

CLIMATE CHANGE TM

LAW & POLICY REPORTER

C O N T E N T S

CLIMATE CHANGE NEWS

Trump Administration Undertakes Historic Rollback of Protections for National Parks 99

Update on Actions Taken to Address Climate Change Generated Food Loss and Waste at the Global and Local Levels 100

Report Analyses Extreme Heat Scenarios Likely to Become the Norm in the United States 101

City of Berkeley Adopts Nation’s First Natural Gas Ban 103

LEGISLATIVE DEVELOPMENTS

California Passes Comprehensive Wildfire Legislation 105

CLIMATE CHANGE SCIENCE

Recent Scientific Studies on Climate Change 107

REGULATORY DEVELOPMENTS

California Department of Water Resources Releases Final California Water Plan Update 2018 110

PENALTIES AND SANCTIONS

Recent Investigations, Settlements, Penalties, and Sanctions 112

LAWSUITS FILED OR PENDING

National Association of Regulatory Utility Commissioners Seek Review of Landmark FERC Order on Energy Storage 114

Continued on next page

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JUDICIAL DEVELOPMENTS

Ninth Circuit Reverses Oil Industry Class Certification Due to Lack of Common Issues 116
Andrews v. Plains All American Pipeline, Ltd. Partnership, Unpub., Case No. 18-55850, (9th Cir. July 3, 2019).

Eighth Circuit Denies Private Right of Action Under NEPA Against State Agency Regarding Proposed Light Rail Transit Project 117
Lakes & Parks Alliance of Minneapolis v. Federal Transit Administration, 928 F.3d 759 (8th Cir. 2019).

California Court of Appeal Rules on Discussion of Project Alternatives for Solar Energy Project in Zoning Case 119
City of Hesperia v. Lake Arrowhead Community Services District, 37 Cal.App.5th 734 (4th Dist. 2019).

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CLIMATE CHANGE NEWS

TRUMP ADMINISTRATION UNDERTAKES HISTORIC ROLLBACK
OF PROTECTIONS FOR NATIONAL PARKS

Since January 2017, the Trump administration has undertaken over 100 actions that have the potential to threaten America's National Parks. From rollbacks of the federal Clean Air Act and Clean Water Act to exemptions allowing drilling and mining within previously protected lands. As of July 2019, the Trump administration has opened more than 18.3 million acres of public land up for drilling and mining activities. Even the Fourth of July celebration on the National Mall resulted in reducing the budget for National Park repairs and may result in lower staffing at several National Parks going forward.

Background

The history of preservation in the United States is a constant pattern of one step forward and two steps back. In 1892, less than two years after Yosemite was established, Congress authorized wagon road and turnpike construction in Sequoia National Park. A little over a decade later, in 1905, Congress decreased the acreage of Yosemite by nearly a third to permit forestry and mining. The competing goals of preservation and industry have traded blows for well over a century. Yet the issue of natural resources has taken increasing prominence as researchers warn of the dangers of climate change.

The Trump administration reduced the 1.35 million-acre Bears Ears National Monument by 85 percent roughly a year after it was established, in order to allow drilling on much of the previously protected land. The administration also opened Arctic National Wildlife Refuge to oil and gas development in 2017. Such rollbacks appear to be increasing, according to a study published in *Science* in May. For the study, a group of international researchers gathered and examined roughly 3,700 cases in 73 countries over the past 150 years in which legal protections for natural areas such as parks and preserves were downgraded, downsized, or removed entirely. Perhaps more surprisingly, the study found that roughly two-thirds of those rollbacks have occurred since 2000, and that a majority of them were used to permit industrial-

scale resource extraction or infrastructure projects, including roads, dams, and pipelines.

Trump Administration Rollbacks

Three actions undertaken by the Executive Branch in July 2019 alone offer a good glimpse of the systemic rollbacks occurring across the federal government. On July 30, 2019, the U.S. Environmental Protection Agency (EPA) withdrew proposed protections for Alaska's Bristol Bay in order to allow the Pebble Mine project to move forward. Earlier that week, the Bureau of Land Management released a final plan to manage the remaining acreage of Bear Ears National Monument (after the removal of over 1 million acres from protection), pushing out the final implementation of a Recreation Area Management Plan for at least five years, during which period inevitable damage and degradation to the monument will occur. And the Department of the Interior diverted nearly \$2.5 million in National park fee revenue to pay for President Trump's Fourth of July celebration on the National Mall. That funding, collected from park visitor fees, is a significant funding source for national park maintenance and service projects.

All of that occurred within just one month. Yet in June, the EPA released its final replacement for the Clean power Plan, the Affordable Clean Energy Rule, which no longer requires power plants to reduce carbon dioxide emissions. The Clean Power Plan, unveiled by the Obama administration in 2015, established national limits on carbon dioxide pollution, yet the Trump administration's replacement rule strips domestic efforts to limit carbon dioxide emissions from the power plant sector. The EPA's own analysis indicates that Americans will face more premature deaths, asthma attacks, and respiratory diseases as a result of the Affordable Clean Energy Rule. Any one of these actions, in isolation, would have negative effects on National Parks and on the environment more broadly. Collectively, they reveal a pattern and practice of ignoring environmental protections in order to assist the energy industry.

Conclusion and Implications

The push and pull of environmental protections and industry deregulation is not a new story in America. But the breadth of the rollback under the current administration is especially worrisome, given how crucial this period is in the global effort to combat climate change. National Parks not only preserve

scenic vistas and natural resources, they also protect endangered species and sustain at-risk ecosystems. Efforts to undermine existing protections are frequently opposed individually, but only through a look at the collective toll the Trump administration's environmental policies are taking on protected lands can the full scope of the issue come to light. (Jordan Ferguson)

UPDATE ON ACTIONS TAKEN TO ADDRESS CLIMATE CHANGE GENERATED FOOD LOSS AND WASTE AT THE GLOBAL AND LOCAL LEVELS

Throughout the year, studies and reports are released depicting the scary world that likely lies ahead due to climate change. This article looks at the positive steps taken in one area (food) and shows that policies considered at a global level can work their way down to the local level.

United Nations' Sustainable Gastronomy Day

On a global level, in 2016, the United Nations' (UN) General Assembly adopted a resolution designating June 18 of every year as a date of international observance—Sustainable Gastronomy Day. The UN's goal is to raise public awareness of:

...sustainable gastronomy through TV food channels and gastronomy shows and through food cultural exhibitions, intended for the food industry and farmers.

On Sustainable Gastronomy Day, the UN asks the public to take action by thinking globally and eating locally, and asking these questions when food shopping:

- Is the product in season—or has [it] required a significant amount of energy to grow in a greenhouse?
- Where does it come from—how many miles has the product travelled?
- How was it grown—by a small farmer or an industrial plant?

Another key principle addressed by the UN is food loss and waste. According to the UN, food losses

increase “green gas emissions in vain.” The UN highlights ten areas of food loss and waste inefficiencies with potential solutions, including:

- Inadequate processing and packaging (solution: Capacity development, availability of raw materials and technologies, and access to modern energy and markets).
- Production and harvest waste (solution: Effective planning, contractual agreements and networks for recovery of safe and nutritious food).
- Hotels, restaurants, catering and households waste (solution: Appropriate planning, consumer education, food utilization).

C40 – Megacities Aim for Zero Waste

Addressing zero waste at the next level is C40, “a network of the world's megacities committed to addressing climate change.” Boston, Chicago, New York, Los Angeles and San Francisco are some of the U.S. cities in the C40. In 2018, 23 cities and regions signed the C40's “Advancing Towards Zero Waste Declaration,” pledging to:

...cut the amount of waste generated by each citizen 15 [percent] by 2030, reduce the amount of waste sent to landfills and incineration by 50 [percent] and increase the diversion rate to 70 [percent] by 2030.

Supportive actions consistent with the declaration include actions to address food loss and waste. For example, Los Angeles has established pilot programs to reduce food loss and waste along production and

supply chains. One example is a Los Angeles World Airports program that collects 375 pounds per day of kitchen-scrap generated by four food service establishments.

Another common supportive action is the elimination of single-use foodware in the restaurant industry. For example, last summer, the San Francisco Board of Supervisors passed the Plastic, Litter, and Toxics Reduction Law to address the problems caused by single-use foodware (Single-use Foodware Law). The Single-use Foodware Law became effective on July 1, 2019 and prohibits restaurants from automatically including food and beverage accessories in its customers' dine-in, take-out or delivery orders. It also prohibits restaurants from providing single-use plastics items, including straws, stirrers, beverage plugs, cocktail sticks, and toothpicks. Exceptions allow distribution of items made with natural fiber, but only upon request or if available in a self-service area.

Chefs Creating Change at the Local Level

Many chefs are on the frontline of the fight against food loss and waste. For example, Dominique Crenn is one of the most acclaimed chefs in the U.S., having received three Michelin stars for her restaurant, Atelier Crenn, in San Francisco. On her Instagram account, Ms. Crenn recently promised to “strive to

make all my restaurants waste-free.” She is currently working on a new restaurant, Boutique Crenn in San Francisco, and at a recent conference made her intentions for Boutique Crenn clear, stating “No to-go bags or coffee cups. I don’t want to see any plastic.”

Ms. Crenn made her comments in San Francisco where attendees were gathered for the announcement of the 2019 Basque Culinary World Prize winner—San Francisco chef Anthony Myint. Mr. Myint was recognized for his efforts to draw attention to restaurants' role in climate change and for providing tools “for chefs to reduce or eliminate their businesses' carbon footprint, regardless of location.” It was noted that over “30 influential restaurants from around the globe, such as Benu and Noma, have applied this methodology” and that Mr. Myint now works with the state of California to support sustainable agricultural practices through his project, “The Perennial Farming Initiative.”

Conclusion and Implications

Globally, many cities have stated their goal to achieve “zero waste” in the future. Chefs are and will continue to be a critical component in reaching this goal due to the influence they have on each other and the consuming public.

(Kathryn Casey)

REPORT ANALYSES EXTREME HEAT SCENARIOS LIKELY TO BECOME THE NORM IN THE UNITED STATES

Many of the studies and reports on the dangers of climate change focus on large-scale environmental impacts like floods, wildfires, sea-level rise and hurricanes. A July 2019 report from the Union of Concerned Scientists focuses on an area that is likely familiar to all of us: heat.

The report, entitled “Killer Heat in the United States: Climate Choices and the Future of Dangerously Hot Days” (Report) analyzes the extreme-heat scenarios that are likely to occur in the United States by the middle and end of this century if the United States does not reduce “heat-trapping emissions.”

The National Weather Service’s Heat Index

According to the National Weather Service (NWS), its “heat index” is “a measure of how hot it

really feels when relative humidity is factored in with the actual air temperature.” Generally, the heat index is used to determine the “Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity” and the NWS breaks heat indexes into 4 categories: “Caution”, “Extreme Caution,” “Danger” and “Extreme Danger.” For example, a day with a heat index of 100°F falls in the “Danger” category and a day with a heat index of 105°F falls in the “Extreme Danger” category.

Significant Increase in Number of Dangerous Heat Index Days

According to the Report, if no actions are taken to reduce heat-trapping emissions, the following is likely to occur in the United States:

- By midcentury (2036-2065), the average number of days per year with a heat index above 100°F would more than double when compared to historical averages (1971-2000) while average numbers of days per year with a heat index above 105°F would quadruple.

- By midcentury, “[m]ore than one-third of the area of the United States will experience heat conditions once per year, on average, that are so extreme they exceed the current NWS heat index range—that is, they are literally off the charts.”

- By midcentury, “[a]ssuming no changes in population, the number of people experiencing 30 or more days with a heat index above 105°F in an average year will increase from just under 900,000 to more than 90 million—nearly one-third of the US population.”

- By late century (2070-2099), the average number of days per year with a heat index above 100°F would quadruple when compared to historical averages and the average number of days with a heat index above 105°F would be eight times as much when compared to historical averages.

- By late century, “[a]t least once per year, on average, more than 60 percent of the United States by area will experience off-the charts conditions that exceed the NWS heat index range and present mortal danger to people.”

- By late century, assuming no population change, more than 180 million people would experience 30 or more days with a heat index above 105°F.

One of the highlights associated with the Report is a website with an interactive United States map that shows potential future heat index scenarios by county: (<https://ucsusa.maps.arcgis.com/apps/MapSeries/index.html?appid=e4e9082a1ec343c794d27f3e12dd006d>)

An example of the data that can be gleaned from the interactive map is provided in Table 1.

Report Recommends Suite of Federal and State Policies for Deep Cuts to Heat-Trapping Emissions

The Report recommends “deep cuts” in United States heat-trapping emissions and continued United States implementation and strengthening of the Paris climate agreement. The Report also recommends a suite of federal and state policies, including:

- An economywide price on carbon to help ensure that the costs of climate change are incorporated into our production and consumption decisions and encourage a shift away from fossil fuels to low-carbon energy options.
- A low-carbon electricity standard that helps drive more renewable and zero-carbon electricity generation and helps deliver significant public health and economic benefits.
- Policies to cut transportation sector emissions, including increasing fuel economy and heat-trapping emissions standards for vehicles...
- Policies to cut emissions from the buildings and industrial sectors, including efficiency standards and electrification of heating, cooling, and industrial processes.

Table 1: Average number of days per year with a heat index above 100°F

County	Historical	Midcentury	Late Century
Cook (Chicago)	3	24	47
Los Angeles	1	12	32
Miami-Dade	41	134	166
Philadelphia	5	32	58
Riverside	33	69	91
Travis (Austin)	29	96	130

- Policies to increase carbon storage in vegetation and soils, including through climate-friendly agricultural and forest management practices.
- Investments in research, development, and deployment of new low-carbon energy technologies and practices.
- Measures to cut emissions of methane, nitrous oxide, and other major non-CO₂ heat-trapping emissions.

- Policies to help least developed nations make a rapid transition to low-carbon economies and cope with the impacts of climate change.

Conclusion and Implications

Taking action often requires awareness and the Report (and the website) effectively highlight the dangerous conditions that likely await us if the status quo prevails. It will be interesting to see if the information provided moves the action needle and if any of the Report's recommendations are implemented. (Kathryn Casey)

CITY OF BERKELEY ADOPTS NATION'S FIRST NATURAL GAS BAN

The City of Berkeley, California (City) became the first city in the United States to ban natural, fossil gas hook-ups in new buildings this July. The city council unanimously approved the ordinance, which maintained overwhelming public support during its hearing. While Berkeley leads the charge on banning natural gas, governments across the United States and Europe are examining paths forward towards eliminating gas. In California, dozens of cities and counties are considering eliminating fossil fuel hook-ups to power stoves and heat homes in all new buildings, while state regulators draft new regulations aimed at slashing emissions.

Background

Berkeley's ordinance, which is scheduled to take effect on January 1, will ban gas hook-ups in new multi-family construction, with some exemptions for first-floor retail and internal Accessory Dwelling Units which utilize the fuel from the existing home. The ordinance also creates a public interest exemption, whereby minimally necessary and specifically tailored natural gas infrastructure may be allowed, provided that the responsible City decisionmaker establishes that the use of natural gas will serve the public interest.

The rationale behind the ordinance is multifaceted. Energy use in buildings accounts for roughly 25 percent of greenhouse gas emissions in California. To meet California's goal of 100 percent zero-carbon energy by 2045, natural gas usage will need to be greatly

reduced, if not eliminated entirely. For decades, natural gas was considered a preferred energy source for buildings, and a cleaner alternative to other fossil fuels. Natural gas was considered a step on the way to greener alternatives, but scientists and regulators increasingly believe the time to move past its use as an energy resource has come and gone.

Roughly 3 percent of all-natural gas extracted by industry is leaked into the atmosphere, where methane is more potent, though shorter lived, than carbon dioxide. Berkeley's ordinance also cites to health and safety risks endemic to natural gas, which releases significant emissions and pollutants indoors. Another motivation is the risk of running flammable fuel through areas that are prone to earthquakes, which has led to explosions in the past, perhaps most prominently in a San Bruno fire that resulted in one fatality and destroyed over 50 homes in 2010.

Natural Gas Reductions Are Key to Decarbonizing California

California has set ambitious climate goals, including last year's law requiring the state to derive 100 percent of its power from zero-carbon energy sources by 2045. Yet state agencies cannot hope to meet this goal without great cooperation from local governments. While energy is regulated at the state level by the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC), municipalities control much of their own building codes. Berkeley's approach leverages local authority

preserved in the California Constitution to prohibit the installation of hazardous internal gas piping infrastructure when granting use permits for new buildings. This allows the regulation to steer clear of CEC regulations requiring local governments to ask permission to amend energy efficiency standards. It also regulates natural gas without impinging on the CPUC's jurisdiction, which ends at the building's gas meter.

More than 50 cities and counties in California are now considering adopting similar legislation, either banning or limiting gas and incentivizing full electrification in new buildings. Building Decarbonization Coalition estimates as many as half may pass electrification measures by the September cutoff by which ordinances must be adopted to take effect on January 1.

Reduction is unlikely to mean elimination, however. Some gas will likely need to be burned to power the electric grid which will support newly electrified infrastructure. For example, Los Angeles is investing in a new gas-fired power plant as a step towards fully phasing out coal, even while putting plans in place to phase out some gas infrastructure. Even Berkeley's ordinance may not ultimately have the results the City hopes to see, given that new construction accounts for only around 1 percent of buildings in California. In order to fully phase out gas, reach climate emissions goals, reduce health and safety risks, and reach zero-carbon energy by 2045, state and local governments will need to incentivize development away from gas pipelines and toward induction stoves and heat pumps.

A Tight Timeline to Reach Crucial Goals

Researchers estimate there is roughly a ten-year window to convert infrastructure from gas to electric if California is to meet its 2045 goal. For utilities that sell both gas and electricity, this phase out represents

a huge market shift, though not a threat to existing customer bases. Yet for utilities that sell and service only natural gas, this shift presents an existential threat. Large-scale gas retailers, like SoCal Gas, which serves nearly 22 million customers, will have a lot to lose in this shift, and have yet to join conversations about the necessary conversions.

This transition will also require abandoning, if not removing or repurposing, vast lengths of existing pipelines which are already in the ground or are in the process of being installed. In the long term, this represents a massive sunk cost, with infrastructure built over nearly a century left to an uncertain future. But the short term may be grimmer for some—as more people leave gas grids for electric power, the same fixed infrastructure costs will be spread across a decreasing number of customers, raising prices for everyone still relying on natural gas. Given the prevalence of innovation in higher-income jurisdictions, this may also have troubling implications from an economic equality perspective.

The earlier California makes progress towards decarbonization, the more time there will be to address, and ameliorate, some of the negative effects of what will be a massive transition. If the state hopes to hit zero-carbon by 2045, new gas-powered appliances would need to be removed from the market by roughly 2030.

Conclusion and Implications

Berkeley may be at the vanguard of statewide efforts to curb natural gas in new construction. This ordinance, and others like it expected to proliferate throughout the state in the months and years to come, is a strong first step towards decarbonization. However, limitations and exemptions risk reducing the effectiveness of such legislation, and banning natural gas in new construction is unlikely to be enough to meet California's ambitious goals. (Jordan Ferguson)

LEGISLATIVE DEVELOPMENTS

CALIFORNIA PASSES COMPREHENSIVE WILDFIRE LEGISLATION

On July 12, 2019, California Governor Newsom signed Assembly Bill (AB) 1054 (Holden, D-Pasadena), which establishes a comprehensive framework to address wildfire liabilities and introduces new safety measures ahead of fire season. AB 1054 passed the California Assembly by a vote of 63-8, and then passed in the Senate by a vote of 31-7. Overall, utilities laud the bill as a necessary measure that brings much needed stability ahead of the fire season and appears to satisfy investor concerns. Some critics, however, have warned that the speed with which the legislation passed the majority of providers left little time to review or amend legislation that yields significant reforms.

Wildfire Insurance Fund

The \$21 million Wildfire Fund created by AB 1054 is split into two funding options: 1) a revolving liquidity fund that functions as a line of credit paying out eligible third-party claims from utility-caused fire damages, or 2) an insurance fund that will pay out, subject to a cap, eligible third-party claims for utility-caused fire damages that were caused despite prudent utility action or management. The Wildfire Fund will be funded by an initial contribution by each electrical corporation of \$7.5 billion multiplied by a “Wildfire Allocation Metric,” calculated as the measure of land in an electrical corporation’s service territory that qualifies as a “high-fire threat zone,” and the miles of transmission or distribution equipment that the electrical corporation has in such territory. This initial and following annual contributions must come solely from shareholders and would not be recoverable from ratepayers.

Utilities that use the Wildfire Fund to pay out eligible claims may also recover such costs in rates subject to a decision by the California Public Utilities Commission (CPUC) that the charges are just and reasonable, and the utility must return any funds it received that are subsequently disallowed by the CPUC and reimburse the Wildfire Fund.

Safety Measures

To receive the benefits of the Wildfire Fund, participating utilities are required to establish a safety committee of its board of directors, to show that the board will adopt and implement necessary safety measures identified in a safety cultural assessment, to adopt an executive compensation system that is tied to safety performance, and submission of the required wildfire mitigation plan to the California Public Utilities Commission. The bill establishes additional safety compliance measures for corporations that have undergone bankruptcy, *i.e.*, Pacific Gas & Electric Company.

Additionally, electric corporations that obtain a safety certification from the California Public Utilities Commission attesting that the utility meets its standards will benefit from a favorable burden of proof—a presumption of reasonableness—if and when the utility’s conduct is challenged in connection with a wildfire and alleged causation.

Wildfire Safety Board

The bill also establishes the California Wildfire Safety Advisory Board, a seven-member committee appointed to four-year terms by the Governor, the Speaker of the Assembly, and the Senate Committee on Rules. The Wildfire Safety Advisory Board will provide advice and make recommendations related to wildfire safety to the Wildfire Safety Division and the Office of Energy Infrastructure Safety.

Impact on Utilities

Following the passage of AB 1054, in a sign of the significance the legislation has for investor-owned utilities, PG&E reduced its hefty request for a return-on-equity rate from 16 percent to 12 percent in its latest cost of capital proceeding, which was initiated in April of this year. (PG&E’s current return-on-equity rate is 10.25 percent.) This seemingly small percentage can have a big impact on ratepayers, who would have paid an additional \$1.2 billion in PG&E’s

revenue requirement, which amounts to an additional average \$8 monthly increase to customer bills.

PG&E was not the only utility seeking to safeguard perceived investor risk in their latest cost of capital applications, as Southern California Edison and San Diego Gas & Electric had also sought increased rates of 16.6 percent and 14.3 percent, respectively, for 2020. The recent wildfire legislation has, however, appeared to quell some investor doubt in providing capital to California's electric utilities and credit-ratings agencies halted the continuous downgrading trend for the corporations' outlooks.

Conclusion and Implications

Some critics have cautioned the speed with which the legislation passed, noting that there was not much time for review or amendment. However, as wildfire season neared, and given the need for PG&E to reach resolution in its bankruptcy proceeding, advocates in favor of the bill pressed for speedy adop-

tion and praised the perceived stability offered by the legislation. In fact, in explaining the need for wildfire legislation, Governor Newsome stated that "financially unstable electric utilities will put wildfire victims in jeopardy and cause California families' electrical bills to skyrocket.. After the bill's adoption, Newsome thanked the Legislature for "taking thoughtful and decisive action to move our state toward a safer, affordable and reliable energy future, provide certainty for wildfire victims and continue California's progress toward meeting our clean energy goals. The rise in catastrophic wildfires fueled by climate change is a direct threat to Californians. Strengthening our state's wildfire prevention, preparedness and mitigation efforts will continue to be a top priority for my administration and our work with the Legislature." The full text of the bill and the bill's history is available online at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200AB1054 (Lilly McKenna)

CLIMATE CHANGE SCIENCE

RECENT SCIENTIFIC STUDIES ON CLIMATE CHANGE

Stratospheric Aerosol Injection Geoengineering and Volcanic Eruptions

Many engineered solutions designed to combat the effects of climate change have been proposed. One of these proposed solutions is solar geoengineering, which aims to cool the Earth by injecting a layer of sulfate aerosols into the stratosphere, reflecting short-wave radiation back into space. This idea mimics naturally-occurring volcanic eruptions. The climatic response to volcanic eruptions and stratospheric aerosol forcing are often compared, as both processes release sulfate aerosols into the stratosphere that counteract the effects of global warming.

A recent study prepared for the American Geophysical Union aims to provide insight into the differences in climatic response between stratospheric aerosol injection (SAI) geoengineering and volcanic eruptions. Duan *et al.* use the Community Earth System Model to predict the climatic response to a volcanic-like pulse (pulse-case) and a geoengineering-like sustained stratospheric sulfate aerosol forcing (sustained-case). These two scenarios are highly idealized and are not intended to accurately represent SAI geoengineering or volcanic eruptions. The differences between the two scenarios are the amount of sulfate aerosol released into the atmosphere and the duration of its decay. The results of this study highlight the relative changes in global temperature and hydrologic cycle between the pulse- and sustained-cases.

The pulse-case and sustained-case both result in global cooling and decreases in precipitation and runoff; however, these changes occur at different scales. The pulse-case results in a greater decrease of global mean temperature, precipitation, and runoff than the sustained-case results. A temperature decrease of at least 1.3 K was produced over 17 percent of land area in the pulse-case and over only 2 percent of land area in the sustained-case. Additionally, the pulse-case causes precipitation and runoff to decrease more dramatically than the sustained-case due to more dramatic cooling of land surface. In the sustained-case, precipitation and runoff decrease to a lesser extent, which represents more stable water resource availability.

Climatic responses to the pulse-case (volcanic-like) and sustained-case (geoengineering-like) vary in scale in terms of global temperature and hydrologic cycle. The pulse-case results in more dramatic decreases in temperature, precipitation, and runoff over a shorter duration, whereas the sustained-case yields a semi-equilibrium response with milder changes in temperature and hydrologic cycle. Due to the simplicity of the model, future studies should compare the two cases using multiple climate models and incorporate full ocean dynamics in the analysis. While volcanoes provide valuable insight into SAI geoengineering, it is important to be aware of the differences in climatic response when making direct comparisons.

See, Duan, L., Cao, L., Bala, G., & Caldeira, K. (2019). Climate response to pulse versus sustained stratospheric aerosol forcing. *Geophysical Research Letters*, 46. <https://doi.org/10.1029/2019GL083701>

Natural Gas Leaks from Heating Homes and Businesses Contribute to Greenhouse Gas Emissions in Los Angeles

When discussing climate change, carbon dioxide (CO₂) receives most of the attention as a greenhouse gas (GHG) that needs to be reduced. However, many other pollutants trap more heat per molecule than CO₂ on shorter timescales and therefore have a higher global warming potential (GWP). Most of the pollutants with high GWP are emitted in relatively small quantities, but the State of California recognized their importance and has set up strategies and targets to reduce their emissions by 2030. Methane (CH₄) is the largest non-CO₂ contributor to global warming in California, comprising nine percent of the state's 2017 GHG inventory. Common sources of methane, also known as "natural gas," include decomposition of biomass, bovine flatulence, and pipeline leaks and flaring.

New research suggests that methane emissions may be underestimated and that natural gas leaks from residential and commercial buildings and related infrastructure are important sources of GHG emissions, at least in the Los Angeles Basin. Researchers

from Caltech set up a mountaintop remote sensing spectrometer about one mile above Los Angeles. This spectrometer collected methane measurements six to eight times per day for six years at 33 surface sites. The data showed clear peaks in methane levels each winter and minima each summer. The opposite result would be expected if biomass decomposition (wetland and agriculture) was the main contributor of methane in that region, as biomass degrades more quickly in the summer. Therefore, the natural gas distribution system—including storage fields, pipelines, cookstoves, and furnaces—is thought to be the major contributor to the measured methane in Los Angeles.

Similar studies have been underway in different locations across the United States that have identified major natural gas leaks and helped pinpoint inefficiencies. By identifying and sealing leaks, GHG emissions decrease and natural gas companies and consumers benefit from greater efficiency. These studies on unaccounted-for methane leaks also indicate that electrifying future developments is likely to reduce GHG emissions more than previously expected.

See, He, L., et al. 2019. Atmospheric Methane Emissions Correlate with Natural Gas Consumption from Residential and Commercial Sectors in Los Angeles. *Geophysical Research Letters*. DOI: [10.1029/2019GL083400](https://doi.org/10.1029/2019GL083400).

Landscape Plants Benefits on Climate Change Over the Life Cycle

Landscape plants provide many benefits to environmental quality, including improving air quality, storm water management, microclimate enhancement, energy conservation, and noise attenuation. Recent research shows that landscape plants could have additional climate change benefits when life cycle emissions reductions are considered. The life cycle of landscape plants includes field production, container production, the use of plants in the landscape, and the end of life removal of the plants.

A recent study by researchers at the University of Kentucky investigated the life cycle greenhouse gas emissions associated with producing, using and decommissioning landscape plants. To do this, they calculated the carbon footprint of several varieties of field-grown plants (e.g., red maple, blue spruce Forest Pansy' redbud, deciduous shrub, and evergreen shrub), pot-in-pot plants (e.g., red maple and 'Bennett's Compacta' Japanese holly), container-grown

plants (e.g., Green Beauty' boxwood), a herbaceous annual flowering plant, young plants (e.g., foliage plants in 72-count trays), an outdoor-grown plant (e.g., chrysanthemum) and a greenhouse grown potted plant (e.g., poinsettia). The researchers modelled the energy and material inputs and the emissions and waste outputs from production to end of life. The study included an assessment of the carbon sequestration from the plants during their use in the landscape and the release of greenhouse gas emissions at end of life removal.

The goal of the study was to determine the energy and material inputs and processes that contributed the most to the carbon footprint and costs to inform landscape companies on where to invest reduction projects to reduce emissions without impacting profitability. The study found that the greatest life cycle greenhouse gas emissions varied by method of production. For field-grown trees, the most emissions occurred from the combustion of fuel in equipment used to harvest plants at the nursery. For container-grown plants, the most impacts occurred from the production of the plastic used in the containers. In colder climates, greenhouse heating is also a significant contributor. Field-grown shrubs had the lowest impact since they are dug without equipment. Over the entire life cycle, the landscape plants studied show a net benefit of 9 to 666 kg CO₂e (carbon dioxide equivalence) sequestered over 100 years.

While only a subset of the different types of landscape plants were included in the study, it provides good insight on how landscape nurseries can reduce the carbon footprint of their production and showcases the climate change benefits of landscaping.

See, Ingram, D. L., Hall, C. R., & Knight, J. (2019). Understanding Carbon Footprint in Production and Use of Landscape Plants, *HortTechnology*, 29(1), 6-10. DOI: 10.21273/HORTTECH04220-18. Retrieved Aug 16, 2019, from <https://journals.ashs.org/horttech/view/journals/horttech/29/1/article-p6.xml>

Amplification of Future Energy Demand Growth Due to Climate Change

Energy plays a critical role in enabling human progress, and the world will continue to demand increasing amounts of energy as population increases and development progresses. While we have long understood that climate is a key driver of energy

demand, the impact of climate change on energy demand is less well understood. Climate change-related increases in energy consumption could result in additional energy-related greenhouse gas emissions and warming, in effect creating a feedback loop between climate change and energy demand. We do not yet know whether future climate change impacts will cause energy demand to increase or decrease at the global scale, or how climate change impacts on energy demand will vary across locations and time.

A recent article prepared for Nature Communications by van Ruijven et al. investigates the relationship between climate change and energy demand at a global scale. The study determines mid-century energy demand amplification from climate change for the agriculture, industry, residential and services sectors, and for electricity, natural gas and petroleum energy sources. To the authors' knowledge, the study offers the first comprehensive, multi-sector global analysis to determine the impact of climate change on future energy demand.

The authors construct five scenarios of baseline energy demand in 2050 by combining energy response to income and temperature with five Shared Socioeconomic Pathway scenarios. To determine the impact of climate change on energy demand, the authors then combine the five baseline energy demand scenarios and energy demand elasticities with climate model temperature projections for moderate and high-warming scenarios. By using temperature projections for the two warming scenarios from 21 Earth System Models, the authors obtain climate change-driven energy demand projections across 210 realizations of socioeconomic and climate scenarios.

Compared to baseline scenarios, climate change increases mid-century global energy demand by 11-27 percent under moderate warming, and 25-58 percent under vigorous warming. The earth system models broadly agree that energy demand increases in the tropics and southern regions of China, Europe and the United States, and that total energy demand decreases in northern Europe, Russia, the United States and Canada. Notably, the exposure of low-income individuals to climate-driven increased energy consumption varies significantly across the socioeconomic scenarios. For the residential sector, the study finds that warming is projected to reduce global energy use for space conditioning by mid-century, but that increased temperatures by 2100 reverse this trend.

Overall, the commercial and industrial sectors are key drivers of energy demand increases due to climate change. Previous studies have investigated the impact of climate change on energy demand for specific economic sectors, energy sources or geographic regions, and overall the results of the current study align with previous results for specific economic sectors, energy sources or geographic regions.

As the authors note, the top-down, empirical methodology does not account for potential economic structure, technology or market shifts (e.g., price changes) due to energy demand driven by climate change, this study's results should be interpreted as worst-case projections. Future work could incorporate the energy demand impacts developed in this study to quantify the economic impacts of climate change-driven energy demand. Additional uncertainties warranting further study are largely due to limitations in data availability, particularly due to the lack of fidelity in the empirical energy demand elasticities. Finally, the results depend on warming and socioeconomic scenarios that are not weighted based on relative likelihood of occurrence. To characterize the risk of climate change impacts on energy demand, future work should consider the likelihood of the climate and socioeconomic scenarios.

This study by van Ruijven *et al.* highlights that complex and interwoven physical and socioeconomic relationships can result in amplification of climate-related impacts. As with many climate-related impacts, the authors note that low-income individuals and populations are most vulnerable to impacts such as increased energy costs. Given the important role energy plays in society, ongoing cross-disciplinary research is needed to understand the impact climate change will have on energy demand over different geographic and temporal scales, and the implications for societal vulnerability. Such research would enable policymakers to consider future impacts of climate change on energy demand as they develop policies to mitigate climate change and support climate adaptation.

See, van Ruijven, B.J. *et al.* Amplification of future energy demand growth due to climate change. Nature Communications, 2019. DOI: [10.1038/s41467-019-10399-3](https://doi.org/10.1038/s41467-019-10399-3). (Abby Kirchofer, Libby Koolik, Shaena Berlin Ulissi, Ashley Krueder)

REGULATORY DEVELOPMENTS

CALIFORNIA DEPARTMENT OF WATER RESOURCES RELEASES FINAL CALIFORNIA WATER PLAN UPDATE 2018

The California Department of Water Resources (DWR) publishes a California Water Plan Update every five years as required by the California Water Code. DWR recently released its latest update—the Final California Water Plan Update for 2018 (Plan). The Plan outlines the state’s strategy for sustainably managing and developing California’s water resources for current and future generations. It also presents the status and trends of California’s water-dependent natural resources, water supplies and agricultural, urban and environmental water demands.

Background

DWR updates the California Water Plan Update every five years to incorporate the latest information and science. The Plan and the updating process provide a way for stakeholder groups to collaborate on findings and recommendations and make informed decisions regarding California’s water resources. Policy makers, elected officials, government agencies, tribes, water and resource managers, businesses, academia, stakeholders and the general public all look to the Plan to inform decision-making.

While the Plan itself cannot mandate actions or authorize spending for specific actions, and while it does not make project or site-specific recommendations, it does require policy and lawmakers to take definitive steps to authorize the specific actions proposed and appropriate funding needed for their implementation. The ultimate goal for the Plan and each update is to receive broad input and support from Californians, meet California Water Code requirements, guide state investments and advance integrated regional water management and regional sustainability.

The Need for a Visionary Plan Moving Forward in California

The 2018 Plan update states that California has experienced significant effects of climate change since the last Plan update in 2013. Devastating drought,

widespread flooding, sea level rise and historic wild-fires have all been challenges California has faced over the past several years. In the past decade alone, California weathered the deepest drought and wettest period on record. These two extremes provide a good picture of the volatility and uncertainty of California’s hydrology. The 2018 Plan update recognizes the need to adapt to these challenges by encouraging a greater collaborative and coordinated statewide water management throughout the state.

The Revisions and California’s Water Roadmap to 2024

The most significant change in the 2018 Plan update is DWR’s awareness and sensitivity to climate change and its anticipated impact on water use in California. Within this context, the 2018 Plan update focuses on six primary goals and recommends many specific priority actions within those goals:

- **Improve Integrated Watershed Management**
Priority actions include: strengthen state support for vulnerable communities, support the role of working landscapes, and promote flood-managed aquifer recharge and sustainable groundwater management policies. The Plan recommends that DWR provide technical, planning and facilitation assistance for local and regional entities to evaluate opportunities and implement projects using flood flows and alternative water supplies for managed aquifer recharge.
- **Strengthen Infrastructure Resiliency**
The primary priority action for this goal is improving infrastructure and promoting long-term management. It prioritizes utilizing natural infrastructure and promoting partnerships, and strongly supports local and regional efforts to build water supply resilience across California.
- **Restore Ecosystem Functions**
Priority actions include: addressing legacy impacts,

facilitating multi-benefit water management projects, and quantifying natural capital.

- **Empower Under-Represented Communities**

Priority actions include: expanding tribal involvement in regional planning efforts and engaging proactively with disadvantaged community liaisons. The Plan addresses California's vulnerable communities that lack access to a safe and reliable water supply and suggests that the state work with disadvantaged community liaisons to provide technical, managerial and financial expertise to prepare proposals for infrastructure and operations and maintenance improvement programs.

- **Improve Inter-Agency Alignment and Address Regulatory Challenges**

Priority actions include: incorporating ecosystem needs into water management infrastructure planning and implementation, streamlining ecosystem restoration project permitting, and addressing regulatory challenges.

- **Support Adaptive Management and Long-term Planning**

Priority actions include: facilitating comprehensive water resource data collection and management, coordinating climate science and monitoring efforts, improving performance tracking, developing regional water management atlas, reporting

on outcomes of projects receiving state financial assistance, expanding water resource education, and exploring ways to develop stable and sufficient funding. It stresses the importance of the state assisting local agencies with their development of long-term solutions for infrastructure management, including water supply reliability, flood risk reduction, aquifer replenishment and remediation, and surface and groundwater storage. The Plan also underscores that effective water management requires access to reliable data and information, and as a result, recommends that state agencies should maintain data management best practices and work with local agencies to improve data gathering, accessibility, quality and related decision-support tools.

Conclusion and Implications

In April 2019, Governor Newsom signed an Executive Order calling for state agencies to work together to form a comprehensive strategy for building climate-resilient water systems through the 21st Century. The Plan's focus on regional and local partnerships reflects a timely response to that executive order and its important role in informing and better aligning state and local agencies, water suppliers and stakeholders on the best ways to build California's water resilience strategy as we enter a new decade. (Chris Carrillo, Michael Duane Davis)

PENALTIES & SANCTIONS

RECENT INVESTIGATIONS, SETTLEMENTS, PENALTIES AND SANCTIONS

Editor's Note: Complaints and indictments discussed below are merely allegations unless or until they are proven in a court of law of competent jurisdiction. All accused are presumed innocent until convicted or judged liable. Most settlements are subject to a public comment period.

•On August 23, 2019, the U.S. Department of Justice announced that it had reached a settlement with Southeastern Grocers Inc. and its subsidiaries BI-LO LLC and Winn-Dixie Stores Inc., the owners and operators of regional grocery store chains BI-LO, Winn-Dixie, Fresco y Más, and Harveys Supermarket to resolve alleged federal Clean Air Act (CAA) violations. The United States alleges that Southeastern Grocers failed to promptly repair leaks of class I and class II refrigerants, ozone-depleting substances used as coolants in the company's refrigerators. Southeastern Grocers also allegedly failed to keep adequate servicing records of its refrigeration equipment and failed to provide information about its compliance record. Under the settlement, Southeastern Grocers will pay a \$300,000 civil penalty and will implement a corporate refrigerant compliance management system to comply with federal stratospheric ozone regulations to detect and repair leaks through a bi-monthly leak monitoring program. In addition, Southeastern Grocers will achieve and maintain an annual corporate-wide average leak rate of 17.0 percent through 2022, which is below the grocery store sector average of 25 percent. Southeastern Grocers must also use non-ozone depleting advanced refrigerants at all new stores, and an additional 15 existing, non-advanced refrigerant stores. Southeastern Grocers will spend an estimated \$4.2 million over the next three years on these actions.

•On July 31, 2019, the U.S. Environmental Protection Agency (EPA) announced a settlement with Elliott Auto Supply Company, Inc., doing business as Splash Products, to resolve alleged violations of the Clean Air Act General Duty Clause related to chemical accident prevention. Splash Products

manufactures windshield wiper fluid using methanol at its facility in Ayer, Massachusetts. Large quantities of methanol are brought to the facility using tanker trucks and transferred to rail cars for storage and use. After a 7,000-gallon methanol spill at the facility in 2016, EPA conducted inspections of the facility in 2016 and 2017. The 2016 release was caused when methanol was mistakenly pumped onto the ground through a disconnected hose. EPA alleges that Splash Products violated the CAA General Duty Clause when it failed to identify hazards, design and maintain the facility to prevent releases, and minimize the consequences of accidental releases. Safety deficiencies included lack of spill containment, failure to ground and bond methanol equipment, lack of emergency relief venting for storage tanks, inadequate fire suppression, inadequate employee training and protective equipment, and lack of an emergency response plan. Pursuant to the settlement, Splash Products will pay a \$197,075 penalty to resolve alleged violations of the CAA General Duty Clause and Emergency Planning and Community Right-to-Know Act (EPCRA) chemical inventory reporting requirements. In January 2019, Splash Products certified to EPA that it had come into compliance with the General Duty Clause, after entering into an administrative order on consent with EPA that compelled compliance. The work cost Splash Products approximately \$173,400.

•On July 31, 2019, EPA announced a settlement with SUEZ Water Environmental Services, Inc. to resolve alleged violations of the CAA General Duty Clause. SUEZ is under a contract with the Springfield Water and Sewer Commission to operate the Commission's wastewater treatment plant in Springfield, Massachusetts. During an inspection of the plant, which is located in an area of environmental justice concern, EPA found that SUEZ was storing incompatible materials together in a manner that EPA alleged created fire hazards and opportunities for toxic releases. SUEZ paid a \$20,900 penalty under a Settlement with EPA and promptly corrected compliance deficiencies after EPA's inspection. Separately, in

September 2018, SUEZ reached a \$11,400 settlement to resolve alleged CAA violations relating to its use of chlorine at the facility.

- On July 31, 2019, EPA announced a settlement with City Line Distributors, Inc. to resolve alleged violations of the CAA General Duty Clause. City Line allegedly violated CAA chemical accident prevention requirements in its use of anhydrous ammonia in the refrigeration system at its cold storage and food distribution facility in West Haven, Connecticut. Under the settlement City Line paid a \$40,600 penalty to resolve the alleged violations and agreed to update its process hazard review for the refrigeration system. City Line spent more than \$100,000 to bring its facility back into compliance with the CAA.

- On July 31, 2019, EPA announced it has settled alleged violations of the Emergency Planning and Community Right to Know Act (EPCRA) by Photofabrication Engineering, Inc. related to its use and storage of chemicals. The company photo etches precision metal parts. Photofabrication Engineering had a hydrochloric acid spill in January 2019; it had failed to list hydrochloric acid on its chemical inventory form submitted to state and local officials under EPCRA. Photofabrication Engineering paid a \$7,562 penalty for this omission and agreement to enter into a CAA compliance order to review hazards associated with its storage and use of hydrochloric acid and other hazardous chemicals.

- On August 23, 2019, EPA announced a settlement with two automotive parts manufacturers for the manufacture and sale of aftermarket auto parts that bypass or disable required emission control systems, in violation of the CAA. JAMO Performance Exhaust, LLC, headquartered in North Las Vegas, Nevada, manufactured and sold aftermarket exhaust parts for diesel-powered trucks that enabled the removal of catalytic converters on vehicles in violation of the CAA. JAMO will pay a \$10,000 penalty. APEX Integration, Inc., headquartered in Orange,

California, manufactured and sold 44 aftermarket exhaust systems for gasoline-powered vehicles that bypass catalytic converters in violation of the CAA. APEX will pay a \$5,000 penalty. Both companies' penalties were reduced due to financial hardship.

- On July 9, 2019, EPA announced a settlement with Londonderry Freezer Warehouse, LLC, of Londonderry, New Hampshire for alleged violations of chemical accident prevention regulations under the CAA. Londonderry Freezer uses anhydrous ammonia in refrigeration and cooling units at its warehouse facility. EPA alleges that Londonderry Freezer had inadequate alarms, rusted valves, inadequate ventilation, and insufficient access to emergency controls, among other alleged deficiencies. The company has spent more than \$215,000 to bring its facility back into compliance and paid a \$78,200 penalty to resolve the alleged violations. The company certifies that it is now in compliance with the CAA.

- On June 26, 2019, EPA announced that DeMenno-Kerdoon and D/K Environmental have settled with the agency for improperly managing hazardous waste at the World Oil Recycling facility in Compton, California and the World Oil Terminals in Vernon, California. The Compton facility stores and treats used oil, waste oil, oily water, and used anti-freeze and ships hazardous waste to off-site disposal facilities. The Vernon facility stores and transfers hazardous waste. Inspections by EPA in 2017 identified violations of the federal Resource Conservation and Recovery Act regulations. Violations identified during the inspections included failure to make a hazardous waste determination for certain solid waste generated on-site at both facilities and failure to regularly test waste streams to determine whether waste shipped off-site meets land disposal restriction standards. Under the settlement, the companies will spend \$167,967 on an environmental project to install an air filtration system to improve indoor air quality at one or more local schools. The companies paid a \$39,092 penalty.
(Allison Smith)

LAWSUITS FILED OR PENDING

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS SEEK REVIEW OF LANDMARK FERC ORDER ON ENERGY STORAGE

On July, 11, 2019, the National Association of Regulatory Utility Commissioners (NARUC) filed a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit of the Federal Energy Regulatory Commission's (FERC) Order 841 (Order), which was approved by the FERC as a Final Rule on February 15, 2018 and widely hailed as a landmark measure to integrate energy storage technology into the electrical grid. NARUC, however, is challenging the Order for its alleged unlawful overreach that curtails state regulatory authority over these resources.

Background

NARUC is an advocacy organization for state public utility commissions. NARUC had first sought rehearing of the Order from FERC, but its request was denied in a 3-1 vote in May of 2019. In a public statement on the petition for rehearing, a spokesperson said:

NARUC is seeking to overturn FERC's decision to deny states the ability to fully manage energy storage resources that are connected to distribution facilities or located behind a retail meter. NARUC ultimately would like to see states and relevant electric retail regulatory authorities have the same ability to manage these resources as they do to manage demand response aggregation.

The Federal Energy Regulatory Commission Order

FERC Order 841 requires regional transmission organizations (RTOs) and independent system operators (ISOs) to develop rules that will ensure energy storage resources can be dispatched on the grid and to develop technical rules, including establishing a minimum size for energy storage participation in the market (that does not exceed 100 kilowatts) and to set pricing parameters for resale of stored resources

to the grid. These rules were largely seen as necessary regulatory measures that would work to integrate energy storage resources, to encourage their use, and ultimately, to help bring down prices in a similar way to renewable resources and rules relating to qualifying facilities.

RTOs and ISOs have been working through numerous issues to develop these rules, and submitted lengthy compliance plan proposals with FERC late last year.

The Denial of the Petition for Rehearing

In a partial concurrence and partial dissent issued by Commissioner McNamee when FERC issued its denial of rehearing request to NARUC, Commissioner McNamee sympathized with NARUC noting his concern that Order No. 841:

... fails to recognize the states' interest in [energy storage resources] located behind a retail meter (behind-the-meter) or connected to distribution facilities.

However, McNamee supported Order No. 841 and agreed that FERC possessed the jurisdictional authority over such energy storage resources, noting that the decision rests on "solid footing." McNamee stated that he would have granted the petition for rehearing in order to reconsider: 1) FERC's finding that it has jurisdiction over whether energy storage resources located behind-the-meter or on the local distribution system are permitted to participate in the RTO/ISO markets and thereby asserting jurisdiction over distribution facilities; and 2) the Order's "failure to provide states the opportunity to opt-out of the participation model created by the Storage Orders."

NARUC's petition for rehearing to the U.S. Court of Appeals is brief and to the point in noting that "portions of the FERC Rehearing Order and FERC Order are arbitrary and capricious" and "not in accordance with the law," going beyond FERC's jurisdictional authority.

The Issue at Hand

The Federal Power Act (FPA) establishes dual jurisdiction over the electric energy market. FERC, as the federal authority, has jurisdiction over wholesale sales of electric energy, which includes the ISO/RTO markets and of interstate transmission of energy. State regulators, on the other hand, have jurisdiction over retail electric sales and distribution to end-use customers. Most renewable energy resources, and energy storage resources, are connected to retail distribution networks at the state level. Under Order 841, FERC would have jurisdiction over all energy storage resources that meet certain technical specifications, regardless of whether they are interconnected to the distribution network (*i.e.*, “behind the meter”), or whether they are interconnected to the interstate transmission system.

NARUC and other parties have argued that, in eliminating this fundamental jurisdictional distinction, FERC is exercising unauthorized power to reach

local distribution facilities. In upholding Order 841, FERC responds that while states are permitted to establish their own conditions over retail energy storage resource programs, they are not permitted to bar retail customers or energy storage resources from participating in the RTO/ISO or interstate markets if they so desire.

Conclusion and Implications

Interested parties are closely watching this challenge as many groups still see FERC Order 841 as a necessary measure to “break down barriers” to grid participation and wider deployment of energy storage resources, and to bringing down costs and improving technologies. The NARUC press release discussing its position on the issue is available online at: <https://pubs.naruc.org/pub/D15F386C-C241-311D-2513-71BDA048582A>. A copy of the Petition for Review is available online at: https://www.eenews.net/assets/2019/07/17/document_ew_01.pdf (Lilly McKenna)

JUDICIAL DEVELOPMENTS

NINTH CIRCUIT REVERSES OIL INDUSTRY CLASS CERTIFICATION DUE TO LACK OF COMMON ISSUES

Andrews v. Plains All American Pipeline, Ltd. Partnership, Unpub., Case No. 18-55850, (9th Cir. July 3, 2019).

The Ninth Circuit determined, in an unpublished decision, that a U.S. District Court abused its discretion by certifying an “Oil Industry subclass” under Federal Rule of Civil Procedure 23(b). The Oil Industry subclass sought recovery from Plains All American Pipeline and Plains Pipeline L.P. (Plains) for the closure of the Plains’ crude oil pipeline after a May 2015 Santa Barbara oil spill.

Factual and Procedural Background

On May 19, 2015, the Plains’ onshore pipeline ruptured, resulting in a release of at least 140,000 gallons of crude oil that reached the Pacific Ocean. In the aftermath of the oil spill, the pipeline was shut-down. Plaintiffs suing Plains moved for four subclass certifications, including one for the Oil Industry subclass. The proposed Oil Industry subclass included oil workers and oil supply businesses that had a contractual relationship with facilities reliant on the Plains’ pipeline, such as entities who provided core services and entities who provided incidental services such as pest control and telecommunications services. The U.S. District Court certified the Oil Industry subclass, concluding that class members had a contractual relationship with the Plains’ facilities and were exposed to the pipeline shutdown. Plains appealed the subclass certification.

The Ninth Circuit’s Decision

To certify a class under Federal Rule of Civil Procedure 23(b), plaintiffs must establish that common questions of law or fact predominate over uncommon questions. The Ninth Circuit Court of Appeals reversed the District Court’s class certification after concluding that common issues did not predominate. Instead, the Ninth Circuit reasoned, individualized inquiries were required to determine necessary elements of the class’s claims, including causation, injury, and the applicability of the economic loss doctrine.

Causation and Injury

As to causation and injury, the Ninth Circuit noted that class members were subject to varying economic factors that could have caused their economic injury, to the extent the proposed class members suffered any injury at all:

Here, causation and injury are necessary elements of the class’s claims, *see Baptist v. Robinson*, 49 Cal. Rptr. 3d 153, 167 (Ct. App. 2006); *Redfearn v. Trader Joe’s Co.*, 230 Cal. Rptr. 3d 98, 111 (Ct. App. 2018), and, as the district court acknowledged, class members were subject to varying economic factors that could have caused their economic injury, to the extent they suffered an injury at all.

The class included a “myriad businesses,” including employees and contractors, each impacted differently by the shutdown of the pipeline. The court reasoned that mere exposure of the proposed class members to the pipeline shutdown was insufficient to establish that Plains’ alleged misconduct similarly impacted the class.

Economic Loss Model

Similarly, plaintiff’s reliance on an economic loss model did not provide common proof of injury:

The same individualized inquiries that predominate regarding causation and injury will predominate as to whether the economic loss doctrine bars the class’s negligence claims. To prevail on their claims for economic injury, class members will be required to establish that they have a “special relationship” with Plains that gives rise to a duty of care to prevent economic harm. *See, J’Aire Corp. v. Gregory*, 598 P.2d 60, 63 (Cal. 1979).

The model, set forth by a University of California Professor of Economics, showed a general impact from the pipeline's shutdown as a 34 percent decrease in employment in the local oil and gas industry. The court reasoned that this economic model also indicated many employees in the within the class likely were not injured. Because plaintiff's own economic loss model would require individual class members to demonstrate injury and to demonstrate that the injury was caused by the pipeline shutdown, issues of common fact did not predominate the proposed class.

The Ninth Circuit also concluded that the same individualized inquiry governing class certification would also govern the class's substantive negligence claims. To prevail on the substantive negligence claims, class members would be required to establish that they had a special relationship with Plains that gave rise to a duty of care to prevent economic harm. The existence of a special relationship depends on multiple factors, such as degree of connection be-

tween the defendant and each individual class member and the alleged economic harm. Because the proposed class members had varying relationships with Plains and some of the members likely had no injury, individualized consideration and individualized proof would be required to determine whether a special relationship existed. The fact that class members had "contractual relationships to the oil industry" was not common proof of injury or of a special relationship with Plains.

Conclusion and Implication

This case affirms that class certification and negligence claims in environmental litigation cannot be established based solely on allegations that a defendant's misconduct affected multiple plaintiffs' contracts with third parties. The court's unpublished decision is available online at: <http://cdn.ca9.uscourts.gov/datastore/memoranda/2019/07/03/18-55850.pdf> (Gina Herrera, Rebecca Andrews)

EIGHTH CIRCUIT DENIES PRIVATE RIGHT OF ACTION UNDER NEPA AGAINST STATE AGENCY REGARDING PROPOSED LIGHT RAIL TRANSIT PROJECT

Lakes & Parks Alliance of Minneapolis v. Federal Transit Administration, 928 F.3d 759 (8th Cir. 2019).

The Eighth Circuit Court of Appeals reversed a U.S. District Court's decision to *imply* a private right of action against a state agency under the National Environmental Policy Act (NEPA). This decision affirmed the sole remedy for alleged NEPA violations in the Eighth Circuit to be judicial review under the Administrative Procedure Act (APA).

Factual and Procedural Background

The Metropolitan Council (Council) is a regional transportation agency in Minnesota tasked with planning and constructing the proposed Southwestern Light Rail Transit Project (Transit Project). The Transit Project proposed a transit line connecting downtown Minneapolis to the southwestern Twin Cities suburbs. The Lakes Park and Alliance of Minneapolis (LPA) is a not-for-profit group of residents who live in or frequently use the area near the proposed construction site, including the Kenilworth Corridor. Minnesota state law requires the Council

to seek approval of each city and county along the Transit Project's route before commencing construction. Further, because the SWLRT is partially funded by the Federal Transit Administration (FTA), NEPA requires the Council to prepare an Environmental Impact Statement (EIS) of the project before it is completed.

The Council first took actions to prepare an EIS for the Transit Project in 2008. In early 2014, the Council began seeking municipal consent for a plan that routed the Transit Project through the Kenilworth Corridor. While the environmental review was ongoing, the LPA sued the Council and the FTA alleging violations under NEPA, the Minnesota Environmental Policy Act, and Minnesota municipal consent statutes.

The LPA filed a motion for summary judgment, which was denied by the District Court. Then after, both the FTA and the Council filed motions to dismiss. The District Court granted the FTA's mo-

tion based on sovereign immunity, and dismissed most claims against the Council but preserved a narrow cause of action against it under NEPA. The LPA's narrow claim alleges that the Council pursued a single politically expedient course for the Transit Project in violation of NEPA's environmental review requirements.

In 2016, the Council released the final EIS and the FTA issued a Record of Decision (ROD), determining that the EIS satisfied the requirements under NEPA. The parties then filed competing motions for summary judgment. The LPA re-asserted the same narrow claim. The Council's argument was two-fold: 1) it complied with NEPA; and 2) and the issuance of the ROD mooted the LPA's claim. The District Court denied the LPA's motion and granted the Council's motion on the merits.

The LPA appealed the District Court's decision on the merits, and requested the appeals court to affirm the District Court's recognition of an implied cause of action under *Limehouse*, 549 F.3d 324 (4th Cir. 2008), but reverse the court's analysis, and instead find that the Council violated NEPA. The Council asserted that the District Court erred in implying a private right of action under NEPA.

The Eighth Circuit's Decision

The Eighth Circuit determined that NEPA alone does not provide a right of action. Rather, a court's jurisdiction is limited to judicial review under the APA, which provides for review of final agency action for which there is no other adequate remedy in court:

Because "private rights of action to enforce federal law must be created by Congress," we must "interpret the statute Congress has passed to determine whether it displays an intent to create not just a private right but also a private remedy." *Alexander v. Sandoval*, 532 U.S. 275,

286 (2001). . . . "the Eighth Circuit, along with other circuits, has repeatedly held that NEPA's statutory text provides no right of action." *Lakes & Parks*, 91 F.Supp.3d at 1120; see, e.g., *Sierra Club v. Kimbell*, 623 F.3d 549, 558-59 (8th Cir. 2010). . . .

The Circuit Court also determined the District Court circumnavigated Eighth Circuit Court precedent by relying on the Fourth Circuit's decision in *Limehouse* to imply a right of action under NEPA. In *Limehouse*, there was still a federal agency party to the suit, the final EIS and ROD had been issued, and Fourth Circuit precedent supported a NEPA claim against a state defendant to preserve environmental status quo pending federal review. The Eighth Circuit reasoned that *Limehouse* was inapposite to the present case. Unlike in *Limehouse*, the Council was the sole defendant, LPA filed suit prior to any final agency action, and Eighth Circuit precedent expressly rejected the viability of a NEPA cause of action outside the APA framework, especially when the only defendant is a state agency. Finally, the Circuit Court reasoned that even if a *Limehouse*-like action had been appropriate, such action was moot. Without the FTA in the present action, the Council cannot invalidate the ROD and conduct the environmental review again. The Eighth Circuit reversed and remanded the lower court's decision with instructions to dismiss the case.

Conclusion and Implications

This case affirms the Eighth Circuit's position that the National Environmental Policy Act does not recognize an implied private right of action. In so doing, the court affirmed that the sole remedy for alleged NEPA violations in the Eighth Circuit to be judicial review under the Administrative Procedure Act. <https://ecf.ca8.uscourts.gov/opndir/19/07/181686P.pdf> (Nathalie Camarena, Rebecca Andrews)

CALIFORNIA COURT OF APPEAL RULES ON DISCUSSION OF PROJECT ALTERNATIVES FOR SOLAR ENERGY PROJECT IN ZONING CASE

City of Hesperia v. Lake Arrowhead Community Services District, 37 Cal.App.5th 734 (4th Dist. 2019).

In this action, the Lake Arrowhead Community Services District (District) tried to nullify the City of Hesperia's (City) zoning ordinances when building a solar energy project (Project). The City brought an action against the District seeking a writ of mandate and declaratory and injunctive relief alleging that the District: 1) did not have the authority to build the Project and 2) violated the City's zoning ordinances.

The trial court ruled for the City and the District appealed. The Court of Appeal held that the District did have the authority to build the Project. The court also held, however, that the District violated the City's zoning ordinances because the administrative record did not support the District's finding that there was no feasible alternative to the proposed location of the Project.

Factual Background

The District is a community services district organized under the authority of and governed by Government Code § 61100 *et seq.* The District wanted to locate its Project on a portion of land it owned, which was located in the City in an area known as Hesperia Farms (Site).

The Site was zoned as "Rural Residential" and designated as "Rural Residential 0-0.4 units per acre" under the City's General Plan. Under the City's municipal code, solar farms like the Project are only allowed on nonresidential and nonagricultural designated properties with approval of a conditional use permit by the City's planning commission. For relevance in this case, solar farms are not allowed within 660 feet of any agriculturally designated property.

Commenting on the Site selected by the District, the City informed the District that the Project would require a General Plan amendment and a zone change and also violated the City's municipal code because the Project was located within 660 feet from an agriculturally designated property. The District moved forward and its board of directors adopted a resolution rendering the City's zoning ordinances inapplicable to the Project. The resolution provided, in part:

...2. The Board finds and determines that the Project constitutes facilities for the generation of electrical energy, and therefore meets the criteria for exemption from ... City of Hesperia zoning ordinances under Government Code § 53091, subdivision (e)...

5. Based on the above-findings, the Board finds and determines that pursuant to Government Code section 53096, there is no feasible alternative to the location of the Project at the Hesperia Farms site, by four-fifths vote of the Board, City of Hesperia zoning ordinances, including but not limited to, City of Hesperia Ordinance No. 2012-07, are rendered inapplicable to the Project.

The Court of Appeal's Decision

Zoning and Government Code Section 53090

The heart of the case is the interplay between the City's zoning ordinances and the relief from zoning granted to local agencies like the District by Government Code § 53090 *et seq.* The court's decision includes the following instructive summary of the competing interests in this case:

...Our analysis begins with the statutory requirement that, for purposes of a proposed solar energy project, a local agency must comply with the zoning ordinances of the city and county in which the project's facilities are to be constructed or located. (Gov. Code, § 53091, subd. (a); further undesignated statutory references are to the Government Code.) Then, as potentially applicable here, section 53091, subdivision (e) (§ 53091(e)), and section 53096, subdivision (a) (§ 53096(a)), each provides the agency with an exemption for the location and construction of certain types of facilities. Section 53091(e) provides an *absolute exemption* for 'the location or construction of facilities ... for the production or generation of electrical energy'—unless the facilities are 'for the storage or transmission

of electrical energy,’ in which event the zoning ordinances apply. Section 53096(a) provides a *qualified exemption* for an agency’s proposed use upon, first, a showing that the development is for facilities ‘related to storage or transmission of water or electrical energy’ and, second, a resolution by four-fifths of the agency’s members that ‘there is no feasible alternative to [the agency’s] proposal.’

The court ruled that the District could not use the absolute exemption in § 53091(e) because the Project would transmit electrical energy. The court then reviewed the qualified exemption in § 53096(a) and ruled that the administrative record did not contain substantial evidence to support the District’s finding that there is no feasible alternative to installing the Project at any location other than the Site.

Looking for guidance on the term “feasible” in § 53096(a), the court reviewed an identical “feasible” definition in the California Environmental Quality Act, Public Resources Code § 21000 *et seq.* (CEQA). The court pointed out that CEQA cases require consideration of a range of alternatives under a “rule of reason,” which requires only an analysis of those alternatives necessary to permit a reasoned choice. In this case, the court ruled that the record did not contain evidence of alternatives or evidence that no alternative exists.

At the end of its opinion, the court provided a roadmap for the District:

...On the present record, in order for the District to have properly determined that ‘there is no feasible alternative’ to the proposed location of the Solar Project for purposes of section 53096(a), the District was required to have: (1) considered alternative locations; (2) taken into account economic, environment, social, and technological factors associated with both the Project Site and the alternative locations; and (3) determined—*i.e.*, exercised discretion based on substantial evidence in the administrative record—that, at the alternative locations, the proposal was not capable of being accomplished in a successful manner within a reasonable period of time.

Conclusion and Implications

The Court of Appeal’s thorough discussion of the alternative analysis required under Government Code § 53096(a) will likely serve as a resource for local agencies seeking to use property for facilities related to storage or transmission of water or electrical energy.

The opinion may be accessed online at: <https://www.courts.ca.gov/opinions/documents/D075100.PDF> (Eddy Beltran, Nedda Mahrou)

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