voice in the national councils,” Ivory said.

‘Punitive Presidential Pen’

For the sake of the economy and the environment, courts must impose hard limits on the ability of presidents to declare large national monuments without congressional or state oversight, Ivory says.

“I believe this case will present an opportunity for the Supreme Court to consider the appropriate limits of the Antiquities Act and forever restrain the multimillion-acre monument designations with the stroke of a punitive presidential pen on the way out of office, generally inflicted upon states with opposing political viewpoints.”

KEN IVORY, FORMER UTAH STATE REP.

I believe this case will present an opportunity for the Supreme Court to consider the appropriate limits of the Antiquities Act and forever restrain the multimillion-acre monument designations with the stroke of a punitive presidential pen on the way out of office, generally inflicted upon states with opposing political viewpoints.”

KEN IVORY, FORMER UTAH STATE REP.
Colorado DOT Moves to Discourage Driving

By Duggan Flanakin

The Colorado Department of Transportation (CODOT) is proposing to shift up to a third of state transportation funding to projects aimed at reducing personal driving, as part of an effort to cut greenhouse gas (GHG) emissions.

Under the proposed GHG rules, CODOT and planners in five major metropolitan areas in Colorado will be required to reduce greenhouse gas emissions from passenger vehicles.

CODOT acknowledges its plan could slow or halt new highway construction across the state.

Busing, Biking, Walking

A GHG Pollution Reduction Planning Standard was required in the state’s 2021 transportation funding bill, states a CODOT fact sheet.

One goal of the policy is to expand the use of mass transit and to encourage biking and walking, to reduce gasoline consumption statewide by 169 million gallons a year.

By CODOT’s calculation, such a reduction would be equivalent to removing 300,000 cars from the state’s roads.

‘Greenhouse Gas Emotion’

Some state and local officials say CODOT’s proposed funding shift ignores the needs of the state’s growing population. Colorado is one of the fastest-growing states, with a 15 percent increase in residents from 2010 to 2020.

Colorado’s urban counties and cities have little comprehension of how rural Coloradans live and work, says Scott James, a Weld County commissioner.

“In the greenhouse gas rulemaking, much of the projected reduction in vehicle miles traveled is projected to come from increased use of mass transit, but there is no mass transit in Colorado outside a few urban counties,” said James. “Moreover, any attempt to increase wind and solar energy production in Colorado will come at the expense of farmland.

“It is also folly to believe that Coloradans, which today relies on fossil fuels for 74 percent of its electricity, can switch to 100 percent renewables seamlessly,” said James. “This GHG initiative appears to be driven by greenhouse gas emotion.”

‘Almost No Effect’ on GHGs

CODOT’s plan is an ineffective response to Colorado Gov. Mark Polis’ GHG Pollution Reduction Roadmap because it will not reduce greenhouse gas emissions, says Randal O’Toole, a senior fellow at the Cato Institute.

“The transportation portion of Gov. Polis’ Roadmap will cost Coloradans a colossal amount of money but have almost no effect on greenhouse gases,” said O’Toole. “Bike paths? Give me a break. Less than 1 percent of Denver-area commuters bicycle to work, which isn’t surprising considering the region’s hot summers and snowy winter.

“If they really believed climate change was a problem, they wouldn’t be proposing solutions that we already know don’t work,” said O’Toole.

Duggan Flanakin (dflanakin@gmail.com) writes from Austin, Texas.

U.S. EPA Revisiting Soot Standards It Found Adequate in 2020

By Kenneth Artz

The U.S. Environmental Protection Agency (EPA) is reconsidering national soot standards it determined in 2020 adequately protected public health.

The EPA might lower the annual average exposure standard for particulate matter (PM) from 12 micrograms (µg) per cubic meter of air to as low as 8 µg, and the 24-hour standard from 35 to 30 µg, based on a draft policy assessment published on October 15.

Under the Trump administration, the EPA reviewed scientific data on the effects of PM on health, as required by law, and found the current standards were adequate to protect the public.

Rejected Scientific Findings

Citing no new data, the EPA now says long- and short-term exposure to soot or PM at current levels has adverse health effects, and standards must be tightened.

The change in the EPA’s scientific assessment will cause areas of the country that have met the existing standard to fall out of attainment under the 1970 Clean Air Act.

Imposing stricter soot standards would allow the Biden administration to reduce greenhouse gas emissions from power plants and industrial facilities indirectly, without new legislation.

Current Standards ‘Scientifically Justified’

In 2020, after examining the best available evidence, the EPA retained the existing PM standards.

“Based on review of the scientific literature and recommendation from our independent science advisors, we are proposing to retain existing [PM] standards which will ensure the continued protection of both public health and the environment,” said EPA Administrator Andrew Wheeler in a press release on April 14, 2020.

The EPA’s decision to maintain PM standards at existing levels in 2020 was based on science, said Rep. Bill Flores (R-TX) in a press release issued at the time.

“EPA’s decision is scientifically justified and will promote economic recovery and growth,” said Flores. “The EPA’s decision to retain current [PM] standards, without changes, rightly reflects the long-term trend data of dramatically decreased particulate matter as well as the needs of our state and local governments.”

Says EPA Is Undermining Science

The Biden administration is upending the review process to advance its regulatory agenda, says John Dale Dunn, a physician, lawyer, and policy advisor for The Heartland Institute, which co-publishes Environment & Climate News.

“The EPA’s goal is to change a number of air pollution standards and to reconstitute the Scientific Advisory Board and the Clean Air Scientific Advisory Committee (CASAC),” Dunn said.

The proposed revision of the PM standard will face court challenges, says Dunn.

“There’s a lawsuit in motion, filed by a number of members of the former CASAC who, like me, are upset the EPA is throwing away good scientific analyses for political reasons.”

Kenneth Artz (KApublishing@gmx.com) writes from Dallas, Texas.
Louisiana’s Climate Task Force Proposes ‘Industrial Decarbonization’

By Bonner R. Cohen

Louisiana’s Climate Initiatives Task Force (CITF) is writing an action plan to reach “net zero” statewide greenhouse gas emissions attributable to human activity by 2050.

Achieving the goal will require “industrial decarbonization,” states the group’s “DRAFT Portfolio of Climate Strategies and Actions,” published on August 23. Steps to net zero include a shift to subsidized “clean” energy electricity production, and sequestration of carbon dioxide emissions by the oil and gas industry.

Turning ‘Louisiana into California’

Implementation of the CITF’s policy proposals would require further action by the governor and/or the state legislature, though the task force provides cover for Edwards to imitate other states’ climate activism, says Dan Kish, a senior fellow at the Institute for Energy Research.

“Trying to make Louisiana into California makes no sense, and hiding it behind some kind of extralegal commission is a cowardly way to proceed,” Kish said.

Louisiana Gov. John Bel Edwards established the CITF by executive order on August 19, 2020. The CITF consists of the heads of state agencies, academics, and representatives of business, industry, and environmental advocacy groups appointed by the governor and other officials.

Job Losses ‘Inevitable’

Edwards’ climate initiatives will reduce industry employment, states the CILF draft plan: “Louisiana has lost thousands of jobs in oil and gas over the last decade, and as the energy transition accelerates it is inevitable that additional oil and gas workers will face layoffs.”

Edwards should be defending energy production instead of further undermining it, says Kish.

“The governor should stop apologizing for the honest hard work of people who make their living in the oil and gas industry and stand up for them for once,” Kish said. “The coastal elites and [Washington,] D.C. are doing a good enough job of kicking Louisiana in the teeth without Edwards helping them.

Goal: Cut Emissions

Edwards’ executive order set the goal of reducing the state’s net greenhouse emissions below 2005 levels by 26 percent to 28 percent of the 2005 amounts by 2025, 40 percent to 50 percent less by 2030, and to zero by 2050.

The CITF’s proposals would require large industrial facilities to submit plans for emissions reduction to state regulators, who would certify emission reduction goals are met. The transportation sector would reduce emissions from trucks, ships, and the ports of New Orleans and Baton Rouge through a separate permitting process.

If Edwards or the legislature rejects its permitting recommendations, the CITF suggests a “carbon pricing” mechanism, or a carbon tax, to reduce emissions.

‘Harmful’ ‘Virtue-Signaling’

Edwards’ CITF plan will have no effect on carbon dioxide emissions, says Jay Lehr, Ph.D., a senior analyst with the International Climate Science Coalition.

“The CITF’s plans to reduce carbon dioxide emissions at some point in the future are nothing but virtue-signaling,” Lehr said. “None of this will have any measurable effect on the climate, but it will have a harmful effect on the lives and livelihoods of the people of Louisiana.”

Edwards’ order requires the CITF to publish a detailed action plan by February 1, 2022.

Bonner R. Cohen, Ph.D. (bcohen@nationalcenter.org) is a senior fellow at the National Center for Public Policy Research and a senior policy analyst with the Committee For A Constructive Tomorrow.
The very fabric of America is under attack—our freedoms, our republic, and our constitutional rights have become contested terrain. The Epoch Times, a media committed to truthful and responsible journalism, is a rare bastion of hope and stability in these testing times.
discussed the inaccurate portrayal of the current state of the climate by many scientists, and the harmful effects of policies restricting carbon dioxide emissions to prevent climate change.

**Chariots of the Gods?**
Legates, a professor of climatology in the Department of Geography at the University of Delaware and recipient of the Frederick Seitz Memorial Award from the Science and Environmental Policy Project (SEPP) at ICCC-14, gave the opening keynote address.

Legates recounted that when he was in eighth grade, Erich von Daniken’s book about extraterrestrials, *Chariots of the Gods?*, ultimately armed Legates with the tools necessary to study climate change.

“To an eighth grader, *Chariots of the Gods* makes an awful lot of sense because von Daniken takes a bunch of pieces of a puzzle and puts them all together,” said Legates.

**Differing Views of Evidence**
About two weeks later, Legates says, he discovered the book *Crash Go the Chariots*, by Clifford Wilson.

“If you read that book, you may realize that von Daniken may not have gotten it just right; that his intricately woven tapestry may have some holes; that some of the pieces of the puzzle may not have actually been there; that in fact they may have been fraudulent or made up,” said Legates. “Essentially, what you wind up with is two different viewpoints of the same thing.

“That allowed me to understand the concepts of scientific debate and scientific discourse—that you could look at the arguments from both sides and then evaluate the two,” said Legates.

**‘Standard Skeptic Crap’**
Legates loaned the book to a teacher to get his view of Wilson’s analysis. After reading the book, the teacher said three words Legates would hear repeatedly over the course of his career: “standard skeptic crap.”

“I learned something that day,” said Legates. “There is scientific discourse, and there is indoctrination: one size fits all; nobody must disagree; we’re not allowed to listen to the other side of the spectrum.

“So, when I finally [began] my quest to investigate ... climatology, I carried that with me, and as a result, I want to look at why things happen and understand them based on the facts, and as Fred Singer used to say, ‘If the facts change, I change my view—what do you do?’” said Legates. “That’s the scientific method; that’s what we should be striving for.”

**‘A Very Strange Issue’**
Michaels, a senior fellow with the CO2 Coalition and the Competitive Enterprise Institute, delivered Saturday morning’s keynote address. Climate science is peculiarly dominated by researchers’ assumptions, Michaels told the gathering.

“This issue is a very strange issue in that only climate models, figments of a person’s imagination, written into a computer, are supposed to determine our way of life,” said Michaels.

The climate models have the wrong inputs, said Michaels, which is like “putting diesel fuel into a car that’s supposed to run on gasoline.” As a result, “the models run far too hot.”

**‘Most Unreliable Model Wins’**
Suki Manabe of the Princeton Geophysical Fluid Dynamics Laboratory received a Nobel Prize in Physics for physically modelling Earth’s climate, on Oct. 5, said Michaels, although his model is inaccurate.

“His model doesn’t work reliably,” said Michaels. “This [climate science] is an odd field—the more money you throw at the science, the worse the model becomes, until the most unreliable model wins the Nobel Prize.

“So, what world do we really live in? It’s one that is lukewarming, and it’s an increasingly greener world,” Michaels said.

**‘The Ancient Lie’ Persists**
Happer, professor emeritus in the Department of Physics at Princeton University, gave the keynote luncheon address.

“In politics, a noble lie is a myth or untruth, often but not invariably of a religious nature, knowingly propagated by an elite to maintain social harmony or to advance an agenda,” Happer said, quoting Wikipedia.

The concept of the noble lie, says Happer, is closely related to “noble cause corruption,” regarding which Wikipedia states, “Where traditional corruption is defined by personal gain, noble cause corruption forms when someone is convinced of their righteousness, and will do anything within their powers to achieve the desired result.”

“In either case we’re dealing with the ancient lie that the ends justify the means, and that sure sounds like what we’re dealing with in the climate movement,” Happer said.

**‘There Is No Climate Emergency’**
Today’s “ends” are the notion we face an imminent climate catastrophe, said Happer.

“This is indeed a lie,” said Happer. “There is no climate emergency, and there is no way there will ever be a climate emergency, but we’re all being asked to give up our inalienable rights to life, liberty, and the pursuit of happiness to let our alleged betters manage to defeat this threat caused by the carbon polluters.

“That always gets me—‘carbon pollution’—when each of us here is breathing out two pounds of carbon [dioxide] a day.”

“Climate [change], therefore, is the ultimate hobgoblin. The climate has changed since the world began and will continue to change as long as the world exists, but humans have little to do with climate change.”

**WILLIAM HAPPER, PH.D.**
**PROFESSOR EMERITUS**
**PRINCETON UNIVERSITY**

---

Kenneth Artz (KApublishing@gmx.com) writes from Dallas, Texas.
Michigan Governor Sparks Pipeline Dispute Between United States, Canada

By Bonner R. Cohen

Gov. Gretchen Whitmer of Michigan is doubling down on her efforts to shut down a key oil and natural gas liquids pipeline running between Superior, Wisconsin and Sarnia, Ontario.

For nearly 70 years, the Line 5 pipeline of the Enbridge Lakehead System has safely transported hydrocarbons from western Canada to markets in the Great Lakes region of the United States. Line 5 moves more than a half a million barrels of oil and natural gas liquids a day through the Great Lakes, traversing parts of northern Wisconsin, Michigan's Upper Peninsula, and the Straits of Mackinac connecting Lake Michigan and Lake Huron.

Canada Invokes Treaty
Whitmer ordered Line 5’s twin pipelines to shut down in 2020, saying they pose a grave threat to the Great Lakes because of the possibility of oil spills. Enbridge Inc., the Calgary-based company that operates the pipeline, refused, saying Whitmer lacks the legal authority to order the closure of the pipeline, which is involved in interstate and international commerce.

Canada asked the Biden administration to intervene and overrule Whitmer, invoking a dispute-resolution article of a 1977 treaty with the United States governing pipelines. In a letter to U.S. District Judge Janet Neff, a lawyer representing the Canadian government cited an article in the treaty which states, “No public authority in the territory of either Party shall institute any measures ... which are intended to, or which have the effect of, impeding, diverting, redirecting, or interfering with in any way the transmission of hydrocarbons in transit.”

Whitmer Remains Defiant
Whitmer questioned the Canadian government’s commitment to a clean environment.

“So long as oil is flowing through the pipelines, there is a very real threat of a catastrophic oil spill in the Great Lakes,” said Whitmer in a statement. “I have made clear to Enbridge that it cannot use our state-owned lakebed for these pipelines, but Enbridge has refused to stop.

Moreover, rather than taking steps to diversify energy supply and ensure resilience, Canada has channeled its efforts into defending an oil company with an abysmal environmental track record,” said Whitmer.

Enbridge was fined for the rupture of a different pipeline in southwestern Michigan in 2010 and remediated the affected area.

In a 2021 analysis of the currently disputed pipeline, the U.S. Pipeline and Hazardous Materials Safety Administration said it is “presently aware of no unsafe or hazardous conditions that would warrant shutdown of Line 5.”

‘A Green Political Stunt’
Pipelines are regulated by the federal government, including the right of eminent domain, Canada has channeled its efforts into defending an oil company with an abysmal environmental track record,” said Whitmer.

Whitmer’s stance is similar to the Biden administration’s action on the Keystone XL pipeline, which would have brought crude oil from northeastern Alberta to refineries on the U.S. Gulf Coast, says Hayes.

“Biden cancelled the Keystone XL pipeline in his first days in office, and his administration has chosen to remain on the sidelines as Whitmer’s crusade against Line 5 threatens to spike energy prices and actually harms our relationship with Canada, America’s largest trading partner,” said Hayes.

‘So Unnecessary’
Whitmer and Biden have options that would be better for the environment and the economy, such as approving Enbridge’s plan to build a utility tunnel that would replace and relocate the portion of the Line 5 pipeline that runs beneath the Straits of Mackinac, says Hayes.

“Whitmer appears blindly committed to raising energy prices and putting tens of thousands of Midwesterners out of work.”

JASON HAYES MACKINAC CENTER FOR PUBLIC POLICY

“Canada Invokes Treaty
Whitmer ordered Line 5’s twin pipelines to shut down in 2020, saying they pose a grave threat to the Great Lakes because of the possibility of oil spills. Enbridge Inc., the Calgary-based company that operates the pipeline, refused, saying Whitmer lacks the legal authority to order the closure of the pipeline, which is involved in interstate and international commerce.

Canada asked the Biden administration to intervene and overrule Whitmer, invoking a dispute-resolution article of a 1977 treaty with the United States governing pipelines. In a letter to U.S. District Judge Janet Neff, a lawyer representing the Canadian government cited an article in the treaty which states, “No public authority in the territory of either Party shall institute any measures ... which are intended to, or which have the effect of, impeding, diverting, redirecting, or interfering with in any way the transmission of hydrocarbons in transit.”

Whitmer Remains Defiant
Whitmer questioned the Canadian government’s commitment to a clean environment.

“So long as oil is flowing through the pipelines, there is a very real threat of a catastrophic oil spill in the Great Lakes,” said Whitmer in a statement. “I have made clear to Enbridge that it cannot use our state-owned lakebed for these pipelines, but Enbridge has refused to stop.

Moreover, rather than taking steps to diversify energy supply and ensure resilience, Canada has channeled its efforts into defending an oil company with an abysmal environmental track record,” said Whitmer.

Enbridge was fined for the rupture of a different pipeline in southwestern Michigan in 2010 and remediated the affected area.

In a 2021 analysis of the currently disputed pipeline, the U.S. Pipeline and Hazardous Materials Safety Administration said it is “presently aware of no unsafe or hazardous conditions that would warrant shutdown of Line 5.”

‘A Green Political Stunt’
Pipelines are regulated by the federal government, including the right of eminent domain, Canada has channeled its efforts into defending an oil company with an abysmal environmental track record,” said Whitmer.

Whitmer’s stance is similar to the Biden administration’s action on the Keystone XL pipeline, which would have brought crude oil from northeastern Alberta to refineries on the U.S. Gulf Coast, says Hayes.

“Biden cancelled the Keystone XL pipeline in his first days in office, and his administration has chosen to remain on the sidelines as Whitmer’s crusade against Line 5 threatens to spike energy prices and actually harms our relationship with Canada, America’s largest trading partner,” said Hayes.

‘So Unnecessary’
Whitmer and Biden have options that would be better for the environment and the economy, such as approving Enbridge’s plan to build a utility tunnel that would replace and relocate the portion of the Line 5 pipeline that runs beneath the Straits of Mackinac, says Hayes.

“Whitmer appears blindly committed to raising energy prices and putting tens of thousands of Midwesterners out of work.”

JASON HAYES MACKINAC CENTER FOR PUBLIC POLICY

“Canada Invokes Treaty
Whitmer ordered Line 5’s twin pipelines to shut down in 2020, saying they pose a grave threat to the Great Lakes because of the possibility of oil spills. Enbridge Inc., the Calgary-based company that operates the pipeline, refused, saying Whitmer lacks the legal authority to order the closure of the pipeline, which is involved in interstate and international commerce.

Canada asked the Biden administration to intervene and overrule Whitmer, invoking a dispute-resolution article of a 1977 treaty with the United States governing pipelines. In a letter to U.S. District Judge Janet Neff, a lawyer representing the Canadian government cited an article in the treaty which states, “No public authority in the territory of either Party shall institute any measures ... which are intended to, or which have the effect of, impeding, diverting, redirecting, or interfering with in any way the transmission of hydrocarbons in transit.”

Whitmer Remains Defiant
Whitmer questioned the Canadian government’s commitment to a clean environment.

“So long as oil is flowing through the pipelines, there is a very real threat of a catastrophic oil spill in the Great Lakes,” said Whitmer in a statement. “I have made clear to Enbridge that it cannot use our state-owned lakebed for these pipelines, but Enbridge has refused to stop.

Moreover, rather than taking steps to diversify energy supply and ensure resilience, Canada has channeled its efforts into defending an oil company with an abysmal environmental track record,” said Whitmer.

Enbridge was fined for the rupture of a different pipeline in southwestern Michigan in 2010 and remediated the affected area.

In a 2021 analysis of the currently disputed pipeline, the U.S. Pipeline and Hazardous Materials Safety Administration said it is “presently aware of no unsafe or hazardous conditions that would warrant shutdown of Line 5.”

‘A Green Political Stunt’
Pipelines are regulated by the federal government, including the right of eminent domain, Canada has channeled its efforts into defending an oil company with an abysmal environmental track record,” said Whitmer.

Whitmer’s stance is similar to the Biden administration’s action on the Keystone XL pipeline, which would have brought crude oil from northeastern Alberta to refineries on the U.S. Gulf Coast, says Hayes.

“Biden cancelled the Keystone XL pipeline in his first days in office, and his administration has chosen to remain on the sidelines as Whitmer’s crusade against Line 5 threatens to spike energy prices and actually harms our relationship with Canada, America’s largest trading partner,” said Hayes.

‘So Unnecessary’
Whitmer and Biden have options that would be better for the environment and the economy, such as approving Enbridge’s plan to build a utility tunnel that would replace and relocate the portion of the Line 5 pipeline that runs beneath the Straits of Mackinac, says Hayes.

“Whitmer appears blindly committed to raising energy prices and putting tens of thousands of Midwesterners out of work.”

JASON HAYES MACKINAC CENTER FOR PUBLIC POLICY
Local Exemptions OK’d in Water Quality Standards

By Linnea Lueken

The Ninth U.S Circuit Court of Appeals ruled in favor of exemptions given to Montana wastewater facilities in regulating the discharge of phosphorous and nitrogen into navigable waterways.

The U.S. Environmental Protection Agency (EPA) approved Montana’s water quality standards in 2015. In 2017, Montana submitted to the EPA a variance request for its water quality standards. The Trump-era EPA approved the variance request, which allowed more lenient standards and timelines that took into account the cost of compliance with regulations for 36 wastewater treatment facilities for a maximum period of 17 years.

The conservation group Upper Missouri Waterkeeper sued the EPA, asking the court to reverse the decision. The group claimed the 1972 Clean Water Act (CWA) does not allow communities to take economics into consideration when crafting water quality standards.

‘Infeasible’ Standards

In early October, a three-judge panel of the Ninth Circuit Court unanimously held the EPA’s grant of a CWA variance did not violate the law. The court found the law did grant states and communities the power to request variances, and that the EPA had the responsibility to consider such requests and the discretion to grant them.

In his opinion for the court, Circuit Judge Paul J. Watford wrote states can in fact pursue regulatory variances if compliance with the standards in the Clean Water Act is “infeasible.”

“Under regulations issued by the EPA, states may obtain a variance from approved water quality standards (known as the ‘base’ water quality standards) if compliance with such standards is shown to be infeasible,” Watford wrote.

Prohibition ‘Not Supported’

Although the Clean Water Act does not specifically state the EPA can take into account costs of compliance, the argument that the lack of explicit mention means costs considerations are not allowed in the regulatory process is unjustified, Watford stated.

“It is true, as Waterkeeper argues, that § 1313(c)(2)(A) includes a list of uses and values that States must ‘take[e] into consideration’ when establishing water quality standards, without expressly mentioning the costs of compliance,” Watford said. “But the inference that Waterkeeper asks us to draw—that Congress’s silence as to costs reflects an intention to forbid their consideration—is not supported by the text of the provision or the broader statutory context.”

‘Preserve Critical Flexibility’

The court was right to recognize the law requires the EPA to consider local conditions and local needs when developing regulations, says Amanda Aspatore, chief legal counsel for the National Association of Clean Water Agencies (NACWA).

“The U.S. Court of Appeals for the Ninth Circuit’s affirmation that water quality standards variances further the objectives of the Clean Water Act helps preserve critical flexibility for both state and federal regulators and clean-water utilities.” Aspatore said. “These variances ensure that water quality improvements are made in a rigorous but thoughtful way that does not lead to widespread economic harm in local communities.”

Considering Community Needs

Upper Missouri Waterkeeper tried to argue allowing variances in water quality standards would weaken environmental protections, but the Ninth Circuit and the EPA found it was important to take into account the effect of regulations on the communities served, Aspatore says.

“While the plaintiffs in this case claimed that taking such economic impacts into account under any circumstances when setting water quality standards was tantamount to weakening environmental protections, the Ninth Circuit recognized that EPA’s variance process in fact mandates water quality advancements in a manner that wholistically accounts for the health and well-being of the communities served by clean water utilities,” Aspatore said.

Requiring Incremental Improvements

NACWA and the Montana League of Cities and Towns filed a friend of the court brief supporting the EPA’s position that variances in water standards were intended to make incremental improvements toward meeting the Clean Water Act’s base water quality standards.

The Circuit Court agreed with this interpretation, concluding the goal of the CWA and the regulations flowing from it are to obtain the highest standard of water quality reasonably attainable in light of local conditions.

Amanda Aspatore, chief legal counsel for the National Association of Clean Water Agencies (NACWA), says allowing variances in water quality standards helps preserve critical flexibility for both state and federal regulators and clean-water utilities. These variances ensure that water quality improvements are made in a rigorous but thoughtful way that does not lead to widespread economic harm in local communities.

Linnea Lueken (lueken@heartland.org) is a research fellow with the Arthur B. Robinson Center on Climate and Environmental Policy at The Heartland Institute.
North Carolina Legislators Move to Protect Property Owners from Local Tree Ordinances

By Kevin Stone

A provision added by Republican legislators to North Carolina’s pending budget bill would bar city and county officials from passing local tree ordinances without first getting the approval of the state legislature.

Twenty-five to 50 small cities’ tree ordinances would be affected by the measure.

Tree ordinances in most large municipalities have already been approved by the legislature and would not be affected by the law.

The budget bill also includes provisions barring all local stormwater ordinances and riparian buffer protections not required by federal or state law, and it loosens regulations on billboard advertising.

Following the Constitution

During debate over the provision, its sponsors said the proposal is not anti-tree, instead representing a necessary “procedural measure” meant to keep local officials from passing ordinances without approval from state lawmakers, as required by the state constitution and other statutes.

The provision preserves state authority and would protect peoples’ property rights from overweening local government regulation, says Jon Sanders, director of regulatory studies and research at the John Locke Foundation.

“Under Article VII of the North Carolina State Constitution, the General Assembly has the legal authority to determine whether a city or county government could issue a tree ordinance,” Sanders said. “People’s property rights are also at stake.

“Being able to cut trees on your own property is certainly a property rights issue, since if you can’t cut trees on your own property, then you effectively don’t own your trees and landscape,” Sanders said. “Other people who don’t pay your property taxes would be asserting a property claim on your trees, based, I suppose, on the positive externality they derive from each of your trees.”

Paying for Benefits

No government should be allowed to tell property owners to preserve amenities on their land unless it is willing to pay for the opportunity to do so, says H. Sterling Burnett, Ph.D., a senior fellow with The Heartland Institute, which publishes Environment & Climate News.

“When local governments exercise the police-power authority over a person’s private property—property he or she pays taxes on—demanding the owner not remove trees, thus limiting alternative non-harmful uses of the land, it is a regulatory taking and should be counted as such,” Burnett said. “If trees provide a value to the community, the U.S. Constitution provides the public as a whole, not the property owner, should pay for that value.

“Property owners should be compensated when their land use is restricted so the public can benefit from whatever air quality, habitat, shade, or aesthetic values the trees provide,” said Burnett. “North Carolina’s legislature is simply trying to protect property owners from overbearing local city governments that may be filled with or captured by green activists on city councils. The proposed provision would prevent cities and towns from going their own way and trying to fight climate change by preventing property owners from clearing tree lots for development or homeowners from removing trees that have become a nuisance by threatening their roofs and pipes with damage.”

Kevin Stone (kevin.s.stone@gmail.com) writes from Arlington, Texas.

Get your copy of Climate Change Reconsidered II: Fossil Fuels

Climate Change Reconsidered II: Fossil Fuels is the latest volume in the Climate Change Reconsidered series – now 5,000 pages of peer-reviewed science that shows humans are NOT causing a climate crisis.

Climate Change Reconsidered II: Fossil Fuels

THE HEARTLAND INSTITUTE
HEARTLAND.ORG

CONSERVATION NATION
video series
a project of CFACT

watch now at CFACT.org
ClimateAtAGlance.com features concise, bullet-pointed, one-page summaries for non-scientists regarding the most debated global warming topics.
Federal Plan Would Cause a Sharp Rise in Arizona Energy Prices, Study Finds

By Duggan Flanakin

The Clean Electricity Performance Program (CEPP) proposed by congressional Democrats in the $3.5 trillion reconciliation bill would cost Arizona residents $119.4 billion (in 2021 dollars), in increased energy prices through 2052, a new report states.

The CEPP would use a carrot-and-stick approach to “encourage” electricity providers to increase the amount of carbon dioxide emission-free electricity by 4 percent per year or be subject to penalties.

This provision would result in a 45 percent increase in the cost of electric power by 2031, which could rise to 90 percent if the state shutters its lone nuclear power plant, states the report from the Center of the American Experiment (CAE).

The CEPP would cost more than the entire operating cost of the existing electric grid and is a de facto renewable energy mandate and carbon tax, the study states.

The higher prices would have the greatest impact on low-income households, which spend a higher percentage of their incomes on energy, according to the report.

Payoffs and Penalties

Under the CEPP, companies that achieve their carbon dioxide reduction goals will receive federal payments totaling $150 per megawatt-hour (MWh) of “clean” energy generated. Those that miss the mark will face federal fines of $40 per MWh.

As a result, the CEPP would shift a portion of the cost of generating and maintaining electricity infrastructure from states’ ratepayers to federal taxpayers.

In 2019, 41 percent of Arizona’s electricity generation came from natural gas, 28 percent from nuclear power plants, 20 percent from coal, 5 percent each from hydroelectric plants and solar facilities, and just 1 percent from in-state wind installations.

Big Switch

Under the CEPP, Arizona’s energy mix could retain the current share of electricity from nuclear and hydro, but the CAE estimates the proposed carbon dioxide reduction goals would require the state’s utilities to stop using coal altogether and decrease the use of natural gas to generate electricity by more than half, to 20 percent of the total.

The share of electricity produced by industrial solar power generation would have to increase by 33 percentage points and that of wind by 6 percentage points. In addition, 1 percentage point of battery and 1 percentage point of thermal solar power storage would have to be added to the mix.

Removing 41 percent of the state’s fossil-fuel-fired electricity generation would result in an 80 percent carbon-dioxide-free electric grid. Continued natural gas generation would be required to ensure backup generation during periods when winds are low and the sun doesn’t shine.

Prices to Rise

Under the CEPP, ratepayers will pay sharply higher prices for electricity, says CAE.

The construction and operation of solar panels will add $46.6 billion in new costs to Arizona ratepayers’ power bills. Another $13.8 billion in costs will be added for wind turbines, and an estimated $15.3 billion for battery storage facilities. The CEPP would also require about $3.3 billion of new transmission lines in Arizona.

Additional costs related to the power shift would stem from a likely increase in property taxes, the purchase of easements on private property (possibly through the use of eminent domain), guaranteed utility rates-of-return, and maintenance costs for natural gas generation capacity to be used intermittently.

Not Counting Growth

The CAE’s study calculated only the costs to meet current electric power demand. It did not quantify any costs of future demand growth. Both the state and the federal government expect an increase in demand for electricity as Arizona’s population and economy grow and new sources of demand arise.

Under the Biden administration’s broader climate policies, demand for electricity will grow as electric appliances and electric vehicles replace appliances and cars using fossil fuels. In addition, part of the expected solar generation would be dedicated to charging batteries to produce power when the wind isn’t blowing and the sun is not shining.

Arizona will have to nearly double its current installed capacity from 28,000 MW to 55,000 MW, as reliable fossil fuel power is replaced with intermittent renewable sources, says Isaac Orr, a CAE policy fellow who coauthored the study.

“The National Renewable Energy Laboratory conducted a study that found the amount of generating capacity would need to double in order for 66 percent of the cars on the road to be electric,” said Orr. “Based on this estimate, I’d say a 50 percent increase in electric power generating capacity could be a reasonable estimate.”

Nuclear Option

If the CEPP becomes law, Arizona should not only maintain its current supply of nuclear power but should add new nuclear plants to improve long-term reliability, says Orr.

“Arizona would be wise to retain its nuclear power plant and maybe encourage bringing more nuclear energy into the state’s mix,” said Orr.

“Although our study did not examine the costs and benefits of adding new nuclear capacity to Arizona’s electric power mix, modeling we have conducted in other states consistently shows that it is less expensive to reduce emissions with new nuclear power plants than with wind turbines and solar panels,” said Orr.

Duggan Flanakin (dflanakin@gmail.com) writes from Austin, Texas.

“Arizona would be wise to retain its nuclear power plant and maybe encourage bringing more nuclear energy into the state’s mix. Although our study did not examine the costs and benefits of adding new nuclear capacity to Arizona’s electric power mix, modeling we have conducted in other states consistently shows that it is less expensive to reduce emissions with new nuclear power plants than with wind turbines and solar panels.”

ISAAC ORR
POLICY FELLOW
CENTER OF THE AMERICAN EXPERIMENT

INTERNET INFO


By Kenneth Artz

U.S. Department of Agriculture (USDA) Secretary Tom Vilsack wants the nation’s farmers to join the fight against climate change.

Vilsack says he plans to finance a series of large-scale projects aimed at developing markets for “climate-smart farming and forestry practices,” with the goal of helping farmers reduce their agricultural carbon emissions.

The initiative is designed to promote markets for “climate-smart commodities,” states the USDA’s Commodity Credit Corporation (CCC) in the Federal Register.

“[The projects would] include sustainable supply chain initiatives and internal corporate commitments where companies are pledging to reduce emissions within their own supply chains and production facilities,” states the CCC.

“Opportunities also include markets for low-carbon biofuels and renewable energy. Agricultural producers and landowners also have opportunities to market GHG reductions generated as a part of climate-smart commodity production.”

Climate Change, Not Crops

The USDA proposes to fund the program through a revolving commodities spending account established under the CCC, which is replenished annually and could contain as much as $7.4 billion.

“The projects would include sustainable supply chain initiatives and internal corporate commitments where companies are pledging to reduce emissions within their own supply chains and production facilities,” states the CCC.

“Opportunities also include markets for low-carbon biofuels and renewable energy. Agricultural producers and landowners also have opportunities to market GHG reductions generated as a part of climate-smart commodity production.”

Climate Change, Not Crops

By Kenneth Artz

The USDA proposes to fund the program by creating new market opportunities for commodities produced using climate-smart practices and position U.S. farmers, ranchers, and forest landowners as leaders in addressing climate change,” said Vilsack, speaking at Colorado State University’s Salazar Center Virtual International Symposium in September.

“Climate Change Slush Fund”

The public should be worried about the CCC’s money being spent not on commodities as Congress intended, but on climate programs that aren’t covered by the law, says Daren Bakst, a senior research fellow with The Heritage Foundation.

“The Biden administration seems intent on using the CCC as a climate change slush fund,” said Bakst.

“This issue is about more than just climate change spending. It’s also about separation of powers and congressional abrogation of its spending power. The CCC gives the Agriculture Secretary too much discretion, but surprisingly, for the most part it generally hasn’t been abused in the past.”

The Trump administration’s use of the CCC fund to compensate farmers for trade restrictions imposed on agricultural goods put the government on the road to this bad policy, says Bakst.

“Until recently, Congress placed restrictions on the use of the CCC in order to block inappropriate spending, but this changed with the use of the CCC for trade aid to farmers,” Bakst said. “It created a terrible precedent that the Biden administration is taking advantage of.”

Kenneth Artz (KA publishing@gmx.com) writes from Dallas, Texas.
Critical Mineral Shortages Threaten Political Drive for Electric Vehicles

By Duggan Flanakin

With most European Union nations and many American states having made public commitments to ban the sale or manufacture of new gasoline- and diesel-powered automobiles by 2030 or shortly thereafter, critical minerals are emerging as a looming problem.

In addition to government commitments, many of the world’s automakers have stated their intention to end the manufacture of vehicles powered by internal combustion engines in the coming decades. Critical shortages of nickel and other minerals essential to electric vehicle (EV) manufacture may thwart these plans.

Nickel is a vital component of nearly every electric vehicle on the road. Demand for nickel could rise by 33 percent, from 2.5 million to 3.4 million tons, by 2024, which could be all that can be refined globally each year, states Rystad Energy, an Oslo-based energy research and business intelligence company.

Nickel Use Rising
Nickel has become a primary component of lithium-ion battery cathodes, reports Feeco International, an engineering and equipment manufacturer. The use of nickel increases the energy density and storage capacity of EV batteries, enabling EVs to get more miles out of a single charge.

Rystad says the increasing use of nickel is likely to result in higher prices and smaller inventories, with the sticker price of a new EV rising by thousands of dollars. Manufacturers are incorporating increasing amounts of nickel into the batteries used in EVs even though nickel prices have almost doubled in the past five years, rising from $10,336 per metric ton in August 2016 to $19,141 in August 2021.

A new report from the market research firm Roskill indicates nickel use in lithium-ion batteries will rise from just 5 percent of total nickel use today to the metal’s second largest end-use market.

Nickel-manganese-cobalt cathode batteries dominate the EV battery market, and manufacturers have increased the nickel content from 33 percent to 80 percent. A 90 percent nickel cathode battery is being developed.

Auto Sales Declining
Shortages of silicon chips and ongoing supply chain breakdowns have already driven automobile inventories down and prices up for both new and used vehicles.

Cox Automotive reports tight inventory and high prices have brought five straight months of declining sales. Third-quarter new vehicle sales were forecast to be down by 14 percent from 2020 and 22 percent from the same quarter in 2020. A Cox survey conducted in September found 48 percent of new car buyers were “very likely” or “extremely likely” to delay their purchases due to a combination of higher prices and concerns about the direction of the economy.

History indicates supply chain problems and economic concerns, combined with higher prices for EVs, could result in continuing declines in vehicle sales as people find repairing older gasoline and diesel vehicles less expensive and more convenient.

EV Options Limited
Higher prices, longer waits, inconvenient charging options, and other concerns continue to make EVs a poor option for many drivers, says Ann Bridges, coauthor of Groundbreaking! America’s New Quest for Mineral Independence.

“The lower and middle classes will put off purchasing electric vehicles regardless of the price,” said Bridges. “The idea that people on the lower rungs of the economic ladder all have garages with secure locales to plug in and recharge overnight is ludicrous, and it won’t be easy for apartment dwellers, condo owners, or homes with multiple adult drivers to recharge EVs overnight, no matter what subsidies are offered.

“In EV sales leader California, 20 percent of former EV buyers, mainly women, have switched back to internal-combustion-engine vehicles, preferring the flexibility of longer driving ranges and quick fill-ups,” said Bridges.

EV Push = Higher Prices
The spotty availability of critical minerals will lead to even higher prices for electric vehicles, says Ben Lieberman, a senior fellow with the Competitive Enterprise Institute.

“An EV battery today can require up to 60 pounds of nickel,” said Lieberman. “While it is hard to predict the future price of nickel and other minerals like cobalt and lithium needed to make EV batteries, any policies that increase EV sales are bound to put upward pressure on the prices of the materials needed to make them,” said Lieberman.

Duggan Flanakin (dflanakin@gmail.com) writes from Austin, Texas.
President Biden’s Climate/Energy Agenda Is an Exercise in Magical Thinking

By H. Sterling Burnett

President Joe Biden and the Democratic caucus’ efforts to remake America’s electric power system into one that emits no carbon dioxide (net zero) by 2050 in order to prevent climate change is a pipedream. Physics indicates the goal is an exercise in magical thinking. Reality suggests the attempt will have little or no effect on climate but will cost jobs and imperil the nation’s electric power supply.

Copious evidence presented at Climate at a Glance and in reports by the Nongovernmental International Panel on Climate Change show even if the Earth continues warming modestly, a climate apocalypse is not in the offing.

Domestic Cuts, International Growth

Even if this research is wrong, the climate proposals of Biden and others won’t prevent climate change. Emission reductions made by the United States by 2050 to meet the net zero goal will be swamped by the growth in the emissions of developing countries. China alone produces more than double the amount of U.S. emissions at present. And officials have stated China’s emissions will grow further for the coming decade at the very least. India, the third-largest single emitter of carbon dioxide, recently announced its emissions will continue to grow until at least 2070.

Developing countries already produce more than half of global emissions, and as they strive to bring their peoples out of poverty, they are committed to using fossil fuels and growing emissions further.

Energy Transformation Fantasy

The physics of the transformation required under Biden’s plans show they are impossible.

In 2019, Dr. Roger Pielke Jr. calculated the amount of fossil fuel power that would need to be replaced to hit a net zero target by 2050, based on the amount of electricity used in the United States in 2018.

At the time Pielke wrote, to reach net zero by 2050, the Untied States would have needed to deploy the equivalent of one new nuclear power plant of carbon-free energy about every six days, starting September 30, 2019 and continuing until 2050. Pielke specifically excluded any growth in electric power consumption between 2019 and 2050. (Hint: the United States uses more electricity now than it did then.)

Nuclear ‘Off the Table’

A major expansion of nuclear power is, for political reasons, off the table under the Democrats’ net zero plans. To provide the same amount of energy as we produced in 2018, then, the United States would have to erect 1,500 2.5-megawatt wind turbines every six days, or 250 each day, every day from 2019 through 2050.

For the unaware, we have erected nowhere near that amount of electricity produced by coal, natural gas, and oil to hit the Democrats’ net zero goals.

And every day we don’t replace the required amount of carbon-dioxide-emitting energy with non-emitting sources means an ever-greater shift is necessary each day going forward.

Improbable Land Use

In short, just to meet current electric power requirements, we would have to erect millions of wind turbines and install millions of solar panels—and billions of battery packs to store the energy for use when the wind isn’t blowing or the sun isn’t shining.

Wind turbines would then cover one-third of the land area of the continental United States, or solar panels just over 20 percent of the country, just to meet current demand.

We would also have to erect thousands of additional electric towers and string thousands of miles of additional transmission lines. Talk about a devastating impact on wildlife and wilderness!

‘People Are Suffering’

All of that is what’s required before Biden’s policies force the shift from natural gas to all-electric appliances in homes and businesses and replaces all cars with electric vehicles.

In short, the Democrats’ zero emission policies will increase electric power demand, even as they reduce the reliability of the grid by replacing stable power from fossil fuels with unstable, intermittent power sources.

It’s a recipe for a total collapse of the grid, or at least regular rolling blackouts nationwide.

If you don’t believe me, see what happens in California every year, occurred in Texas this past winter, and is ongoing in Europe even now. These governments have already set out on the path Biden and his Democrat allies want the whole nation to tread, and people are suffering as a result.”

H. STERLING BURNETT

THE HEARTLAND INSTITUTE

“If you don’t believe me, see what happens in California every year, occurred in Texas this past winter, and is ongoing in Europe even now. These governments have already set out on the path Biden and his Democrat allies want the whole nation to tread, and people are suffering as a result.”

H. Sterling Burnett, Ph.D. (hburnett@heartland.org) is the managing editor of Environment & Climate News. A modified version of this article was originally published by Inside Sources. Reprinted with permission of the author.
Don’t Add Carbon Tariffs to the Growing List of Global Trade Tensions

By David Hart & Stefan Koester

Can nations square their trade priorities with their climate ambitions?

As adversaries and allies alike bicker over a host of major and minor trade issues, there are concerns that climate issues will be added to the list.

The trade-related impact of climate proposals shaped up to be a potential stumbling block going into the global international climate summit that took place in Glasgow, Scotland in November. The 26th Conference of Parties (COP), which had already been delayed a year by the pandemic, was considered the last best chance for major global ambitions?

Take the example of accurately counting the amount of carbon embodied in a particular exported good, such as steel. To avoid punitive carbon tariffs, steel producers would have to provide detailed and verifiable data on the energy intensity of the fuels and electricity used in the manufacturing process. They would have to trace emissions up and down the life cycle of the product from raw inputs to production to finishing and shipping.

Foreign producers and importers to the E.U. will have to spend countless hours navigating E.U. red tape and bureaucracy to verify their products’ emissions intensity. In addition, volatile carbon prices in the E.U., which have more than doubled in the past year, will make it difficult for importers to have cost certainty as to their true liability under the system going forward. Also, using a national average that treats all firms and plants equally diminishes product innovation incentives for lower-carbon processes.

A system through which individual producers can prove their lower carbon intensity will undoubtedly add complexity, confusion, and fears of favoritism and miscalculation on the part of accounting authorities.

Stifling Innovation

A carbon tariff would dampen much-needed clean-tech research, development, and deployment in hard-to-abate industrial sectors. This is a real risk of putting national interests and policies while avoiding approaches that inevitably create new and problematic trade issues.

David M. Hart is director of the Center for Clean Energy Innovation at the Information Technology and Innovation Foundation (ITIF). Stefan Koester is a senior policy analyst at ITIF.

This article was originally published by RealClearEnergy. Reprinted with permission.
COMMENTARY

Banks Are Using Financial Power to Force You to ‘Go Green’

By Justin Haskins

On October 31, government officials, business leaders, activists, and Hollywood celebrities gathered in Glasgow to begin the two-week-long blast of hot air that was the 26th meeting of the Conference of the Parties to the U.N. Framework Convention on Climate Change (COP26). The stated purpose of the meeting, as with the 25 COPs before it, was to secure commitments from governments around the world to fight climate change.

Analysts and COP26 attendees had high expectations for the conference, with many suggesting it could be the most important since the 2015 summit, the event that produced the Paris Climate Accords.

Many important figures and groups played pivotal roles at the conference as speakers and negotiators (including President Joe Biden) and outside the conference as protestors and (providing a counter-narrative) at The Heartland Institute’s Climate Reality Project. Perhaps the most important, little-discussed active participants at COP26, however, were the members of the Net-Zero Banking Alliance, a powerful group of banks that have committed to using their tremendous economic weight to push societies toward adopting “green” energy sources such as wind and solar.

Bankers Fighting Climate Change?
The Net-Zero Banking Alliance developed in April 2021, with support from the United Nations and British Prince Charles’s Sustainable Markets Initiative (SMI). SMI first emerged at a January 2020 World Economic Forum meeting in Davos, and it served as a cosponsor of the WEF’s controversial “Great Reset” agenda in June 2020.

Members of the Net-Zero Banking Alliance, which includes 84 large banks from 36 countries, have pledged to “transition all operational and attributable GHG [greenhouse gas] emissions” from their “lending and investment portfolios” to zero by 2050. The decision to “transition all operational and attributable GHG emissions” from “lending and investment portfolios” is an incredibly important development. In practice, it means that banks are planning to effectively force businesses, investors, and perhaps even everyday Americans to adopt policies in line with banks’ climate change agenda, regardless of whether they want to or can afford it.

Banks Dictating Decisions
Based on discussions and commitments at COP26, the Net-Zero Banking Alliance expects to expand its membership and commitments in the months ahead.

For the present, under the terms of the alliance, to “set 2030 targets (or sooner) and a 2050 target, with intermediary targets to be set every 5 years from 2030 onwards.”

The decision to “transition all operational and attributable GHG emissions” from “lending and investment portfolios” is an incredibly important development. In practice, it means that banks are planning to effectively force businesses, investors, and perhaps even everyday Americans to adopt policies in line with banks’ climate change agenda, regardless of whether they want to or can afford it.

Similarly, banks could deny access to financial services, including checking and savings accounts, to investment firms that hold stock in fossil-fuel companies. Eventually, it might even be impossible for American families to gain access to a mortgage without first proving they are “green” enough.

Climate, Government, Banks
Decisions about climate change and other important issues such as medicine should be made at the state and federal levels by elected politicians who can be held accountable and were chosen directly by the people for that very purpose.

Banks and corporations, which exist in their current form only because of special government regulations, taxes, and legal protections, should not have the power to use the advantages society has given them to punish people with whom they disagree.

“Banks and corporations, which exist in their current form only because of special government regulations, taxes, and legal protections, should not have the power to use the advantages society has given them to punish people with whom they disagree.”

JUSTIN HASKINS
DIRECTOR, THE STOPPING SOCIALISM CENTER
THE HEARTLAND INSTITUTE

Limiting Banks’ Control
Banks should not be permitted to discriminate against customers or potential customers because they participate in lawful business practices.

Allowing banks to collude to reshape economies so that they are in line with the preferences of banks and other financial institutions is a very dangerous precedent.

Even if you believe climate change is a crisis, you shouldn’t support giving banks this tremendous amount of control over society, because once they firmly have it, they’ll be able to manipulate the global economy in any way they please.

There would be nothing to stop them, for example, from refusing to provide banking services to religious or political groups they don’t support, or to social media platforms that have content restrictions policies the banks disagree with.

Justin Haskins ([Jhaskins@heartland.org]) is director of the Stopping Socialism Center at The Heartland Institute and the coauthor, with Glenn Beck, of the forthcoming book The Great Reset: Joe Biden and the Rise of 21st Century Fascism. This is an updated and modified version of an article that was originally published by the Washington Examiner and is reprinted with the permission of its author.
Each month, Environment & Climate News updates the global averaged satellite measurements of the Earth’s temperature. These numbers are important because they are real—not projections, forecasts, or guesses. Global satellite measurements are made from a series of orbiting platforms that sense the average temperature in various atmospheric layers. Here, we present the lowest level, which climate models say should be warming. The satellite measurements are considered accurate to within 0.01°C. The data used to create these graphs can be found on the Internet at nsstc.uah.edu/climate. All past data were revised when the methodology was updated in April 2015.

**OCTOBER 2021**

**GLOBAL AVERAGE**

The global average temperature was 0.37°C above average.

**NORTHERN HEMISPHERE**

The Northern Hemisphere’s temperature was 0.46°C above average.

**SOUTHERN HEMISPHERE**

The Southern Hemisphere’s temperature was 0.27°C above average.

**219,000 years of Temperature Variation**

CFACT.org
Truth to Power
since 1985
CFACT.org