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CLIMATE CHANGE™

LAW & POLICY REPORTER

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JUDICIAL DEVELOPMENTS

State:

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CLIMATE CHANGE NEWS

UNITED NATIONS REPORT SIGNALS THAT AMBITIOUS CLIMATE ACTION IS NEEDED TO REACH LONG-TERM GOALS

In December 2019, the 2019 United Nations Climate Change Conference was held in Madrid, Spain. Ahead of the conference, the United Nations (UN) issued its tenth Emissions Gap Report (Report). The Report analyzes the greenhouse gas (GHG) "emissions gap" which signifies the difference between "where we are likely to be and where we need to be." The Report concludes that "incremental changes will not be enough and there is a need for rapid and transformational action." Highlights from the Report are included below.

The Report

In the Report's preamble, the authors clarify the framework as follows:

> The report presents the latest data on the expected gap in 2030 for the 1.5°C and 2°C temperature targets of the Paris Agreement. It considers different scenarios, from no new climate policies since 2005 to full implementation of all national commitments under the Paris Agreement. For the first time, it looks at how large annual cuts would need to be from 2020 to 2030 to stay on track to meeting the Paris goals.

Greenhouse Gas Emissions Continue to Rise

According to the Report, GHG Emissions have risen at a rate of 1.5 percent per year in the last decade with total GHG emissions reaching a record in 2018. Because GHG emissions are expected to keep peaking in the next few years, the Report opines that this will require deeper and faster cuts to reach the Paris Agreement goals. And though there has been progress in climate policy, the Report notes that decreases in emissions in some countries are not enough to offset increases in other countries.

The Number of Countries Announcing Net Zero GHG Emission Targets for 2050 Is Increasing

The Report notes that 65 countries and major subnational economies, like California and major worldwide cities, have committed to a goal of net zero GHG emissions by 2050. Only a few, however, have committed to a timeline for net zero GHG emissions. Of the G20 members, only five have committed to long-term net zero GHG emissions targets. The Report opines that closing the GHG emissions gap in 2030 and reaching net zero GHG emissions by 2050 will "require unprecedented efforts to transform societies, economies, infrastructures and governance institutions."

Global Transformation of the Energy System

The Report points to the transformation of the global energy system as an essential element of closing the 2030 GHG emissions gap and reaching net zero GHG emissions by 2050, notwithstanding the fact that energy demands are expected to increase by 30 percent by 2040. The transformation is needed because in 2018, coal-fired power plants were the single largest contributor to GHG emissions growth.

The Report provides five transition options, each containing a policy rationale or motivation:

- Easy wins: expanding renewable energy for electrification
- Broad policy consensus: coal phase-out for rapid decarbonization of the energy system
- Large co-benefits: decarbonizing transport
- Hard to abate: decarbonizing energy-intensive industry
- Leapfrogging potential: avoiding future emissions and ensuring energy access

Enhanced Action by G20 Members is Essential for the Global Mitigation Effort

For this topic, the Report addressed the following questions:

- How has the global situation changed since the Paris Agreement was adopted and how does this affect opportunities to increase ambition?

- How many and what type of ambitious climate commitments have been adopted by national governments, as well as by cities, states, regions, companies and investors to date?

- Among selected G20 members, what progress has been made recently towards ambitious climate action and what are the key opportunities for additional action?

The Report notes that since the Paris Agreement, several options for ambitious climate action became less costly. The Report also notes that even though more countries and regions are adopting ambitious climate action goals, the scale and pace are not sufficient. The ambitious climate action and goals, however, do serve as prime examples for others to follow.

One concern raised by the Report is that economy-wide climate action remains extremely limited in certain areas, including the fossil fuels sector. The Report does note that countries, states and cities are pledging to phase-out combustion engines for vehicles and undertaking a shift to public transportation. Unfortunately, no such commitments exist for aviation, shipping and freight transport. The Report recommends that G20 members "urgently need to step up their commitments on ambitious climate action" and believes that they "have ample opportunity" to so given the current state of their climate and energy policies.

Conclusion and Implications

Although a large amount of progress has occurred in the climate change arena over the past decade, the UN's Report highlights the challenges that still remain and provides a worrisome look at the future under the status quo. The Report calls on stakeholders to increase their efforts and implement more ambitious climate actions. The Emissions Gap Report issued in late 2019 is available online at: https://www.unenvironment.org/resources/emissions-gap-report-2019.
(Kathryn Case)

U.S. ARMY WAR COLLEGE REPORT ANALYZES CHALLENGES TO ARMY BY CLIMATE CHANGE

In a previous issue we reviewed a United States (U.S.) Department of Defense (DoD) report regarding the vulnerability of DoD infrastructure to climate-related events, including sea-level rise and wildfires. A recent report prepared by the U.S. Army War College, went one step further and looked specifically at the challenges to the U.S. Army (Army).

Background

The report, "Implications of Climate Change for the U.S. Army" (Report), was published summer 2019, but gained more recognition towards the end of the year when some news publications reviewed the Report and published articles about it with headlines warning about a potential Army collapse within 20 years.

The Report includes two parts with the first discussing the challenges posed by climate change and the second including the Report's recommendations.

Under the summary section of the Report, it states that:

> In light of these findings, the military must consider changes in doctrine, organization, equipping, and training to anticipate changing environmental requirements. Greater intergovernmental and inter-organizational co- operation, mandated through formal framework agreements, will allow the DoD to anticipate those areas where future conflict is more likely to occur and to implement a campaign-plan-like approach to proactively prepare for likely conflict and mitigate the impacts of mass migration.

The Report goes on to state in summary that:

> Finally, the DoD must begin now to promulgate a culture of environmental stewardship across the force. Lagging behind public and political demands for energy efficiency and minimal environmental footprint will significantly hamstring the Department's efforts to face national security challenges.

Part 1: The Challenge of Climate Change

In this first part, the Report highlights three challenges: 1) Climate Change and the Physical Environment, 2) Climate Change and the Social, Economic, and Political Environment, and 3) the Army and DoD – Organizational Confusion and Lack of Accountability for Climate Change.

Climate Change and the Physical Environment

In this section, the Report notes that climate change "affects the conditions in which people live, and the environment in which military organizations operate." According to the Report, many factors are putting more people in harm's way and thereby creating multi-dimensional stress on conventional military forces. Human migration and refugee relocation due to climate change also "create an environment ripe for conflict and large-scale humanitarian crises." The Report goes on to detail a number of potential climate change impacts including sea-level rise, the opening of the Arctic, the increased range of insect-borne diseases, decreased fresh water availability, decreased food security, and stress to the power grid.

Climate Change and the Social, Economic, and Political Environment

The Report notes that although climate change's potential impacts are likely familiar, the "social, political, and economic effects of human concerns about climate change" are not. The Report opines that the more the human population believes in climate change, its cause (human-induced), and its threat, this will lead to consequences that the Army will be unable to ignore. The Report proposes a framework to understand this challenge. The framework is composed of social, market, regulatory, and technological responses to climate change.

The Army and DoD—Organizational Confusion and Lack of Accountability for Climate Change

The Report is critical of the military's inattention to climate change. It opines that "we currently have no systemic view to assess and manage [climate change] risk." It compares China's actions to that of the U.S. and notes that the potential exists "to create very significant asymmetries in resilience between the U.S. and China to climate-induced effects and any other type of attack or disaster." The Report notes DoD's responsibility to create another climate change vulnerability assessment in the coming years, but questions whether the Army will do much beyond providing the answers required for DoD's report.

The Report also provides examples showing the Army's "environmentally oblivious culture," including jet fuel dumped overboard when turbine engines are shut off, the soil damage caused by armored vehicles and the "thousands of pages of PowerPoint presentations" that are printed every day and discarded after a briefing. The Report summarizes its position succinctly: "the Army is an environmental disaster."

Report Recommendations

The second part of the Report includes recommendations in four "areas": 1) the Army Operating Environment, 2) the Army Institution, 3) the Joint Force and DoD, and 4) the National Context.

The Army Operating Environment

In this section, the Report includes a number of recommendations to address the Army's hydration challenges in arid environments. It also recommends increased planning in order to prepare for an expanded role in Artic operations associated with global climate adaptation.

The Army Institution

The Report contends that the Army lacks a culture of environmental stewardship and recommends that its "norms and values must change." The Report notes that although the current administration may have backed out of the Paris Agreement, "the majority of the American people believe that climate change is a threat." The Report sees an opportunity for the Army to "lead the nation in preparedness and

environmental awareness" or, alternatively, it can continue "hurtling through the night in the belief that it is as unsinkable as the Titanic."

The Joint Force and the Department of Defense

In this section, the Report details the type of inter-agency collaboration it believes is necessary to adequately address a lack of coordination and to consolidate climate-change related intelligence.

The National Context

In this section, the Report looks at potential power grid vulnerabilities and recommends "reverse infrastructure degradation around military installations" and the development of "cutting edge strategies for decentralized power generation and storage."

Conclusion and Implications

Although the Report is very technical, it also serves as an effective call to action. It will be interesting to see if the Army's leaders implement any of the Report's recommendations. In the end, the Report finds that the U.S. Army is "precariously unprepared" for the impacts of climate change. The Report is available online at: https://climateandsecurity.files.wordpress.com/2019/07/implications-of-climate-change-for-us-army_army-war-college_2019.pdf (Kathryn Casey)

HYDROELECTRIC PROJECT SEEKS WATER FROM HEAVILY LITIGATED WALKER RIVER BASIN— PART OF PROJECT WILL USE RENEWABLE ENERGY SOURCES

Recently, a private energy development company based in California applied to the Federal Energy Regulatory Commission (FERC) for permits to explore the feasibility of constructing two reservoirs above Walker Lake and Pyramid Lake in Nevada to generate electricity for sale in the Los Angeles energy market. The Walker River Working Group and Walker River Paiute Tribe recently intervened and provided commentary, respectively, opposing issuance of the permits for the Walker Lake project. Both entities are concerned that the proposed project would cause environmental, recreational, and aesthetic harm by decreasing lake levels.

Background

On July 10, 2019, Premium Energy Holdings, LLC (Premium Energy) filed an application for a preliminary permit to study the feasibility of what it calls the Walker Lake Pumped Storage Project (Project). The Project would be located on Walker Lake and Walker River, in Mineral County, Nevada. The Walker River originates in the eastern Sierra Nevada Mountains in California before emptying into Walker Lake. According to FERC, the sole purpose of a preliminary permit is to grant the permit holder priority to file a license application during the permit term. A preliminary permit does not, however, entitle the permit holder to construct the proposed project, and instead limits the authority conferred on the permit holder to study the feasibility of a proposed project. Moreover, a preliminary permit does not authorize the permit holder to enter privately owned lands or waters without permission.

The Project, as currently formulated, would be a closed-loop pumped storage hydropower facility consisting of an upper and lower reservoir. Water would be pumped from the lower reservoir using excess renewable energy, such as from solar and wind, into the upper reservoir. Water would be released from the upper reservoir to generate hydroelectricity when other renewable energy sources were unavailable. Premium Energy's application proposes three alternative upper reservoirs: Bald Mountain Reservoir, Copper Canyon Reservoir, or Dry Creek Reservoir. Walker Lake, which holds approximately 1.4 million acre-feet of water, would be the lower reservoir for either of the alternative upper reservoirs. The estimated annual generation of the Project under each of the alternatives would be about 6,900 gigawatt-hours.

The Bald Mountain Reservoir alternative consists of a proposed 101-acre upper reservoir at an elevation of 6,500 feet above sea level. The upper reservoir

would have a total storage capacity of 23,419 acre-feet, and would be impounded by a 615-foot-high concrete dam. Water conveyance facilities would include a series of tunnels and shafts, as well as a 500-foot-long, 85-foot-wide, 160-foot-high powerhouse located in an underground cavern. The powerhouse would contain five pump-turbine generator-motor units capable of generating 400 megawatts each. A 0.45-mile-long, 32-foot-diameter tunnel would discharge into Walker Lake. Similarly, the Copper Canyon Reservoir alternative would consist of a 235-acre upper reservoir, with a 505-foot concrete dam impounding as much as 36,266 acre-feet, and would include a powerhouse identical to the Bald Mountain Reservoir alternative. The Dry Creek Reservoir alternative would consist of a 105-acre upper reservoir with a total storage capacity of 21,953 acre-feet impounded by a 775-foot-high concrete dam and utilize slightly shorter water conveyance facilities. An identical powerhouse to the Bald Mountain and Copper Canyon reservoirs is included in the Dry Creek alternative. Under either alternative, the powerhouse would be connected to the electrical grid via a ten-mile-long, 500 kilovolt transmission line extending to a proposed converter station.

Legal Issues Raised

Premium Energy's permit application has raised several legal concerns by parties to ongoing litigation involving Walker Lake and the Walker River Basin, primarily with respect to the availability of water for the Project. Mineral County, the Walker River Working Group, and the Walker River Paiute Tribe have all expressed concerns that any water contemplated for use by the Project would diminish the amount of water flowing into or stored in Walker Lake, thus negatively impacting environmental, recreational, and aesthetic values, as well as precipitating lakebed ownership questions that have not been judicially resolved.

Water rights to the Walker River are governed by the Walker River Decree, which was issued by the United States District Court for Nevada in 1936 and modified in 1940. Currently, the United States and Walker River Paiute Tribe are seeking additional water rights for the tribe than were originally adjudicated in the Walker River Decree, including storage rights of Walker River water in Weber Reservoir north of Walker Lake. Additionally, Mineral County and the Walker River Working Group filed a lawsuit currently pending before the Nevada Supreme Court alleging that the State of Nevada and the Walker River Decree fail to satisfy or recognize the state's public trust duties to maintain Walker Lake for the benefit of the public, which could require imposing inflow requirements for Walker Lake. Accordingly, the parties opposing Premium Energy's permit application argue that either no water is available for the Project, or any water rights obtained by Premium Energy will be encompassed by ongoing litigation.

In response to some of these concerns, Premium Energy has recently stated that it will seek to acquire water rights to the Walker River, potentially via litigation. According to Premium Energy, it is interested in acquiring water rights from users upstream of Walker Lake. Instead of consumptively exercising those water rights, Premium Energy suggests that it would direct the water to Walker Lake, which would then be cycled between Walker Lake and an upper reservoir, resulting in less than one-foot fluctuations in Walker Lake levels. Premium Energy has not identified whether it will seek Nevada or California water rights to the Walker River, nor has it articulated its legal basis for how acquiring those rights would allow Premium Energy to store—as opposed to consumptively use—water in Walker Lake and an upper reservoir.

Conclusion and Implications

Premium Energy's application is only for studying the feasibility of the Walker Lake Pumped Storage Project. It is unclear what water rights may be available for Premium Energy to acquire to meet the needs of the Project without interfering with existing water rights. Moreover, it is unclear if water rights may be available to Premium Energy that would allow the company to non-consumptively store water in Walker Lake for cycling between an upper reservoir. Answering these questions could significantly impact the viability of the Project, and could potentially involve litigation to settle those or related questions.

The Premium Energy Preliminary Permit Application, available at: https://www.federalregister.gov/documents/2019/10/04/2019-21638/premium-energy-holdings-llc-notice-of-preliminary-permit-application-accepted-for-filing-and

(Miles B. H. Krieger, Steve Anderson)

CALIFORNIA GOVERNOR NEWSOM AIMS TO USE PENSION AND ROAD FUNDS TO FIGHT CLIMATE CHANGE

Governor Gavin Newsom has issued Executive Order N-19-19 (Executive Order), directing California's Transportation Agency, pension funds, and the Department of General Services to reconsider how they spend public money with an eye towards investing in projects to help Californians prepare for climate change. The executive order has created much confusion among state agencies, instructing the government to use its $700 billion investment portfolio to "advance California's climate leadership."

Background

The executive order makes clear Newsom prioritizes climate change and wants to focus California's asset allocation towards ameliorating the adverse effects of global warming. The order references funds that taxpayers generally consider restricted—money earmarked for road improvements and pension systems that have a financial obligation to earn profits to provide retirement security for government employees—and asks those funds to invest in climate change solutions.

Highways and Roads

Newsom's order will not change restrictions lawmakers put in place in 2017 levying new taxes and fees on fuel and vehicle registrations to pay for road repairs, which are expected to raise roughly $5 billion a year for road work. The executive order may lead the Transportation Agency to adjust plans for other funds, steering money to public transportation and to projects in dense communities in an effort to reduce vehicle miles traveled across the state. Any changes in allocation of funds will first be presented in public meetings expected early next year.

Any allocation which removes funding from more rural areas of California is sure to create great controversy, and lawmakers are already jockeying to oppose moving funds away from freeways and towards public transportation.

Public Pensions

California's three state public pension systems—The California Public Employees' Retirement System, the California State Teachers' Retirement System, and the University of California Retirement Plan—are among the largest in the world, and each has investment strategies which account for climate change. Both CalPERS and CalSTRS, which have a combined portfolio worth more than $634 billion, prefer to use their size to press corporations to account for climate risk. For example, CalSTRS launched a climate review in October to account for risks. The University of California Retirement Plan, meanwhile, announced that it will pull its roughly $80 billion out of fossil fuel companies entirely.

These decisions arise in a moment where all three systems are underfunded, meaning they owe more in benefits to workers and retirees than they have in cash on hand. This created controversy around the executive order, which seems geared towards controlling investments on policy grounds at a time when maximizing profits may be crucial to the retirement of public employees.

Governor Newsom has argued the executive order is not a directive to CalPERS and CalSTRS to divest from oil companies, but rather aims to help the funds spot opportunities and avoid mistakes as the economy shifts to low-carbon or no-carbon alternatives for energy.

The Immediate Effects

The most immediate effect of the executive order is Newsom's announcement that the state government will stop purchasing gas-powered vehicles immediately. In January, the state also plans to cease buying cars from General Motors, Toyota, FiatChrysler, and any other carmakers that opt to fight California's authority to set clean air and vehicle emission standards that are more rigorous than that of the federal government.

The state has 36,692 passenger vehicles, roughly 14,000 of which were made by Ford. It is unclear whether this position will increase costs of maintaining the fleet.

Conclusion and Implications

From his inauguration, Newsom has made climate change one of the central focuses of his governor-

ship. State pension funds are inevitably controversial, and shifts which may reduce economic gains in the short-term come in for severe criticism. However, if California's economy—one of the world's largest—is shifting away from fossil fuels and towards carbon neutrality, asking pension funds to correct in anticipation of these changes may be a logical course of action to ensure long-term viability. The full text of the Executive Order is available online at: https://www.gov.ca.gov/wp-content/uploads/2019/09/9.20.19-Climate-EO-N-19-19.pdf.
(Jordan Ferguson)

CLIMATE CHANGE SCIENCE

RECENT SCIENTIFIC STUDIES ON CLIMATE CHANGE

Role of Rossby Waves in Extreme Temperature Events and Impact on Crop Production

One of the consequences of climate change is an increase in the frequency and severity of extreme weather events such as heat waves, droughts, and flooding. The impacts of these extreme weather events often reach beyond the communities directly affected and can be felt on a global scale. For instance, in 2018, several agricultural regions of the world simultaneously experienced either severe heat or rainfall. The simultaneous nature of these events led to an average decrease in crop production of 4 percent, and there is concern that as such events become more frequent, global food security will be at risk especially since crop production is heavily concentrated in certain regions.

A recent study by Kornhuber et. al. of Columbia University, University of Oxford, and National Centre for Atmospheric Science (Leeds, UK) determined that Rossby waves in the northern hemisphere jet stream can lead to simultaneous extreme weather events. Jet streams are narrow bands of air currents that move in primarily the western direction around the globe and play a large role in daily weather patterns in the mid-latitude regions of the world. The effects of the jet stream on daily weather variation are strongest when north-south meandering flow occurs. This meandering flow is characteristic of atmospheric waves know as Rossby waves.

To analyze the effects of Rossby waves, the researchers followed a three-step process: first, they quantified the importance of the waves for heat waves in individual regions; second, they assessed the probability of simultaneous events across regions in North America, Europe and Asia; and third, they analyzed the impact of Rossby wave-influenced events on crop production. Using wave data from 1979-2018, the researchers found that Rossby waves with wavenumbers of 5 and 7 are responsible for the simultaneous nature of these extreme events. The average consequence for crop production was a decrease of 4 percent in summers with more than one wave-5 or wave-7 event. They did not observe any significant trends in frequency over the years, although other studies have reported increases in waves 5 and 7 in recent summers. The researchers hypothesize that regardless of frequency trends, the intensity of heat events and the resulting consequences will increase as average temperatures continue to climb. In order to better understand the exact threats, the researchers call for further studies to understand the fundamental forces behind the Rossby wave trends, as well as to quantify future risks using future climate projections.

See: Kornhuber, K., Coumou, D., Vogel, E. *et al.* Amplified Rossby waves enhance risk of concurrent heatwaves in major breadbasket regions. *Nat. Clim. Chang.* (2019) doi:10.1038/s41558-019-0637-z

Natural Gas as a Low Carbon Fuel

Natural gas is seen as a potential low carbon fuel source to help countries transition from coal and other fossil fuels that contribute to higher carbon dioxide (CO2) emissions. However, natural gas is made of mostly methane (CH4), which is a greenhouse gas (GHG) that traps approximately 28 times more heat in the atmosphere per mass than CO2. When natural gas is transported through pipelines or stored in tanks there is potential for CH4 to be leaked into the atmosphere.

Researchers at Massachusetts Institute of Technology recently studied the trade-offs of using natural gas as a low carbon fuel. To do this they modelled the GHG emissions of the US electric power sector. First, they modelled the baseline of the power sector's CH4 emissions and then they modelled emissions reductions with and without implementing measures to prevent CH4 leaks. The researchers also assessed the uncertainty of carbon models using different natural gas leakage rates and emissions equivalency metrics.

The goal of the study was to understand the impact of CH4 leakage on meeting emissions reduction goals and climate policies. The researchers found that to meet the goal of reducing CO2 equivalent emissions 32 percent by 2030 from a 2005 baseline, CH4 emissions would have to be reduced 30-90 percent. If zero-

carbon sources of fuel are considered in the solution, then less mitigation of leaks would be required.

The assessment is limited in that it only addresses the US Power Sector and does not include uncertainty from other GHGs such as hydrofluorocarbons (HFCs), which trap approximately 100 times more heat in the atmosphere per mass than CO2.

See: Magdalena M. Klemun, Jessika E. Trancik. Timelines for mitigating the methane impacts of using natural gas for carbon dioxide abatement. Environmental Research Letters, 2019; 14 (12): 124069 DOI: 10.1088/1748-9326/ab2577

The Impacts of Arctic Ice Management on Climate Change

By late-summer of the mid-21st century, the Arctic Ocean is projected to be virtually ice-free. This widespread sea ice melt comes as a result of rising temperatures due to global warming. The Paris Agreement aims to reduce greenhouse gas emissions with the intent of maintaining global warming below 2° C; however, even if every country achieves its respective emissions reduction goals, this 2° C threshold will likely be exceeded. Therefore, utilizing additional strategies such as climate engineering along with greenhouse gas emission reductions will be vital in combatting climate change.

In 2017, Desch et al. proposed a strategy that garnered attention by focusing on the Arctic sea ice cover and its positive ice-albedo feedback. This was coined as the Arctic Ice Management (AIM) strategy. The AIM approach implements wind-driven pumps to spread seawater onto the ice surface during winter months with the intention of generating thicker ice covers that can survive summer months. Sea ice acts as a natural thermal insulator, limiting the heat flux from the warmer ocean to the cooler atmosphere and thereby decreasing the formation of new ice. AIM exposes sea water to the cooler atmosphere, which encourages the growth of thicker ice.

A recent study prepared for the American Geophysical Union aims to provide insight into the impacts of the AIM approach on both Arctic sea ice decline and global warming. Zampieri et al. utilize the Alfred Wegener Institute (AWI) Climate Model to understand the efficacy of AIM and predict outcomes on the climate system with and without the implementation of AIM under a high radiative forcing scenario (RCP 8.5).

Zampieri et al. found that AIM delayed Arctic sea ice decline but had negligible impact on combatting global warming. The introduction of AIM in 2020 creates immediate impacts on the sea ice state within the first few years, increasing sea ice volumes by ~40 percent in March 2020 and ~60 percent in September 2020. During this time period, the increase in sea ice cover nearly reaches that of historical conditions. However, the ongoing warming of the planet due to greenhouse gases eventually catches up and overpowers the effects of AIM. The study concludes that AIM will delay the projected ice-free Arctic Ocean by 66 ± 6 years.

Increased sea ice cover yields increased surface albedo. This relationship is strongest during summer months due to significantly more reflected solar radiation. As a result, the study found consistent late-summer cooling with the implementation of AIM in the northern latitudes of the Arctic. This cooling trend did not extend to lower latitudes. Consequently, the Arctic experienced overall warming in regions with pumps during winter months as the warmer temperatures of lower latitudes expanded further north with time.

Zampieri et al. found that the AIM approach delays the decline is sea ice cover by roughly 60 years, along with cooling during the late-summer months and warming during winter months. The study suggests that AIM will not have a meaningful impact on combatting climate change in the long term.

See: Zampieri, L., & Goessling, H. F. (2019). Sea ice targeted geoengineering can delay Arctic sea ice decline but not global warming. Earth's Future. 7. https://doi.org/10. 1029/2019EF001230

Also referenced: Desch, S. J., Smith, N., Groppi, C., Vargas, P., Jackson, R., Kalyaan, A., et al. (2017). Arctic ice management. Earth's Future, 5, 107–127. https://doi.org/10.1002/2016EF000410

Carbon Dioxide Scrubbing from Flue Gas Using Metal-Organic Frameworks

Anthropogenic carbon dioxide emissions are contributing to climate warming that has implications across science and society. Burning fossil fuels for energy creates a byproduct of flue gas, which is a combination of CO2, water vapor, sulfur dioxides, and nitrogen oxides. To prevent CO2 in flue gas from entering the environment, carbon capture technologies are needed. CO2 scrubbing is a type of carbon

capture that targets and removes CO2 from the flue gases before the flue gas is released through smokestacks to the atmosphere. Metal-organic frameworks (MOFs) are a class of compounds that have gained attention for use in scrubbers due to their ability to separate CO2 from nitrogen (N2) through adsorption onto binding sites. However, the presence of water vapor in flue gas presents a challenge in MOF-based separation because water competes with CO2 for adsorption sites. Drying the flue gas is an option to remedy this challenge but has a high economic cost.

A team of international researchers is addressing the challenge of using MOF scrubbers in conditions with water vapor. They created a computational screening system of MOFs that assesses CO2 binding sites and their ability to maintain CO2/N2 selectivity in wet conditions. They analyzed over 300,000 MOFs to identify and classify their CO2 binding sites, then synthesized two water-stable MOFs with the most hydrophobic CO2 binding sites. Lab testing of these MOFs determined their carbon-capture performance did not deteriorate in the presence of water and exceeded that of some commercially used materials. Kyriakos Stylianou, a professor at Oregon State University who co-led this research, reported that the MOFs maintained performance under wet conditions due to separate binding sites for CO2 and water.

The next steps in assessing the feasibility of these MOFs involve testing them in an industrial setting and analyzing their compatibility with post-scrubbing carbon needs, such as sequestration or utilization. As the market for captured CO2 continues to increase in areas ranging from building materials to cleaning products, and as the concentration of CO2 in our atmosphere rises, new and effective CO2 scrubbing methods will likely become more popular in smokestack design.

See: Boyd, P.G., Chidambaram, A., García-Díez, E. *et al.* Data-driven design of metal–organic frameworks for wet flue gas CO2 capture. *Nature* 576**,** 253–256 (2019) doi:10.1038/s41586-019-1798-7

Also referenced: Oregon State University. "Scrubbing carbon dioxide from smokestacks for cleaner industrial emissions." ScienceDaily. ScienceDaily, 11 December 2019.

(Abby Kirchofer, Libby Koolik, Shaena Berlin Ulissi, Ashley Krueder)

REGULATORY DEVELOPMENTS

EPA MEMORANDUM FINDS PHYSICAL PROXIMITY, NOT FUNCTIONAL RELATIONSHIP, RELEVANT TO 'ADJACENT' POLLUTANT-EMITTING ACTIVITIES UNDER THE CLEAN AIR ACT

On November 26, 2019, the U.S. Environmental Protection Agency (EPA) issued a memorandum interpreting "adjacent" for purposes of source determinations for stationary sources under the major New Source Review pre-construction permit programs in title I of the federal Clean Air Act (CAA) and for the title V operating permit program. EPA's memorandum provides that only physical proximity should be considered when determining if facilities located on different properties are "adjacent."

Background

Title V of the CAA requires "major stationary sources" and a small number of smaller sources to obtain operating permits, operate in compliance with the permits' pollution control requirements, and certify their compliance annually. Most title V permits are issued by state or local air pollution control agencies. A few are issued by EPA.

New Source Review (NSR) permits are required for the construction of new major stationary sources and major modifications to existing stationary sources. In areas that attain National Ambient Air Quality Standards (NAAQS), these permits are also referred to as Prevention of Significant Deterioration (PSD) permits. A PSD program requires installation of Best Available Control Technology (BAT) analysis of air quality and additional impacts, and public involvement. In areas that do not attain NAAQS, nonattainment NSR permits impose more stringent requirements, such as the installation of the lowest achievable emission rate and procurement of emission offsets. NSR permits are also required for certain new non-major sources that interfere with a NAAQS or control strategy in a nonattainment area. Most NSR permits are issued by state and local agencies.

Stationary Sources

Both permitting programs apply to "stationary sources," a term broadly defined by the Clean Air Act to mean "any source of an air pollutant" with the exception of emissions resulting from certain mobile sources or engines. EPA regulations define "stationary source" as "any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant" and provide further that a single stationary source may be made up of a group of emissions that meet a three-part test: the pollutant-emitting activities: 1) are "located on one or more contiguous or *adjacent* properties" (emphasis added), 2) are under the control of the same person or groups of persons under common control and 3) belong to the same major industrial grouping. The application of this three-part test is referred to as a "source determination." A stationary source is considered "major" if it emits or has the potential to emit air pollutants in excess of emissions levels enumerated by statute.

EPA's Recent Action

EPA's recent memorandum sets forth a new interpretation of the term "adjacent" as used in EPA's three-part test for "source determinations." In previous communications to state and local permitting authorities regarding adjacent properties, EPA looked beyond the physical proximity of the properties and took into consideration the functional relationship, or functional interrelatedness, that existed between those facilities. EPA has now revised its approach and encourages permitting authorities that administer EPA-approved title V and NSR programs to focus exclusively on proximity when considering whether properties are adjacent.

EPA first promulgated the three-part test for source determination in 1980 in response to a D.C. Circuit decision that held "source" should be understood to embody the "common sense notion of a plant." In crafting the regulation, EPA declined to specify a specific distance or to explicitly adopt "functional relationship" as a relevant criterion to adjacency. Instead, EPA maintained that the "adjacent" determi-

nation would be made on a case-by-case basis guided by the D.C. Circuit's principle of the "common sense notion of a plant."

Since 1980, EPA's guidance on the term "adjacent" has vacillated. As early as 1981, EPA memoranda emphasized the functional relationship between facilities in finding them to be "adjacent." Then, in 2007, EPA issued a memorandum that emphasized proximity as the primary factor to be considered in the context of the oil and gas industry. In 2009, EPA withdrew the memorandum and again emphasized that an "adjacent" determination must be made on a case-by-case basis after considering of all of the relevant factors in all industries.

In 2012, the Sixth Circuit ruled that EPA's consideration of interrelatedness was contrary to the plain meaning of "adjacent" which it held relates only to physical proximity. In response, EPA issued a 2012 memorandum explaining that it would follow this decision only within the Sixth Circuit but would continue to consider interrelatedness in other jurisdictions. In 2014, the D.C. Circuit struck down the 2012 memorandum as conflicting with EPA regulations that promote uniform national regulatory policies.

The Most Recent Memorandum

In its most recent memorandum, EPA states that the perceived functional interrelatedness of pollutant-emitting activities is not a relevant consideration in the adjacent inquiry for industries other than oil and gas. Rather, emissions should only be considered "adjacent" if they are "nearby, side-by-side, or neighboring (with allowance being made for some limited separation by, for example, a right of way)." EPA notes, however, that the revised interpretation is not a regulation or final agency action and does not otherwise constitute a legal requirement that binds local permitting authorities. EPA also encourages permitting authorities that chose to apply its new interpretation to do so "prospectively and not retroactively."

EPA's memorandum does not apply to the oil and gas industry. EPA is concerned that considering physical proximity alone would result in grouping too many oil and gas emissions that do not otherwise have any operational ties. EPA explains that this result would not be consistent with the "common sense notion of a plant" principle.

Conclusion and Implications

If followed by permitting agencies, EPA's interpretation of "adjacent" may alter the scope and extent of the title V and NSR permitting schemes, sometimes broadening and sometimes narrowing their reach. This interpretation alters the criteria for grouping emissions into a single source, a determination that is often determinative of whether title V and NSR permitting programs apply. However, because local permitting agencies are not bound by EPA's interpretation and the majority of permitting determinations are made by local agencies, the practical impact of EPA's memorandum will not be clear for some time.

EPA's memorandum is available online at: https://www.epa.gov/sites/production/files/2019-12/documents/adjacent_guidance.pdf.
(Kira Johnson, Rebecca Andrews)

IN AID OF ENDANGERED SALMONIDS, OREGON ENVIRONMENTAL QUALITY COMMISSION PROPOSES TEMPORARY MODIFICATION TO TOTAL DISSOLVED GAS STANDARD FOR MAINSTEM COLUMBIA RIVER

Pursuant to a request from the U.S. Army Corps of Engineers (Corps), Oregon's Environmental Quality Commission (EQC) issued an order proposing to temporarily modify the total dissolved gas water quality standard applicable to the four lower Columbia River dams to facilitate fish passage over the dams. The Oregon Department of Environmental Quality (DEQ) accepted public comment from November 6, 2019 to December 6, 2019, which the EQC will consider at its January 2020 meeting before rendering a final decision on the order.

The Spill Operation Agreement

The Corps' request arose from the 2019-2021 Spill Operation Agreement entered into by the State of Oregon, the State of Washington, the Nez Perce

Tribe, the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation, and the Bonneville Power Administration (Agreement) in December 2018. The Agreement grew out of the litigation in *National Wildlife Federation v. National Marine Fisheries Service*, 184 F.Supp.3d 861 (D. Or. 2016). Among other rulings in that case, the United States District Court for the District of Oregon remanded back to the National Oceanic and Atmospheric Administration (NOAA) the Columbia River System Operations Environmental Impact Statement (EIS) completed pursuant to the federal National Environmental Policy Act (NEPA). The Agreement is intended to forestall further litigation until the remand process is completed. The spill operations described in the Agreement for 2020 were also incorporated into NOAA Fisheries' 2019 Biological Opinion for the Columbia River System, issued pursuant to the federal Endangered Species Act (ESA).

The Agreement authorizes additional voluntary spill over the four lower Columbia River dams (Bonneville, The Dalles, John Day, and McNary) to facilitate increased endangered and threatened juvenile salmonid (salmon and trout) passage during the fish passage season of April 10 to August 31. Additional spill will help more salmonids reach the ocean. It will also reduce passage through the turbines (powerhouse passage), which, while not directly associated with mortality, has been shown to negatively impact in-river and early ocean survival of juvenile salmonids. The Agreement is aimed at aiding, in particular, spring/summer Chinook salmon and summer steelhead, both of which have seen annual returns below recovery targets established by the Northwest Power and Conservation Council.

Total Dissolved Gas

Increased levels of dissolved gas occur below dams because water spilling over dams captures air and carries it to a depth where the pressure forces the gas to dissolve into the water. More spill leads to more dissolved gas. Total dissolved gas levels above 110 percent of saturation can cause gas bubble trauma in fish, which occurs when gas bubbles form in their cardiovascular systems and block blood flow and respiratory gas exchange. Accordingly, Oregon has set the water quality standard for total dissolved gas at 110 percent.

Since 1996, the EQC has approved total dissolved gas limits of up to 120 percent to allow for increased spill to facilitate fish passage, even though total dissolved gas of 120 percent carries with it an approximately 1 percent incidence of gas bubble trauma (that incidence increases to 15 percent with total dissolved gas of 130 percent). While greater total dissolved gas will lead to greater gas bubble trauma, improved passage is believed to increase survival rates overall.

The Proposed Modification

The current proposed modification would allow for up to 125 percent total dissolved gas during the spring (April 10 to mid-June) and up to 120 percent during the summer (mid-June to August 31). The limit will be calculated as the average of the 12 highest hourly readings in the tailrace in a calendar day. Spill must also be reduced if instantaneous total dissolved gas levels exceed 126 percent (calculated as the average of the two highest hourly total measurements in a calendar day) in the spring and 125 percent in the summer.

If spill is necessary outside the April 10 to August 31 period for the Spring Creek Hatchery fish release, benefit of ESA-listed fish, or other reasons, the Corps must request approval from DEQ in writing one week in advance.

Biological Monitoring

The Fish Passage Center will continue biological monitoring at McNary and Bonneville dams according to its 2009 "GBT Monitoring Program Protocol for Juvenile Salmonids." Biological monitoring involves physically examining a sample set of passing fish for symptoms of gas bubble trauma. If the incidence of trauma exceeds specified thresholds, the DEQ Director will reduce or halt voluntary spill.

Conclusion and Implications

This proposed modification will last through the 2021 fish passage season, in alignment with the duration of the Agreement. The Columbia River System Environmental Impact Statement is currently scheduled to be completed in September 2020. That decision will likely set off a new round of activity in the litigation, which has been ongoing since 2001. (Alexa Shasteen)

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 November 21, 2019, John Lee was arraigned, following an indictment issued on October 8, 2019, for knowingly making false statements while testifying under oath before a federal grand jury and for obstructing justice. The indictment relates to Lee's prior representation of Hyundai Construction Equipment Americas LLC, which entered a guilty plea for violating the federal Clean Air Act (CAA) and conspiring to defraud the United States and was sentenced to pay a criminal fine on November 14, 2018. Lee gave testimony under oath pursuant to a privilege waiver issued by Hyundai. The indictment includes three perjury charges and one obstruction of justice charge. It alleges that during his testimony before a grand jury, Lee denied giving Hyundai employees advice about submitting a report to the U.S. Environmental Protection Agency (EPA) for the Transition Program for Equipment Manufacturers (TPEM) that contained false information regarding Hyundai's compliance with CAA regulations. The indictment alleges that this was a false statement because Lee both received the TPEM report by email and approved its filing. Lee is also charged with falsely denying that he directed Hyundai employees to use their personal email accounts, rather than work accounts, to discuss Hyundai's regulatory issues, and falsely denying that he received emails about the regulatory issues on his own personal email account. The indictment also alleges that Lee knowingly failed to produce relevant emails in response to a grand jury subpoena in an effort to impede the grand jury investigation.

•On December 3, 2019, EPA announced that Lehigh Cement Company LLC and Lehigh White Cement Company, LLC had agreed to a settlement to resolve alleged CAA violations at their Portland cement manufacturing plants. Under the settlement, the companies will invest approximately $12 million in pollution control technology at their eleven Portland cement plants, located in eight states. Lehigh Cement Company and Lehigh White Cement Company will (1) install and operate equipment to control nitrogen oxides and meet emission limits consistent with controls at comparable cement kilns in the U.S. and (2) operate existing pollution controls at four kilns to meet tightened emission limits. Lehigh Cement Company will also install and operate pollution control equipment at five or six kilns to meet low sulfur dioxide limits at all kilns. Lehigh Cement Company will mitigate the effects of past excess emissions from its facilities by replacing old diesel truck engines at its facilities in Union Bridge, Maryland and Mason City, Iowa at an estimated cost of approximately $650,000. Lehigh Cement Company will also pay a civil penalty of $1.3 million to resolve its CAA violations.

•On December 10, 2019, EPA and the U.S. Department of Justice announced a settlement with Kern Oil & Refining Co. to resolve alleged violations at its petroleum refinery in Bakersfield, California. Kern Oil will pay a $500,000 penalty to address the refinery's failures to comply with flare emissions monitoring and leak inspection reporting requirements under the CAA and toxic chemical release reporting requirements under the Emergency Planning and Community Right-to-Know Act. Kern Oil will spend an additional $200,000 to comply with the requirements of the settlement. The settlement addresses sulfur dioxide emissions from the refinery's flare, as well as volatile organic compounds leaking from equipment such as valves, pumps, compressors, and wastewater drains. Kern Oil has already installed a required flare monitor and has begun submitting required monitoring and inspection reports.

•November 18, 2019 - The U.S. Environmental Protection Agency has entered into two separate

administrative settlements to address alleged chemical accident prevention and preparedness violations under the Risk Management Program of the Clean Air Act. Both settlements are part of EPA's National Compliance Initiative to reduce accidental releases at industrial and chemical facilities. Catastrophic accidents at these facilities—historically about 150 each year—can result in fatalities and serious injuries, evacuations, and other harm to human health and the environment. The alleged violations and settlements relate to two companies' management of anhydrous ammonia at their separate fertilizer distribution facilities: New Cooperative Inc. and Manning Grain Company. Under the settlement agreements, each company will assure that its accident prevention program complies with all applicable Clean Air Act requirements. New Cooperative Inc. is a large agricultural retailer with 43 facilities in Iowa. It will pay a penalty of $20,000 to resolve cited violations at its Badger, Iowa, facility. Manning Grain Company owns and operates a single agricultural retail facility in Burress, Nebraska. It will pay a penalty of $45,796 to resolve the violations cited at its facility. In addition, each company will pay for and perform projects approved by EPA.

•December 20, 2019 - Nikolaos Vastardis, Evridiki Navigation Inc., and Liquimar Tankers Management Services Inc., were convicted by a federal jury in Wilmington, Delaware, of violating the Act to Prevent Pollution from Ships, falsifying ship's documents, obstructing a U.S. Coast Guard inspection, and making false statements to U.S. Coast Guard inspectors. The crimes were committed in order to conceal Vastardis' deliberate bypassing of required pollution prevention equipment in order to illegally discharge oil-contaminated bilge waste overboard from the foreign-flagged oil tanker Motor Tanker (M/T) Evridiki. The M/T Evridiki was an 899 foot Liberian-flagged oil tanker owned by Evridiki Navigation and operated by Liqumar Tankers Management Services. Vastardis was the Chief Engineer of the M/T Evridiki. On March 10, 2019, the ship arrived in the Big Stone Anchorage, within Delaware Bay, for the purpose of delivering a cargo of crude oil. The following day, the ship underwent a U.S. Coast Guard inspection to determine, among other things, the vessel's compliance with international environmental pollution prevention requirements. The jury found that during the inspection, Evridiki, Liquimar, and Vastardis tried to deceive Coast Guard inspectors regarding the use of the ship's oily water separator (OWS), a required pollution prevention device. Under the International Convention for the Prevention of Pollution from Ships (MARPOL), an international treaty to which the U.S. is a party, only bilge waste containing less than 15 parts per million (ppm) oil can be discharged overboard and must be first run through an OWS and oil content meter (OCM) to ensure that no waste containing more than 15 ppm oil is discharged. During the Coast Guard inspection, Vastardis operated the equipment with unmonitored valves that trapped fresh water inside the OCM's sample line so that its oil sensor registered zero ppm instead of what was really being discharged overboard. However, historic OCM data recovered during the inspection proved that the OCM was being tricked and bypassed. When the Coast Guard opened the Evridiki's OWS, they found it was fouled with copious amounts of oil and soot. Each defendant was convicted of all four felony counts including knowingly failing to maintain an accurate oil record book, in violation of the Act to Prevent Pollution from Ships; obstruction of justice; obstruction of the Coast Guard's inspection; and making a materially false statement to the Coast Guard concerning how the OWS was operated at sea.
(Allison Smith)

LAWSUITS FILED OR PENDING

PACIFIC GAS AND ELECTRIC ANNOUNCES SETTLEMENT AGREEMENT WITH WILDFIRE VICTIMS, BUT HAS MORE WORK TO DO

On December 6, 2019, wildfire victims reached a $13.5 billion settlement with Pacific Gas & Electric, Company (PG&E) to resolve the nearly 700,000 legal claims stemming from the 2018 Camp Fire, the 2017 Northern California fires, the 2017 Tubbs Fire, the 2016 Ghost Ship warehouse fire in Oakland and the 2015 Butte Fire. The settlement proposal was approximately $23 billion less than the initial $36 billion estimate from counsel for wildfire victims, and the announcement of the settlement proposal sent PG&E's stock price up in the markets.

Background—The Settlement

As part of the settlement, PG&E would pay wildfire victims $5.4 billion in cash and $6.75 billion in PG&E stock. The settlement also includes a $1 billion payout to cities and counties that were affected by the fires.

Federal bankruptcy judge Dennis Montali approved the settlement agreement on December 17, 2019.

Simultaneously, PG&E announced a $1.68 billion settlement with the Safety and Enforcement Division of the California Public Utilities Commission, settling an investigation launched by the Division regarding safety violations made by PG&E in managing and operating its utility infrastructure, which led to some of the 2017 and 2018 wildfires. This settlement agreement, if approved and adopted by CPUC Commissioners, would be the largest fine in CPUC history, and would require PG&E to set aside $50 million to invest in measures that would strengthen its utility infrastructure and to engage with local communities, including by holding Town Hall meetings and providing quarterly reports on maintenance work.

Governor Newsom Disagrees with the Settlement

Notwithstanding the approvals from the federal bankruptcy judge, Governor Gavin Newsom issued a statement and a letter to PG&E CEO Bill Johnson noting that the bankruptcy reorganization plan "falls woefully short." Newsom stated that:

> In my judgment, the amended plan and the restructuring transactions do not result in a reogranized company positioned to provide safe, reliable and affordable service to its customers. The state remains focused on meeting the needs of Californians including fair treatment of victims—not on which Wall Street financial interests fund an exit from bankruptcy.

Newsom's office issued a statement further elaborating:

> The governor has been clear about the state's requirements—a new and totally transformed entity that is accountable and prioritizes safety. Critically important to that is ensuring that the new entity has the flexibility to fund this transformation. These points are not negotiable.

Newsom's letter was widely supported by state legislators and advocacy groups such as The Utility Reform Network (TURN), who would like and expect to see further term negotiation to ensure customer safety and reliability, rather than a quick exit that favors shareholders and the aim of qualifying for the state wildfire fund, before PG&E emerges from the bankruptcy dispute.

PG&E's stock fell 14 percent after the letter from Newsom, trading at $9.67. PG&E is operating under a June 2020 deadline to exit bankruptcy proceedings in order to qualify for California's recently enacted wildfire insurance fund under Assembly Bill 1054.

Alleged Diversion of Undergrounding Funds

Meanwhile, a recent audit commissioned by the CPUC and conducted by the firm AzP Consulting found that from the period 2007 through 2016, PG&E diverted $123 million from funds allocated to

the Commission's Rule 20 program, which is intended to increase the undergrounding of overhead electric lines.

The audit report concluded that its findings showed that:

> PG&E ratepayers not only paid more in rates than PG&E spent on the Rule 20A program, [but that] the project activity that was performed was done so in a manner that was inefficient and costlier than necessary.

The Rule 20A program was launched to facilitate undergrounding and to soften the high cost barrier associated with such work. For example, PG&E has estimated that it costs an average $2.3 million per mile to bury overhead power lines, whereas running the same lines above ground costs approximately $800,000 per mile.

The CPUC also recently rejected a request by both PG&E and SDG&E to increase its profit margins in a filing before the Commission.

Conclusion and Implications

Overall, PG&E still has a long road ahead in wrapping up its bankruptcy proceeding and numerous related investigations at the CPUC—and in planning for its future in supplying electricity, often above ground, in a California that increasingly burns. (Lilly McKenna)

JUDICIAL DEVELOPMENTS

THIRD DISTRICT COURT UPHOLDS CITY'S ENVIRONMENTAL IMPACT REPORT INCLUDING TRAFFIC AND GREENHOUSE GAS ANALYSES

Citizens for Positive Growth & Preservation v. City of Sacramento, ___Cal.App.5th___, Case No. C086345 (3rd Dist. Dec. 18, 2019).

The Third District Court of Appeal has affirmed the decision of the trial court denying the petition for writ of mandate and injunctive relief and complaint for declaratory relief against the City of Sacramento. The petition sought to set aside the city's certification of an Environmental Impact Report (EIR) and adoption of its 2035 General Plan.

Factual and Procedural History

In August 2014, the city released its draft 2035 General Plan and draft EIR for public review. On January 15, 2015, the planning commission voted to recommend certification of the EIR and adoption of the 2035 General Plan, including five supplemental changes to the 2035 General Plan and EIR. The city subsequently issued a "special reminder" that the city council would consider adopting the 2035 General Plan and certify the EIR—and also included a document containing a list of 13 supplemental changes, inclusive of the five changes previously considered by the planning commission. The city approved the 2035 General Plan and certified the EIR with the proposed changes.

Petitioner filed suit challenging both the adequacy of the 2035 General Plan, as well as the EIR. The trial court denied petitioner's claims in their entirety and this appeal followed.

The Court of Appeal's Decision

The 2035 General Plan

In its introductory paragraph, the 2035 General Plan provides, in part, that:

> . . .in making a determination of consistency the [c]ity may use its discretion to balance and harmonize policies with other complementary or countervailing polices in a manner that best achieves the [c]ity's overall goals.

Petitioner claimed the introductory language grants the city unfettered discretion to create a hierarchy of General Plan elements in violation of Government Code § 65300.5, which requires the policies in a general plan as written to be integrated, internally consistent, and compatible.

The court disagreed. The court found that petitioner pointed to no inconsistencies between the policies in the 2035 General Plan as written and that nothing in the introductory language created an inconsistency between the policies either. The court reasoned that the introductory language concerned the city's future determinations of a project's consistency with the 2035 General Plan—which is a different issue from whether the policies of a 2035 General Plan are internally consistent. The court held the 2035 General Plan valid on its face.

The court further held that even if, as petitioner alleged, the introductory language created a hierarchy of General Plan elements, it would not render the 2035 General Plan invalid. Rather, any future decision would be subject to an as-applied challenge at the appropriate time.

The Traffic Analysis

In 2013, the California Legislature adopted Senate Bill 743, which added Public Resources Code section 21099 to the California Environmental Quality Act (CEQA). That section requires the Natural Resources Agency to certify new CEQA Guidelines regarding transportation impacts. Upon certification of the revised Guidelines, "automobile delay, as described solely by level of service or similar measure of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment."

In response, the Natural Resources Agency added CEQA Guidelines § 15064.3, which became effective in December 2018.

Petitioners challenged the EIR's traffic analysis claiming that the 2035 General Plan's impacts on level of service (LOS) in certain areas of the city constituted significant impacts under CEQA. The court requested supplemental briefing regarding the applicability and impact, if any, of CEQA Guidelines § 15064.3 on this issue.

The court clarified that in mandamus proceedings, "'the law to be applied is that which is current at the time of judgment in the appellate court.'" Under § 21099, existing law is that LOS is no longer considered a significant impact. Accordingly, the court held petitioner's traffic impacts argument moot. Further, because § 15064.3 is prospective, the court also rejected petitioner's argument that the city failed to analyze the 2035 General Plan's traffic impacts under the vehicle miles traveled criteria.

The Alternatives Analysis

Petitioner also criticized the EIR's alternatives analysis for failing to include quantified analysis for any of its proposed alternatives. The court characterized petitioner's claim as challenging only the city's rejection of the "no project" alternative. Applying the substantial evidence standard of review, the court upheld the EIR's alternatives analysis finding that the city rejected the "no project" alternative because the 2030 General Plan failed to further some of the city's objectives, generally resulted in greater impacts, and would not avoid any significant impacts associated with the 2035 General Plan.

Recirculation of the EIR

Petitioner contended that four of the supplemental changes to the required the city to recirculate the EIR—claiming that the changes created significant new CEQA impacts and significantly worsened already significant impacts. The court disagreed.

With respect to elimination of the volume-to-capacity ratios, which were deleted from the final EIR, the court found that the ratios themselves would have no physical impact on the environment because the ratios would not change the amount of traffic that would result from implementation of the 2035 General Plan. The court found that petitioner had forfeited any remaining arguments related to recirculation by failing to support their claims with reasoned analysis or citations to evidence in the record.

Greenhouse Gas Emissions Analysis

Petitioner asserted that the EIR's greenhouse gas (GHG) analysis was inadequate because it failed to consider the impacts from deletion of the volume-to-capacity ratios. The court rejected this argument reiterating that the deletion of the rations did not result in environmental impacts. The court also rejected petitioner's argument that the GHG analysis was inadequate because it was based on a faulty traffic analysis as "unsupported and undeveloped" relying on the well-established principle that failure to lay out evidence favorable to the other side and show why it is lacking is fatal to an appellant's challenge to an EIR.

Cyclist Safety Analysis

Petitioner argues that the EIR failed to account for the requirement, found in Vehicle Code § 21760, that motorists maintain at least a three-foot distance from cyclists when passing. To the extent petitioner challenged the EIR's analysis, the court declined to consider this argument because again petitioner failed to support its argument with reasoned analysis or citations to evidence in the record.

Petitioner also asserted that the city failed to analyze traffic delays or dangerous conditions created by the three-foot cyclist law. The court found that petitioner failed to point to anything in the record to establish a factual foundation for the claim that the project would cause new or worsened impacts to cyclist safety—and therefore held the EIR adequate.

Conclusion and Implications

This is the first opinion that affirmatively holds that challenges to traffic impact analysis based on LOS are moot in the wake of Public Resources Code § 21099. It further makes clear that petitioner's burden is to cite to evidence in the record and provide a reasoned analysis to support its claims. Hurling undeveloped arguments against the wall in the hope that something will stick is not enough.

The court's decision is available online at: https://www.courts.ca.gov/opinions/documents/C086345.PDF
(Christina Berglund)

EXXON PREVAILS AT TRIAL, BUT STRUGGLES AGAINST CLIMATE CHANGE LAWSUITS, WHICH HARKEN A NEW ERA OF PUBLIC NUISANCE CLAIMS

People of the State of New York v. Exxon Mobil Corporation,
Case No. 452044/2018 (N.Y. Supr. Ct., N.Y. County, Dec. 10, 2019).

In November 2019, Exxon Mobil was taken to court in what legal experts refer to as only the second ever climate-change case to reach trial in the United States. The case, *People of the State of New York v. Exxon Mobil Corp.*, had its trial in the New York State Supreme Court (a court of general jurisdiction in the state). The court ruled in favor of Exxon, finding that it had not violated New York's provisions against shareholder fraud. While the case was not explicitly about the blame fossil fuel companies bear for climate change, it may lay the groundwork for future legal claims against the industry.

Background

While the headlines mostly focus on the possibility of Exxon Mobil's culpability for some effects of climate change, the case is not strictly about the climate crisis. Rather, the suit arose due to representations Exxon made to shareholders about potential future costs related to the crisis. New York Attorney General Letitia James asserted that those representations were false and amounted to an enormous instance of securities fraud.

The state argued that Exxon had erected:

> . . .a Potemkin village to create the illusion that it had fully considered the risks of climate change regulation and it had factored those risks into its business operations.

In essence, the Attorney General asserted that Exxon was keeping two sets of books with respect to climate change—one public facing, which accounted for the potential future costs of climate change, and one private, in which those costs were ignored. The state asked for as much as $1.6 billion in restitution to shareholders.

Exxon asserted that the company had developed a "robust" system for addressing climate costs, and that its statements as to its accounting were in no way misleading.

The Supreme Court's Ruling

On December 10, the court ruled that the Attorney General "failed to establish by a preponderance of the evidence" that Exxon violated the Martin Act, New York's law against shareholder fraud. The court called the Attorney General's suit "hyperbolic," ruling that Exxon's internal practices to evaluate potential costs of future regulations on future projects should not impact the company's financial statements with respect to shareholder fraud.

However, the judge was careful about the limits of the ruling, writing:

> . . .nothing in this opinion is intended to absolve Exxon Mobil from responsibility for contributing to climate change in the production of fossil fuel products.

The court concluded its ruling was on the narrow issue of securities fraud, not the broader question of culpability for climate change.

A Trend in Litigation

People v. Exxon Mobil is only one of numerous lawsuits against energy companies. The City of Baltimore filed a suit seeking to hold two dozen energy companies accountable for their role in climate change, and the United States Supreme Court allowed the suit to proceed in state court. Over the past few years, several states, including New York, Rhode Island, and Massachusetts, and a growing number of cities and counties, have sued fossil fuel companies seeking compensation for damages caused by the effects of climate change. Many of these suits, including a similar case by the Massachusetts Attorney General asserting Exxon committed fraud, are still pending.

These suits form a pattern of public nuisance cases with the potential to create massive liability for the fossil fuel industry, if they are found responsible for the effects of climate change. While a previous wave

of cases filed between 2008 and 2012 were all dismissed, the new suits are based in part on the revelation in 2015 of a trove of internal documents describing how Exxon conducted climate research decades ago and then ignored the results to propagate climate denial theories, manufacturing doubt about the scientific consensus even its own scientists had confirmed.

Conclusion and Implications

The growing number of lawsuits may have a broad impact if they succeed in holding fossil fuel companies accountable for damages they foresaw decades ago and did not act to prevent. While *People v. Exxon Mobil* resolved in favor of the corporation, its scope is far narrower than much of the pending litigation, which seeks to directly impose liability on fossil fuel companies for the adverse environmental impacts of their businesses. The question of whether energy companies can be held liable for climate impacts may come to define climate litigation in the coming decades. Comparisons to suits against "Big Tobacco" abound, yet the costs of combating climate change are far higher—estimated in the tens of trillions—meaning the stakes of existing and future litigation may in large part define how the fight against climate change is ultimately funded: by taxpayers or by corporations. The court's ruling in this matter is available online at: https://www.eenews.net/assets/2019/12/10/document_gw_08.pdf.
(Jordan Ferguson)

TEXAS COURT GRANTS TEMPORARY RESTRAINING ORDER PREVENTING CONSTRUCTION OF PRIVATE BORDER WALL

North American Butterfly Association v. Neuhaus & Sons, LLC,
Case No. C-5049-19-I (Tex. Dist. Ct. Dec. 3, 2019).

The Texas state court for Hidalgo County granted a temporary restraining order, preventing excavation and continuing construction of a private border wall along the United States-Mexico border. In granting the order, the court found that the construction of the wall would likely result in significant damage to plaintiffs' property caused by increased water and debris flows, proving an imminent and irreparable harm. Because plaintiffs' property serves as a butterfly sanctuary, a unique use of the land, the court also found that there was no adequate remedy at law if the plaintiffs' property was damaged before the matter reached judicial resolution.

Background

Defendant, We Build the Wall, Inc., is a non-profit organization that seeks to build border walls along the United States-Mexico border at a lower cost and faster rate than the federal government. In order to construct these walls, We Build the Wall contracts for building rights with private landowners located along the border. In 2019, We Build the Wall entered into an agreement with co-defendant Neuhaus to build a border wall on his property, located on the banks of the Rio Grande River. Beginning on or about November 15, 2019, development began to clear the banks of the Neuhaus property along the riverbank as the initial step to build a private border wall.

Around the time construction began, the contractors hired by the defendants received an official request from the United States Section of the International Boundary and Water Commission (IBWC) to cease construction of the proposed private border wall. The IBWC stated that defendants failed to file the necessary permits which would allow the IBWC to measure the project's compliance with international treaties. The plaintiffs allege that defendants subsequently further failed to file the necessary permit applications, despite receiving notice from the IBWC. It is also alleged that despite this notice, defendants stated publicly on social media that construction was going to continue and quickly be completed.

The Butterfly Sanctuary and the Alleged Redirection of Surface Water

Plaintiffs own a butterfly sanctuary, bordering the Rio Grande River, located directly adjacent to the Neuhaus property. Plaintiffs claim that building a permanent wall on the banks of the Rio Grande River and within the floodplain would cause a redirection

and buildup of surface water during flood events. This redirection of surface water and accompanying debris would cause permanent damage to plaintiff's property, potentially destroying portions of the land. Plaintiffs also claim that defendants' actions would result in topographic and vegetative changes detrimental to the ecological value of the land as a butterfly sanctuary. In response to plaintiffs' opposition to the construction of the wall, it is alleged that defendants carried out a number of acts designed to discredit and vilify the plaintiffs. Plaintiff's claims that defendants falsely claimed the North American Butterfly Association was engaged in human trafficking and drug smuggling. Based on the social media comments and potential irreparable damage to their property, plaintiffs sought a temporary restraining order (TRO) that barred defendants from the continued excavation and construction of a permanent steel wall on a cleared portion of the banks of the Rio Grande River.

The District Court's Ruling

Under Texas law a temporary restraining order must not be granted without notice unless it clearly appears that immediate and irreparable injury will result before notice can be served and a hearing held on the matter. Here, the court found that the plaintiffs clearly demonstrated they will suffer an imminent and irreparable harm if the status quo of the matter is not preserved. Specifically, the court found that the characteristics and subsequent rights of the butterfly sanctuary at issue were unique and irreplaceable. The potential flooding and debris that could be caused by the installation of the wall would make it difficult, if not impossible, to accurately measure, the damage caused by defendants' conduct in monetary terms.

The court also found that defendants' inflammatory public responses concerning the plaintiff coupled with the conscious indifference of the risk involved with the construction of the wall showcased the defendants' intent to commit great harm to the plaintiffs. Based on these facts, the court found that the temporary restraining order should be granted without notice because the previous actions and public comments made by the defendants demonstrated an immediate need to preserve the status quo until a ruling could be made to issue a temporary injunction.

Conclusion and Implications

A temporary restraining order is preliminary step in the eventual resolution of this matter. The matter is set for a temporary injunction hearing which may further be followed with an eventual trial on the merits. If the eventual outcome is similar to the granting of this temporary restraining order, it may pave a way to prevent construction of private border walls along the Rio Grande River. The court's order is available online at: http://cdn.cnn.com/cnn/2019/images/12/04/tro.signed.pdf.
(Geremy Holm, Rebecca Andrews)

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